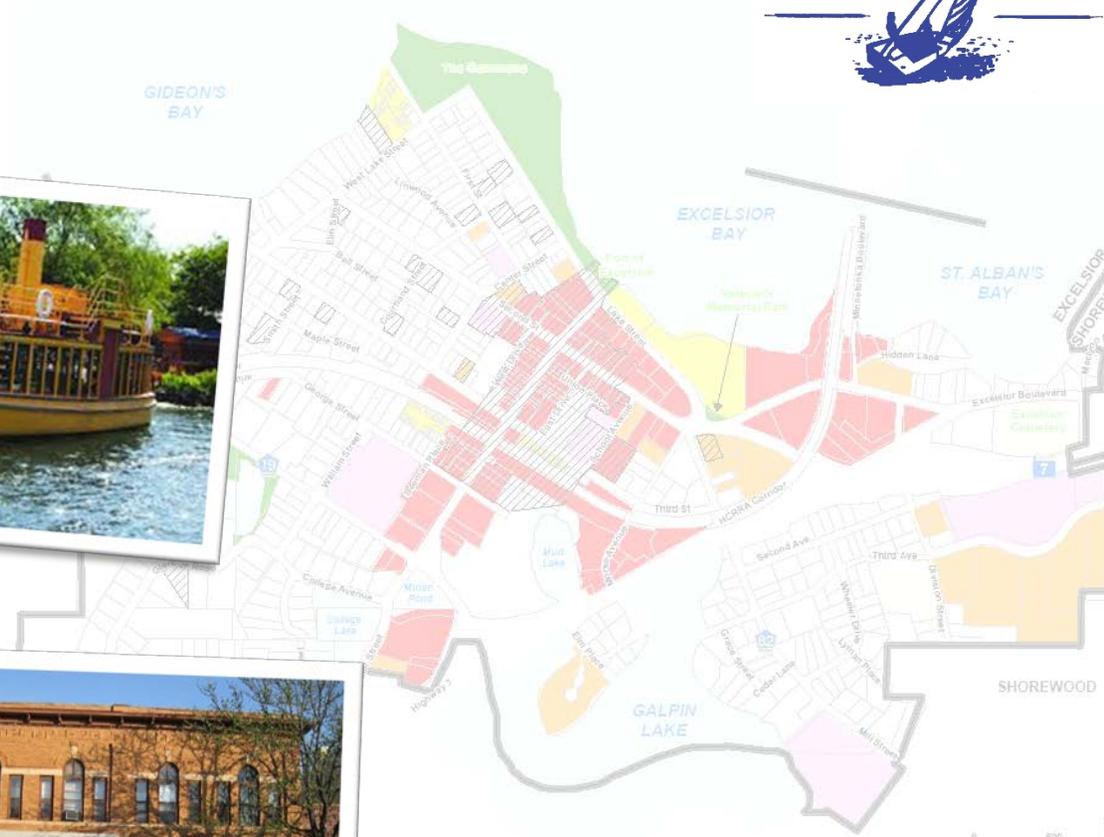


City of Excelsior, MN Comprehensive Plan, 2018



Adopted September 4, 2019

City of Excelsior, MN
Comprehensive Plan 2018

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October 2018

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INTRODUCTION

This document presents the Comprehensive Plan for the City of Excelsior, Minnesota. The Comprehensive Plan represents the City's long-range plan for improvement, development and growth over the next ten to fifteen years. The Plan includes goals and objectives for the future of the community as well as long-range recommendations for land-use, transportation, and community facilities. The Plan includes detailed recommendations for specific subareas within the City, that are of particular interest to the community, and it sets forth a long-range guide for the maintenance and enhancement of existing community areas, and for improvements, developments and redevelopments within the city. Simply put, the Comprehensive Plan establishes a foundation for future decision making regarding land-use and development.

THE COMPREHENSIVE PLAN SETS FORTH
LONG-RANGE RECOMMENDATIONS FOR
THE MAINTENANCE AND ENHANCEMENT
OF EXISTING COMMUNITY AREAS, AND
FOR DESIRABLE IMPROVEMENTS,
DEVELOPMENTS AND REDEVELOPMENTS
WITHIN THE CITY

Unlike the many laws and regulations that are used to govern the City, the Comprehensive Plan is a policy guide, intended to be flexible and adaptive over time. While it contains detailed recommendations and policies for various improvements and actions, it also sets the basic framework to guide activities and change, allowing room for adjustment as conditions and potential change.

Development History

The name “Excelsior” derives from the Latin “excelsus” which means “risen above others.” It was popularized by the poet Longfellow in a poem of the same name. “Excelsior” is now used as an inspirational term meaning “forward.”

Excelsior was settled in May 1853 and by that fall, approximately 100 families had arrived and named the village Excelsior. In the original plat of Excelsior, 13 acres along Lake Minnetonka were set aside “for the common good.” This is presently “The Commons”, the largest public

park on Lake Minnetonka. From its inception, Excelsior has had a concern for quality of life for all residents.

After the Civil War, Excelsior, along with other Lake Minnetonka communities, served as a resort for residents of the Twin Cities and visitors from all over the world. It soon developed into a community of summer cottages, hotels, and rooming houses in addition to its year-round houses and businesses. As time went on, many of the seasonal dwellings were either replaced or remodeled into permanent homes. The probable reason for this change was, again, a desire for the slower, more relaxed and scenic quality of life to be found in Excelsior. After World War II, as settlement

continued in the suburban areas around Minneapolis and St. Paul, Excelsior became an attractive community for additional residential development. The community also served and continues to serve as the downtown for many of the developing residential communities in the South Lake Minnetonka area. The Commons and Port of Excelsior continue to serve as a regional recreational area.

Popularity

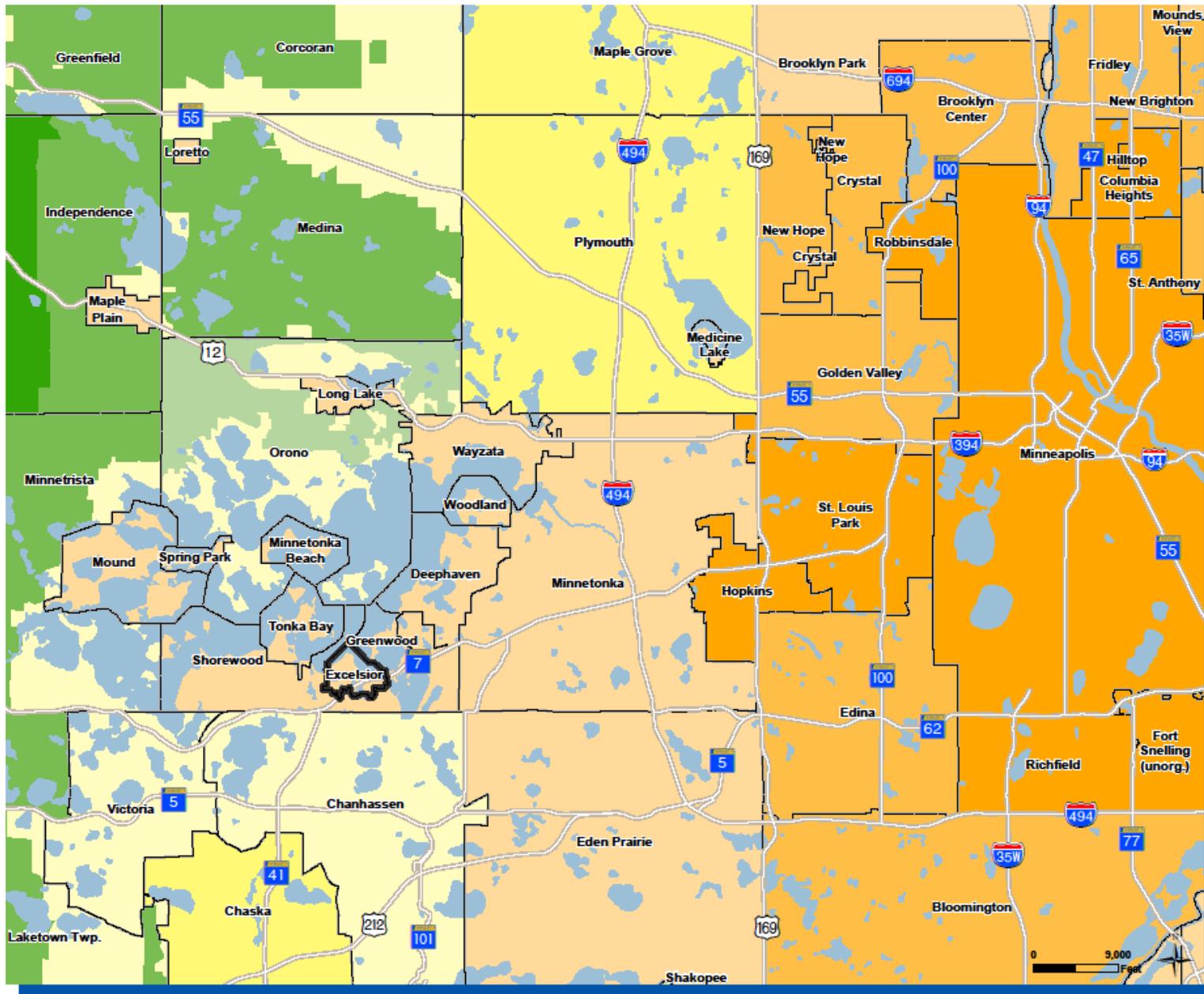
For a variety of reasons, Excelsior has become increasingly popular since the last Comprehensive Plan update in 2008. This popularity is evident in the numerous awards that the City has received including “The Cutest Town in Every U.S. State” (*MSN*) and “The Coolest Suburb in America’s 35 Biggest Metro Areas” (*Thrillist Travel*).

Community Setting

The City of Excelsior is located in Hennepin County on the south shore of Lake Minnetonka. It is less than one square mile (408 acres) in size and bordered by Lake Minnetonka to the north and Galpin Lake to the south. The primary access for the community is State Highway 7 and County Roads 82 (Mill Street) and 19 (Oak Street). By water, the city is accessed by the Port of Excelsior, and by non-motorized transport by the Lake Minnetonka LRT Regional Trail.

Excelsior’s uniqueness and quality of life stems directly from these virtues: historic, vibrant, friendly, a small town on Lake Minnetonka. It is the downtown, commercial and entertainment center for the entire South Lake Minnetonka area.

Community Designation



Legend

- Excelsior City Boundary
- City Boundary
- Lakes and River
- Community Designation**
- Urban Center
- Urban
- Suburban Edge
- Suburban
- Rural Residential
- Emerging Suburban Edge
- Diversified Rural
- Agricultural





Purpose of the Comprehensive Plan

This Comprehensive Plan is a vision of what Excelsior wants to become and a roadmap on how to get there. It is not a definitive course of action or a legally binding obligation of what must be done. Rather it is an aspirational document that describes in general terms what the community is to become and steps and actions that can help meet our community goals.

The Plan is comprehensive in both scope and coverage. It guides the direction of the City in several major subject areas: land use, transportation, environment, parks and trails, and public facilities. Each of these areas is examined in a comprehensive manner, in order to take advantage of opportunities, avoid problems, and work towards building a stronger community.

Because the Plan is “comprehensive,” there are not parts that can be considered separately from other parts. When using the Plan to make decisions, if conflicts arise between goals and objectives, the City has an obligation to make findings indicating why the goal or objective being supported takes precedence over other goals and objectives founding to be in conflict. This involves a decision-making process on the part of the City that balances and weighs the applicability and merits of the Plan’s many goals and objectives against one another.

One of the more important uses of the Comprehensive Plan involves the evaluation of land use applications submitted to the City by property owners. Before approving certain discretionary City land use applications (including rezoning and Conditional Use Permits), the Planning Commission and City Council must find that the proposal is in conformance with the Comprehensive Plan.

The Plan should be continually referenced and be used as a guide while City leaders develop policies, programs, ordinances, capital improvements plans, and budgets. These more specific implementation tools will take into account current circumstances and financial priorities, along with the long-range outlook and goals of the Comprehensive Plan.

Finally, the Plan should not be viewed as a static document. The Comprehensive Plan should be subject to continual review and refinement to ensure that it adjusts to the continually changing needs of the community and requirements of regional, state and federal agencies.

Metropolitan Land Planning Act

Following each decennial census, the Metropolitan Council's regional planning effort starts with adoption of a regional development plan, currently named Thrive MSP 2040. Thrive establishes a regional vision and adopts land use development policies through 2040.

Thrive's policies are intended to control sprawl, preserve valuable resource lands, and promote the coordinated and logical provision of public facilities and services. Thrive MSP 2040 is intended to result in a more compact urban form, as each city in the seven-county metropolitan area uses its land efficiently to accommodate increased densities and prevent urban sprawl. By guiding land uses and development patterns, the Metropolitan Council aims to make efficient use of land, and capitalizes upon existing infrastructure in an effort to make the best use of public and private investments.

The City of Excelsior has adopted Thrive's 2040 population, households and employment forecasts, as contained in the Background Chapter of the Comprehensive Plan.

The plans of each jurisdiction in the seven-county area build upon the regional planning vision. Local comprehensive plans reflect regional policies at the same time as identifying important local goals and objectives.

The Metropolitan Land Planning Act requires communities to review and update their comprehensive plans every ten years. Local comprehensive plans are required to include specific content areas.

These elements include:

- Land Use
- Transportation

- Water Resources (Wastewater, Surface Water, Water Supply)
- Park & Trails
- Housing
- Plan Implementation

Other Plan Elements identified as issues of regional importance are reflective of Thrive MSP 2040's policies. These Plan Elements are:

- Resilience
- Economic Competitiveness



Please see next page.



1

BACKGROUND TO THE PLAN

The City of Excelsior's previous Comprehensive Plan was adopted in 2008. In an effort to address many of the current issues, challenges and opportunities facing the community, the City adopted this updated Comprehensive Plan. The Comprehensive Plan will assist the City in setting long term goals, coordinating local decision-making, and providing guidance to property owners and developers. The Comprehensive Plan is based on public input, extensive data collection, and analysis of existing conditions and local and regional trends. The City worked collaboratively with the public to establish a vision and a plan that carries on the tradition and character of the community, while continually addressing new challenges.

THE COMPREHENSIVE PLAN IS
BASED ON A FOUNDATION OF
PUBLIC INPUT

Previous Comprehensive Plans

A thorough review of the City's existing and past plans, studies and reports was conducted to gain a better understanding of prior City initiatives, assessments, and objectives. Understanding the purpose and results of these documents provides important insight into what has already been studied and recommended for the City. As conditions change over time, the relevance of some documents are lessened, while some components of other documents continue to provide community direction and remain representative of community aspirations. As part of inventorying and understanding existing conditions, a review of these documents is essential. A summary of reviewed documents are as follows.

Original Comprehensive Plan, 1975 and Revisions

The original 1975 Comprehensive Plan was updated with a Land Use Plan in 1980, which in turn was updated in 1987, and again in 1990. With the adoption of the Regional Blueprint by the Metropolitan Council in 1996, Excelsior completed its Comprehensive Plan in 1998.

Comprehensive Plan 2008

The Metropolitan Land Planning Act requires communities to review and update their Comprehensive Plans every ten years. The Regional Blueprint was again updated and the Comprehensive Plan was again updated in 2008, to both satisfy Metropolitan Council requirements and provide ongoing direction for development and land use, transportation, community facilities, and parks and trails.

Accomplishments from the 2008 Comprehensive Plan

A number of the actions and strategies put forward in the 2008 plan have been accomplished. A list of these accomplishments are as follows:

1. Hennepin County constructed a new library in downtown.
2. The continued operation of the Farmer's Market was supported by reducing the permit fee.
3. The Subdivision Ordinance was amended to make combination of parcels more difficult in single family areas.
4. A downtown traffic study to monitor traffic levels and study ways to lessen the impact on the downtown was carried out.
5. Gateway signage was installed.
6. The Planned Unit Development section of the Zoning Ordinance was updated to ensure the Heritage Preservation Commission was included in the development review process for redevelopment projects.
7. A building space analysis was completed to determine the viability of keeping City Hall downtown in the former library building.
8. A long term financial plan was completed and put into use.
9. A new grocery store was constructed in Excelsior.

10. A Capital Improvement Plan was implemented and expanded.
11. A Parking Impact Fee was instituted to provide flexibility in the use of buildings downtown.
12. The Zoning Ordinance was amended to reduce allowable single-family building height and building coverage to reduce the scale of new single-family residences.
13. A new Preservation Design Manual for historic landmarks and buildings in the Downtown Historic District was adopted.

Past Plans and Studies

Historic Sites Survey – Historical Society (1978)

Reviewed the potential historic significance of residential and commercial structures.

Parking Study Report – Westwood (1989)

Studied the supply and demand of parking in the downtown. Concluded that for the immediate future, parking management and surface lot expansion could meet the parking needs for the downtown.

Central Core Parking Study – BRW (1992)

This downtown parking study concluded the existing parking supply was sufficient to accommodate the existing parking demand. Parking surveys indicated the peak usage occurred on summer weekends when approximately 72% of the spaces were occupied.

Intensive Historic Survey – Hess, Roise & Co. (2000 and 2006)

Completed a survey and inventory forms for all Excelsior properties outside of the Downtown Historic District. Hess,

Roise & Co. recommended 16 properties for landmark designation and a new College Lake Historic District.

Downtown Historic District Designation Study – Hess, Roise & Co. (2002)

Evaluated the boundary of the Downtown Historic District as designated in 1998, to revise and update the inventory forms, and prepare a statement of significance.

Parking Ramp Costs in Downtown Excelsior – WSB (2002)

Concluded a three-level ramp would yield 260 additional spaces at \$4.6 million (\$18,000/space).

City Hall/Library Recommendation - WOLD Architects (2004)

After Fire Department relocated, the City studied the use of the City Hall facility. The study concluded that the city offices have significant space deficiencies and that the existing City Hall/Library facility is the best location for any new or remodeled facility.

Downtown Revitalization Master Plan – HKGi (2004)

Examined redevelopment issues in the downtown such as parking, building heights, historic preservation and redevelopment opportunities. The plan was never adopted by the City Council, however.

Downtown Parking Expansion Alternatives – Walker Parking Consultants (2006)

Researched where 350 to 400 additional parking spaces could be developed. Among a variety of alternatives explored, Walker determined that a two-level parking ramp for the east parking lot would yield 190 extra spaces at \$12,112 per space (\$2.3 million), and 150 parking spaces could be gained in the west parking lot at \$15,480 per space (\$2.3 million).

Parking Valuation Study - (2010)

The study recommended an appropriate “in lieu of parking” fee for development in the downtown and costs for development of parking for the Lyman Lumber property.

City Hall Facility Assessment – BKV (2015)

The study completed a facility assessment for renovating the exterior of City Hall and remodeling the former library space into City Hall offices and Council Chambers. The study included an exterior design for City Hall, possible layouts and renovation costs.

Downtown Traffic and Pedestrian Study – WSB (2016)

The study documented existing traffic and pedestrian conditions, identified conflict locations, analyzed alternative improvements and recommended both short-term and long-term improvements.



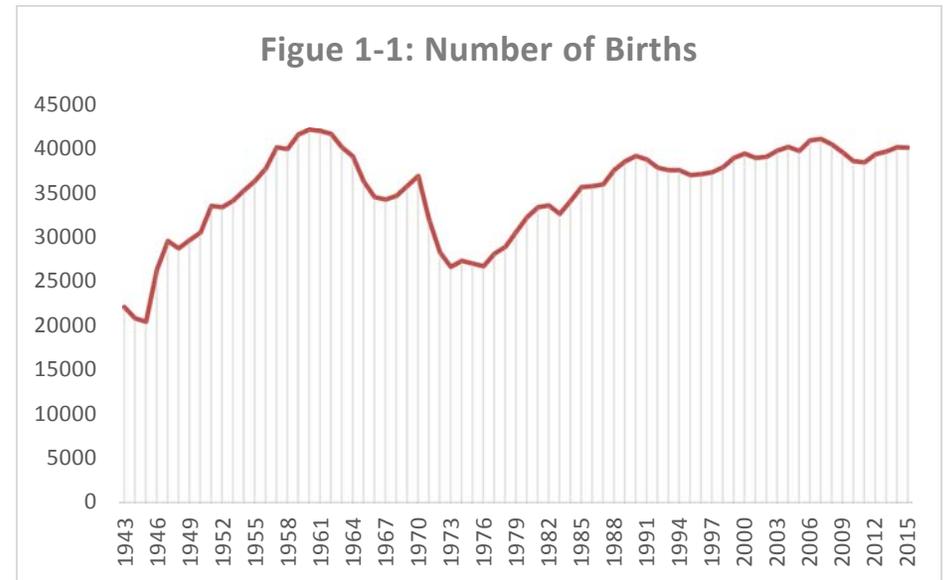
Metropolitan Region Profile

The City of Excelsior is part of a seven-county metropolitan region which has a population of 3,041,526 as of 2016. The growth and composition of the region affects the development pressures that Excelsior faces. An understanding of the growth trends and composition of the region provides an important foundation for the Excelsior Comprehensive Plan.

Birth Rate Trends

The figure below traces the number of births in the metro area since 1940. Three distinct periods are apparent:

1. The well-known post-war “baby boom” between 1946 and the early 1960’s,
2. The “baby bust” between the early 1960’s and the mid-1970’s, and
3. The “baby bloom” from the mid-1970’s to the present.



Baby Boom

The baby boomers first caused the construction of thousands of classrooms in the 1950's and 1960's, followed by construction of several thousand new housing units between the later 1960's and the present. Initially, baby boomers fueled the apartment boom (ages 20-25), then the first homebuyer boom (ages 25-35), then the move-up housing market (ages 35-49), and then the empty nester boom (ages 50-64) typical of villa housing. Baby boomers are now entering the senior housing market (65 and over). The oldest baby boomer was 72 in 2018.

Baby Bust

The baby bust generation that followed the baby boomers is substantially smaller and its impact has been felt through empty classrooms and school closings in developed areas. Because of their low numbers, the baby bust generation has not significantly affected the housing market. The baby bust generation were born between 1965 and 1980. In 2018, the baby bust generation is between 38 and 53 years old, when families are typically looking for move-up housing.

Baby Bloom (Millennials)

Annual births in the metro area increased from the early 1980s to the early 2000s as baby boomers were raising families. In 2018, the age range of the Millennial generation is typically from 12-35. The baby bloom started making its impact on the demand for classrooms in the early 1980's. Apartments and starter homes will continue to see a strong demand from the baby boom generation.

Age Composition

Table 1-1: Metropolitan Age Composition

	2010	2000	1990
Median Age	36.1	34.3	31.7
Under 20	27%	29%	29%
65 and older	11%	10%	10%

Source: U.S. Census and Metro Council

Population Growth

The past and anticipated growth of metro population, households and employment by decade is shown in the tabulation below.

Table 1-2: Regional Growth by Decade 1950-2040

Decade	Population	Households	Employment
1950-1960	339,630	105,713	N/A
1960-1970	349,315	121,558	246,000
1970-1980	111,300	148,000	261,000
1980-1990	303,000	155,000	233,000
1990-2000	353,300	129,000	242,000
2000-2010	207,500	96,300	-63,303
2010-2020 (forecast)	278,000	138,800	246,500
2020-2030 (forecast)	261,000	121,900	122,000
2030-2040 (forecast)	263,000	113,300	119,600

Source: U.S. Census and Metro Council

Twin Cities Metropolitan Council data show that the seven county metro area experienced rapid population growth during the 1950s and 1960s as a result of high post-war birth rates and significant in-migration. Population grew much slower in the 1970's due to low birth rates and to more people moving out of, than into the area. The 1980's and 1990's saw a growth rate nearly equal to the rapid 1950-1970 period due to resurging birth rates and to net in-migration since 1982. The only decade that the metro area lost jobs was during 2000-2010, which was the result

of the Great Recession, which began in 2007. The number of households and population still experienced growth during the 2000 decade, but at a slower pace.

The Metropolitan Council forecasts continued growth and development. The region will gain residents and jobs between 2010 and 2040, but at a much slower pace than the 1950's, 1960's, 1980's and 1990's. More than other factors, employment and economic opportunities attract new residents to the region.

Metro Housing Trends

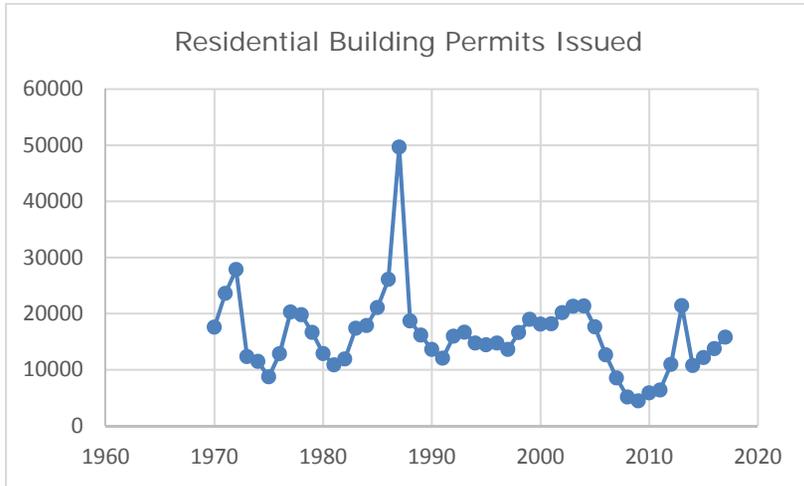
Not surprisingly, there is a direct correlation between population growth and housing demand, although it depends on whether the population gain is due to a natural increase or to in-migration. Other factors include: changes in household size, changing socio-economic characteristics, and changes in age distribution.

The metro area has been gaining more households each decade since World War II due to a combination of the above factors. The greatest increase occurred in the 1980's when 155,000 households were added to the region. Metropolitan Council reported a general slowdown in household growth in the 1990's (about 130,000 households or 17 percent less than the 1980's) due primarily to the "baby bust" generation creating less demand, and to a large supply of starter homes occupied by "baby-boomers" wanting to move up. The Council forecasts about 235,200 new households per decade in the 2020-2040.



Figure 1 shows the total number of metro area residential building permits by years since 1970. It is obvious that housing construction is very sensitive to economic conditions. The four recessions of the early 1970's, latter 1970's/early 1980's, and the late 1980's/early 1990's, and late 2000's/early 2010's are quite evident by dips in the graph. In a phrase, housing construction is cyclical with a downturn occurring about every five to seven years.

Figure 1: Residential Building Permits Issued



Excelsior’s Community Profile

This section provides an overview and evaluation of historic trends in population change within the City of Excelsior, as well as an analysis of the characteristics of the residents who live therein, including housing composition, age and race. Housing unit information is also included in the analysis. The analysis is based upon data gathered from the Metropolitan Council. The 1990, 2000 and 2010 data comes from the decennial U.S. Census. The 2016 data comes from the U.S. Census Bureau’s American Community Survey, which contains estimates that are subject to sampling error.

Forecasted Population, Household and Employment

The following table illustrates the past and forecasted growth in the population, number of households and employment for Excelsior. Overall, the population and number of households has been relatively stable in

Excelsior over the last 50 years. The projections have been tabulated by the Metropolitan Council.

Table 1-3: Forecasted Population, Household, and Employment

Year	Population	Households	Employment
1970	2,563	900	1,190
1980	2,523	1,149	1,947
1990	2,367	1,160	1,656
2000	2,393	1,199	1,823
2010	2,188	1,115	2,220
2020	2,500	1,270	2,200
2030	2,550	1,300	2,300
2040	2,550	1,300	2,400

Source: U.S. Census and Metropolitan Council

The Metropolitan Council projects a seven percent increase in Excelsior’s population from 2020-2030, with a corresponding eight percent increase in the number households.

Age Composition

The median age has increased over time from 33.9 in 1990 to 42 in 2010, while the percent of population who is over 65 years in age has decreased slightly from 16 percent to 15 percent.

Table 1-4: Excelsior Age Composition

	2020	2010	2000	1990
Median Age	43.0	42.0	37.1	33.9
Under 20	21%	20%	22%	21%
65 and older	16%	15%	15%	16%

Source: U.S. Census and Metropolitan Council

Analysis

Excelsior’s population is getting older similar to the metro region; however, the rate Excelsior is aging is significantly faster than the metro region. The median age in the metro area increased 4.4 years from 1990 to 2010, while the median age in Excelsior increased 8.1 years during that same period.



Racial/Ethnic Identification

The vast majority of Excelsior’s population identifies themselves as “white” (87%). This is a 10% decrease over the past 20 years. The Hispanic/Latina sector, which comprises almost three percent of the population, has grown by 5% over the past 20 years.

Table 1-5: Excelsior Racial Identification

	2016	2010	2000	1990
White	85%	87%	92%	97%
Black or African American	1%	3%	1%	0%
Asian	1%	1%	2%	1%
Hispanic/Latino	11%	6%	3%	1%
Other	2%	2%	2%	--

Source: U.S. Census and Metropolitan Council

Analysis

Similar to the metro region, the City is slowly becoming more diverse. The percentage of whites in the metro region dropped from 91 percent in 1990 to 75 percent in 2010.

Households

The percentage of married couples with children continues to drop, while one-person household continues to increase, representing 48% of Excelsior’s households.

Table 1-6: Excelsior Households

	2016	2010	2000	1990
Married-Couple with children	11%	13%	14%	15%
Married-Couple with no children	22%	23%	23%	26%
Unmarried families with children	10%	8%	9%	7%
Non-family (need description)	11%	7%	9%	8%
One-person household	45%	48%	45%	44%
Average household size	1.91	1.92	1.95	2.0

Source: U.S. Census and Metropolitan Council

Analysis

- The percent of married couples with children dropped in the metro area from 27 percent in 1990 to 23 percent in 2010. Excelsior likewise had a drop in married couples with children.
- The metro area had twice the percentage of married couple with children as Excelsior in 2010.
- In 2010, one-person households comprised 25% of the metro area’s households. Excelsior is significantly higher at 48%.
- The continued decrease in married couples with children is reflective of the dynamics of the modern family. According the U.S. Department of State, there have been several changes in family dynamics over the last few decades that have affected the modern family, including the increase in dual-earning households, an aging population, people postponing marriage, people postponing having children, people having less children, the rise in divorce rates, and the rise in life expectancy.

Housing

The number of housing units in Excelsior has remained steady between the years 1990-2010. Multiple family housing continues to comprise the majority of housing in Excelsior.

Table 1-7: Excelsior Housing

	2016	2010	2000	1990
Total housing units	1280	1254	1250	1255
Single Family	37%	38%	36%	39%
Multiple Family	63%	62%	64%	61%
Owner-occupied	36%	36%	38%	39%
Renter-occupied	61%	53%	57%	53%
Median Value	\$443,000	\$352,600	\$185,800	\$96,000
Median Gross Rent	\$854	\$762	\$604	\$462

Source: Metropolitan Council

Analysis

- The ratio of multiple family in Excelsior (62%) remains higher than the metro area (40%).
- The median housing value in Excelsior increased 367% from 1990 to 2010, while the median housing value in the metro area increased 270% in that same period.
- The median gross rent in Excelsior increased 165% from 1990 to 2010, while the median gross rent in the metro area increased 175% during the same period.



Affordable Housing

The Area Median Income (AMI) is the midpoint of a region's income distributing – half of households in a region earn more than the median and half earn less than the median. The Metropolitan Council uses these income levels as a way to assess housing affordability. For example, a housing unit is "affordable at 80% of AMI" if a household whose income is at or below 80% of AMI can live there without spending more than 30% of their income on housing costs.

Table 1-8: Units affordable to households with income at or below AMI

	30% or below	31% to 50%	51% to 80%	Below 80% AMI
Excelsior	10%	27.6%	18.5%	56.1%
Deephaven	0.1%	1.3%	4.0%	5.4%
Shorewood	2.9%	2.5%	11.4%	16.8%
Tonka Bay	1.7%	2.9%	17.4%	22%
Wayzata	9.4%	10%	23.2%	42.6%
Hennepin Co.	6.5%	20%	37.7%	64%

Source: Metropolitan Council

Analysis

- Over half of the households in Excelsior are affordable to 80% of the Area Median Income.
- Excelsior has more affordable housing than the surrounding communities, but less than the Hennepin County average.

Income

In 1990, the per capita personal income for Excelsior (\$16,600) was below the Hennepin County average (\$18,500). By 2010, the per capita personal income for Excelsior (\$37,400) exceeded Hennepin County’s average (\$35,900).

According to the 2010 Census, the percentage of households in Excelsior below poverty level has increased within the past 20 years. Between 1990 and 2010, the percentage of households below the poverty level has increased from 3.8% to 8.6%. this percentage, however, remains lower than the percentage of households below poverty in Hennepin County (12.1%).

	2016	2010	2000	1990
Median Household	\$45,900	\$60,100	\$43,600	\$26,700
Per Capita Personal Income	\$48,000	\$37,400	\$29,100	\$16,600
Households below poverty level	10.4%	8.6%	5.7%	3.8%

Source: U.S. Census and Metropolitan Council

Analysis

- The median household income in the metro area increased from \$36,600 in 1990 to \$65,200 in 2010. Excelsior’s median housing income continues to be below the metro area level.
- The metro area has 20.7 percent of households living below poverty level, more than double the amount in Excelsior (8.6 percent).

Multiple Family Housing Inventory

Multiple family housing is defined as a residential structure containing two or more housing units including duplexes, townhomes, apartments and condominiums. Such units may be either owner or renter occupied.

In 2018, there 21 multiple family housing developments in Excelsior. These units exclude the numerous scattered rental units in the downtown commercial buildings. They also exclude the Estates nursing home.

Relevant information about the 21 multiple family developments are presented in the table below. The data is broken down by apartments/condominiums and townhomes. The primary difference used herein is that townhomes are horizontally attached while apartments/condominiums are stacked vertically, ranging from two to four levels, and are normally one level “flats.”

	Year Built	Number of Units	Acres	Density (DU/A)
Baypointe	1972	80	3.4	23.9
Carriage Hill	1965	34	0.5	69.4
Christmas Lake Manor	1971	108	3.5	30.9
Courtland	1900	14	0.2	66.7
Excelsior Bay Gables	1982	53	4.6	11.4
Excelsior Lake	1951	44	2.7	16.3
Excelsior Manor	1970	47	2.5	18.6
George Street	1968	17	0.4	43.6
Morse Manor	1969	17	0.4	41.5
Norman	1948	9	0.4	23.0
Southshore Park	1983	67	2.1	31.9
Tonka Manor	1968	14	0.4	35.0
Tonka Villa	1968	14	0.3	41.2

Tonkaway	1966	72	3.2	22.5
Village	1965	24	0.4	68.6
Windemere	1971	36	1.3	28.8
Total		650	26.3	24.7

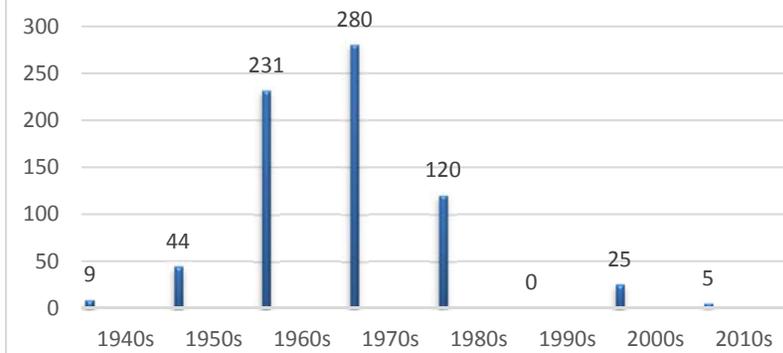
Source: City of Excelsior

Table 1-11: Townhomes in Excelsior

Townhomes	Year Built	Number of Units	Acres	Density (DU/A)
Bayside	1965	20	1.1	19.0
Excelsior Villas	2018	18	1.2	14.9
Gideon Bay	1974	9	1.3	6.9
Third Street	2006 and 2015	10	0.5	20.0
Wyer Hill	2004	20	1.3	14.9
Total		77	5.4	14.3

Source: City of Excelsior

Figure 1-2: Multiple Family Units Developed by Decade



Source: City of Excelsior

Analysis

- Nearly three-quarters of Excelsior’s multiple family developments were constructed before 1972. The last apartment building developed was Southshore

apartments in 1983. The last three multiple family developments have been townhomes.

- The average density of apartments/condominiums is 24.7 units per acre, while the average density of the townhomes is 14.0 units per acre. Most of the apartment densities are higher than townhouses because of more units per building, vertical stacking of units, smaller household sizes, smaller unit sizes, fewer persons per unit and common parking.
- Over half (52%) of the multiple units are located south of Highway 7.

Employment Locations

Existing and planned employment locations are generally located within the Downtown area, near College Lake, Oak Street and Beehive Avenue, and the East Side Area.

To determine the intensity of the Downtown, Cottage Commercial, Mixed Use Commercial, General Commercial, and General Commercial in the guided Proposed Land Use, the maximum impervious surface coverage was based on information contained in the City’s current Zoning Ordinance governing the business districts.

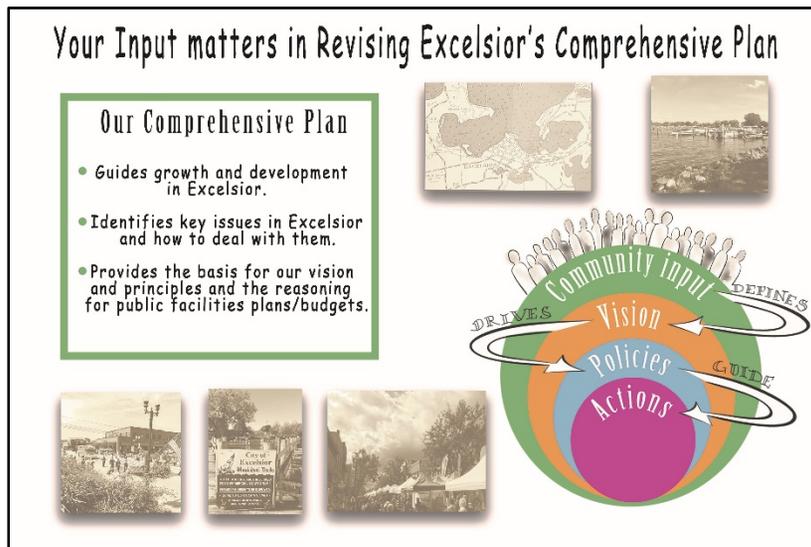
Table 1-12: Employment Locations and Intensity

Land Use	Planned Acres	Floor Area Ratio (FAR)	Estimated Acres (Square Feet)	SAC
Cottage Commercial	7.17	45%	3.23 (312,325)	104.10
Downtown	10.93	50%	5.47 (476,111)	158.70
General Commercial	9.02	45%	4.06 (392,911)	130.97
Mixed Use Commercial	17.90	45%	8.06 (779,724)	259.91

Public Participation

The Excelsior Comprehensive Plan provides an ideal opportunity for local residents to get involved in the planning process. Citizen participation is an integral component in the planning process that helps identify issues, needs, priorities and opportunities that are important to the community. Community input provides a foundation for future planning efforts and helps shape the development of the Comprehensive Plan.

To highlight the importance of community input in the development of the Comprehensive Plan and to encourage participation, the City designed the following poster that was showcased at City Hall and the Excelsior Library during 2017 and 2018.



The Comprehensive Plan update and process were highlighted at three Open House meetings held on April 27, 2017, June 1, 2017, and January 25, 2018. Postcards were mailed in advance to every address in Excelsior announcing

the dates and times of the Open House meetings. City Planning Commissioners and staff attended every meeting and gathered direct input from almost 200 attendees.

Community Survey

A community survey also was available at the three Open House meetings, City Hall and the City's website. Seventy-three surveys were completed and recorded. The results of the survey identified a number of advantages, issues, assets, needs, and opinions on a range of topics including commercial and residential development, parking, quality of life and community facilities.

Key findings include 88% of the respondents believed that the City has improved over the past 10 years and 97% rank the quality of life as Excellent or Good. Input received directly from the Planning Commission concurred with survey findings such as:

The favorite things about Excelsior included:

1. Lake Minnetonka
2. Small town feel
3. Walkability
4. Historic Downtown
5. The Commons

The top actions that the community can do to make Excelsior even better included:

1. Improve The Commons
2. Ease congestion
3. Limit the scale of new single-family developments
4. Lower taxes
5. Increase pedestrian/bike trails

The most important challenges facing the City included:

1. Maintaining small town character by limiting larger scale developments
2. Traffic congestion

3. Lack of parking in downtown
4. Tax rates
5. Preserving historic downtown

The top items that the City should invest in to create a better Excelsior included:

1. Improving infrastructure
2. Maintaining historic buildings
3. Limit franchise businesses
4. Construct a parking ramp
5. Improve the Common's bandshell

When asked if the City should encourage the redevelopment of private parking lots in the downtown that would increase activity in the downtown but reduce the amount of parking in the downtown, 25% of the respondents agreed while 75% disagreed.

When asked if the City should encourage the development of more housing or retail shops in the two municipal parking lots in order to building a parking ramp –

- 61% said no
- 39% said yes, but only if the amount of parking is increased
- 0% said yes, even if the amount of parking is decreased because of the additional demands from the new housing or retail





2

A VISION FOR THE FUTURE

Excelsior's Vision Statement and Core Community Values define how the City sees itself and identify characteristics that should be carried into the future. The Vision Statement and Core Community Values were developed through public outreach and represent the views of residents, business and property owners, and elected and appointed officials.

The Vision Statement and Core Community Values serve as the rubric on how all future City policies and decisions should be evaluated. All of the recommendations, objectives and policies in this Comprehensive Plan are designed to further the goals of the Vision Statement and Core Community Values.

THE VISION IS AN ASPIRATIONAL
RETROSPECTIVE WHICH
DESCRIBES THE TYPE OF
COMMUNITY EXCELSIOR DESIRES
TO BE IN THE YEAR 2040

Vision Statement

“To be the best small lakeside-town in Minnesota”

Core Values

The following Core Values are the foundation upon which the city will make decisions and achieve the Community’s vision.

- **A Vibrant and Diverse Culture.** Our community thrives from being a welcoming and creative place that values and respects the opinions and contributions of all people.
- **A Livable Small-Town Feel.** Where the City embraces the size and scale of its downtown and neighborhoods while striving to preserve the higher quality of life, charm, smallness and friendliness that this place offers.
- **A Sustainable Environment.** We embrace public and private actions to preserve and enhance our lakes, wetlands, and trees as a significant aesthetic, recreational and economic value to be preserved for all generations.
- **A Connection to History.** We respect the historical assets of the community and encourage the promotion and preservation of our history.
- **Economic Vitality.** Our community experiences economic prosperity through commercial diversity, interdependence and adaptability.
- **Housing.** Where the City promotes creative opportunities for life-cycle housing.
- **Families and Individuals.** We flourish as a community by caring about our residents’ needs and supporting efforts to reach everyone’s full potential.
- **Integrated Parks, Open Space and Trails.** Where the City appreciates, manages and preserves its natural areas, parks, and open space with a well interconnected sidewalk and trail system.
- **Civic Participation and Volunteerism.** Where the community engages and encourages its citizens to volunteer and to participate in community discussions and decisions through an open dialogue, respectful discussions, and responsive action.
- **Open, Efficient and Fiscally Responsible Government.** A City government that is approachable, transparent, and ethical, and the management of fiscal resources is accountable and prudent.



3

LAND USE PLAN

The Land Use Plan is a guide for future land use and development that is respectful of the fact that the City is a mature community. It strives to maintain and enhance the traditional form and character of Excelsior while accommodating high-quality and compatible improvements and new development. It should be emphasized that the Land Use Plan is a general guide for growth and development within the City and provides a foundation for further decision making and is not a site development plan. It is intended to be sufficiently flexible to accommodate unique or compelling circumstances and the consideration of creative approaches to development

that are consistent with the overall goals and objectives in the Comprehensive Plan.

THE LAND USE PLAN IS INTENDED TO PROMOTE A SUSTAINABLE AND HOLISTIC APPROACH TO GROWTH AND DEVELOPMENT THAT PROTECTS AND ENHANCES THE CITY'S EXISTING NEIGHBORHOODS AND COMMERCIAL AREAS

Existing Land Use

The redevelopment patterns of land use in the City of Excelsior are clearly established by the influence of both man-made and natural environmental features. The most significant influences have been the lakes and Highway 7. Lake Minnetonka affected development of the original town site, the downtown commercial area, and the surrounding neighborhoods. Highway 7 has functioned as the primary man-made barrier, but also provides the most significant transportation connection for Excelsior to the region.

The City of Excelsior is designated as a “Suburban” geographic planning area in the Metropolitan Council’s 2040 Regional Development Framework and is therefore expected to plan for forecasted population and household growth at average densities of at least 5 units per acre for new development and redevelopment. The City is expected to



have an average density of 7.29 units per acre by 2040. This was calculated by using the median density of each land use category. The City is completely developed with limited potential for infill development. As with any community, change will occur as renovation in terms of infill redevelopment and rehabilitation of existing sites. The attractiveness of the small town atmosphere and the historic downtown and neighborhoods have a continuing importance for this City and affect the land use patterns.

The following table is a summary of Excelsior’s land use mix. As one would expect, the large majority of property in Excelsior (57%) is developed as residential. The second largest land use category is Transportation & Utility. This is due to the infrastructure improvements completed to accommodate local and regional roadways. Finally, rounding out the top three land use categories is Institutional/Public.

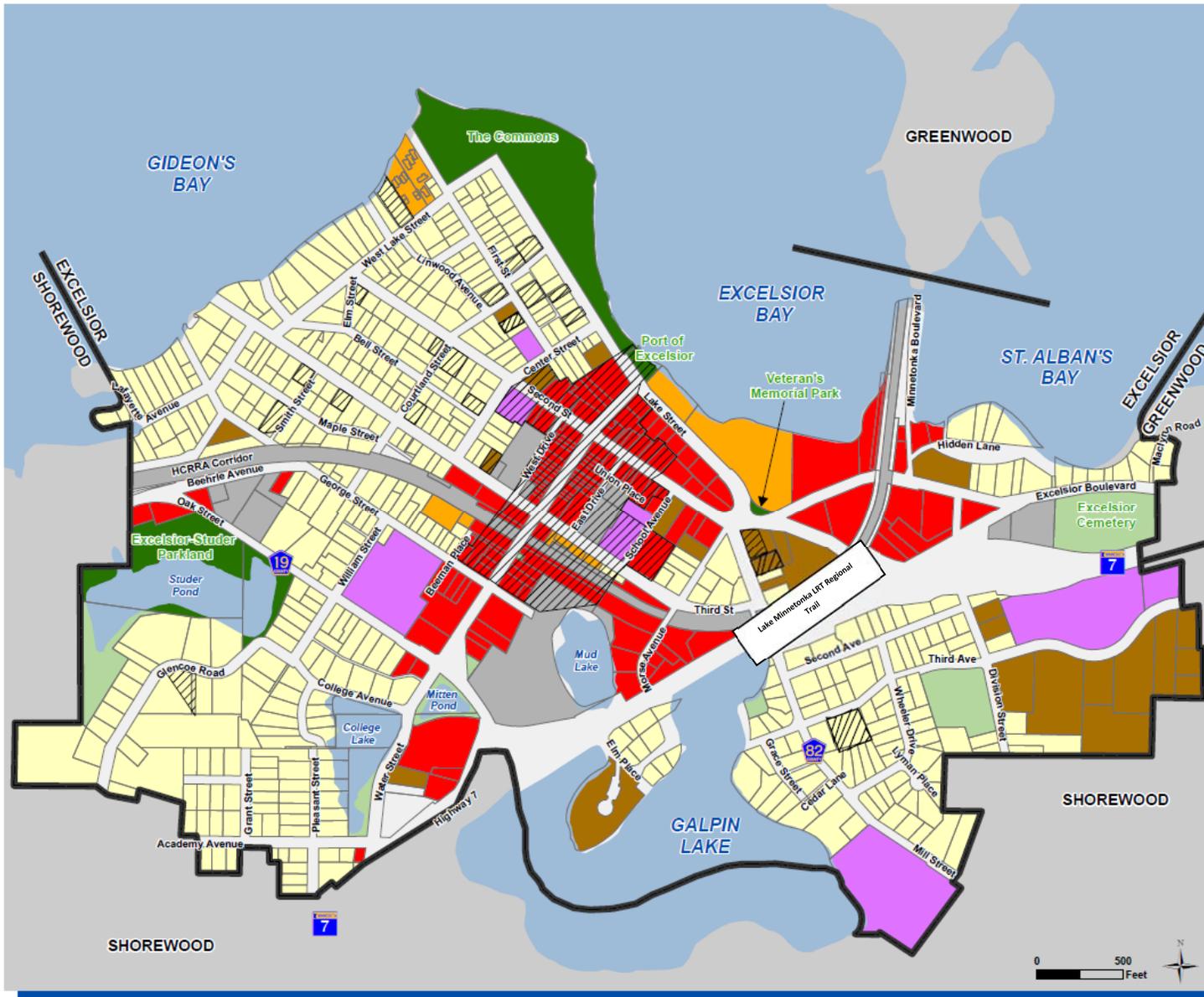
Table 3-1: Existing Land Uses

Categories	Acres	Percentage of Total
Low Density Residential	144.31	46.42
Medium Density Residential	8.5	2.72
High Density Residential	24.97	8
Institutional	20.99	6.72
Commercial	44.45	14.24
Open Space	41.83	5.3
Parks	25.26	8
Public/Semi-Public	25.16	8
Vacant	1.87	0.6
Total	312.08	100

Source: WSB

The Existing Land Use Map (next page) graphically illustrates the distribution and variety of land use types in Excelsior.

Existing Land Use - 2018



Legend

- Low Density Residential
- Medium Density Residential
- High Density Residential
- Commercial
- Institutional
- Open Space/Wetland
- Parks
- Public/Semi-Public
- Historic Landmarks & Downtown Historic District
- Excelsior Boundary



Existing Zoning Map



Legend

- R-1, Single Family Residential
- R-2, Single and Two Family
- R-3, Medium Density Residential
- R-4, High Density Residential
- B-1, Central Business District
- B-2, General Business District
- B-3, Office/Residential District
- B-4, Office/Residential District
- B-5, Central Business District/Motor Fuel Stations
- B-6, Highway Office, Retail & Residential District
- P, Public Park District
- PUD, Planned Unit Development (Residential)
- Excelsior Boundary



Future Land Use

Generally, a community is considered to be “built-out” when the total amount of vacant land (i.e. land not presently occupied by structures) comprises five percent or less of the total available land area in the community. As only 0.1 percent of its land area is considered vacant, Excelsior is considered a built-out community. There are many advantages to being a built-out community, which typically include a steady tax base, stable neighborhoods, and reliable community services.

Nevertheless, there are a variety of pressures that create a challenge for built-out communities. As a desirable built-out community, it is easy to embrace the status quo and prohibit change. Due to the natural cycle of change, and the pressures communities experience to redevelop, Excelsior should continue to address redevelopment with a balanced approach. Redevelopment and adaptive reuse of buildings (e.g. Excelsior Brewery, Golden Rule, etc.) can be beneficial if it retains the community’s character and brings in new land uses that contribute to a diversified land use mix.

While a majority of the Future Land Use Map (shown on Figure 3-2) is representative of the zoning districts shown on the current zoning map, Excelsior’s Future Land Use Map shall be used to identify appropriate land uses throughout the community.

It is important to remember that the Land Use Plan designation is a guide for future land use and development decision making. Should future conditions and community needs and aspirations change, the Plan must be modified appropriately to reflect the best interests of the community.

Residential Uses

The Land Use Plan classifies residential areas into three residential categories: Low Density Residential, Medium Density Residential, and High Density Residential. The Land Use Plan below provides a brief overview of these land use categories by presenting a concise definition and planned locations. An expanded discussion of the City’s residential areas, along with detailed policies for residential development and improvement are provided in **Section 4: Residential Areas Plan**.

Low Density Residential

Lots or parcels containing predominantly single family detached dwellings, but also including single family attached dwellings. Density range is 3-8 dwellings per net acre including local access streets. This is the predominant land use in Excelsior. The corresponding zoning districts to this land use category are R-1, Single Family Residential and R-2, Single and Two Family Residential. Depending on zoning district, this land use category allows for single family detached dwellings (R-1) or both single family detached dwellings and two-family dwellings and directly related, complementary uses.

Medium Density Residential

Lots or parcels containing single family attached dwellings and mid-rise multiple family housing such as apartments and condominiums. Density range is 8-19 dwellings per net acre including local access streets. Medium Density Residential is typically used as transition between Low Density Residential and Commercial areas or High Density Residential. The corresponding zoning district to this land use category is R-3, Medium Density Residential. This land use category allows for single family detached dwellings, two-family dwellings, and multiple family dwellings with certain height restrictions and under a certain amount of units as designated per the Zoning Ordinance.

High Density Residential

Lots or parcels containing multiple family housing such as single family attached dwellings and multi-story dwellings such as apartments and condominiums at a density of 19 to 30 dwellings per net residential acre including local access streets. The current corresponding zoning district is R-4, High Density Residential. This land use category allows for single family, two-family, and multiple-family dwellings as regulated by the Zoning Code.

Commercial Areas

The Land Use Plan identifies four categories of commercial uses: 1) Downtown Commercial, 2) Cottage Commercial, 3) General Commercial, and 4) Mixed-Use. An overview is provided below, while **Chapter 5: Commercial Areas** provides an expanded discussion of these uses.

Downtown Commercial

Downtown Excelsior is characterized by a mix of commercial service, commercial retail, entertainment, civic, institutional and related public facilities (including parking) in a pedestrian-oriented atmosphere. Downtown is the physical and psychological core of the community.

Cottage Commercial

A distinctive feature of Excelsior is the Cottage Commercial areas adjacent to the Downtown. Historically, owners of single family residences converted some or all of the houses into commercial businesses. The Plan recommends preserving these areas around downtown.



General Commercial

The commercial land use category accommodates numerous types of commercial, retail, service and office uses to allow for varying scales and intensities. These types of uses are generally characterized by individual parcels with corresponding parking lots.

Mixed Use

Mixed use areas are characterized by uses and development patterns that provide a vibrant, safe, attractive, and “walkable” pedestrian environment. Mixed use areas should have a strong pedestrian orientation and seek to create a more interesting and engaging pedestrian experience, accommodating pedestrian generating uses on the ground floor, and other uses above. Retail, entertainment, and dining uses are ideally suited for the ground floor with residential, education, medical and/or office uses located on the upper floors. The primary objective is to provide an appropriate and compact mix of uses to foster an active and interesting district. Parking in the mixed use areas should

be provided on-street, or in subtly located parking garages or parking lots. Land with this designation is assumed to development with a minimum of 50% residential use with a density of 8-19 units per acre.

Parks & Open Space

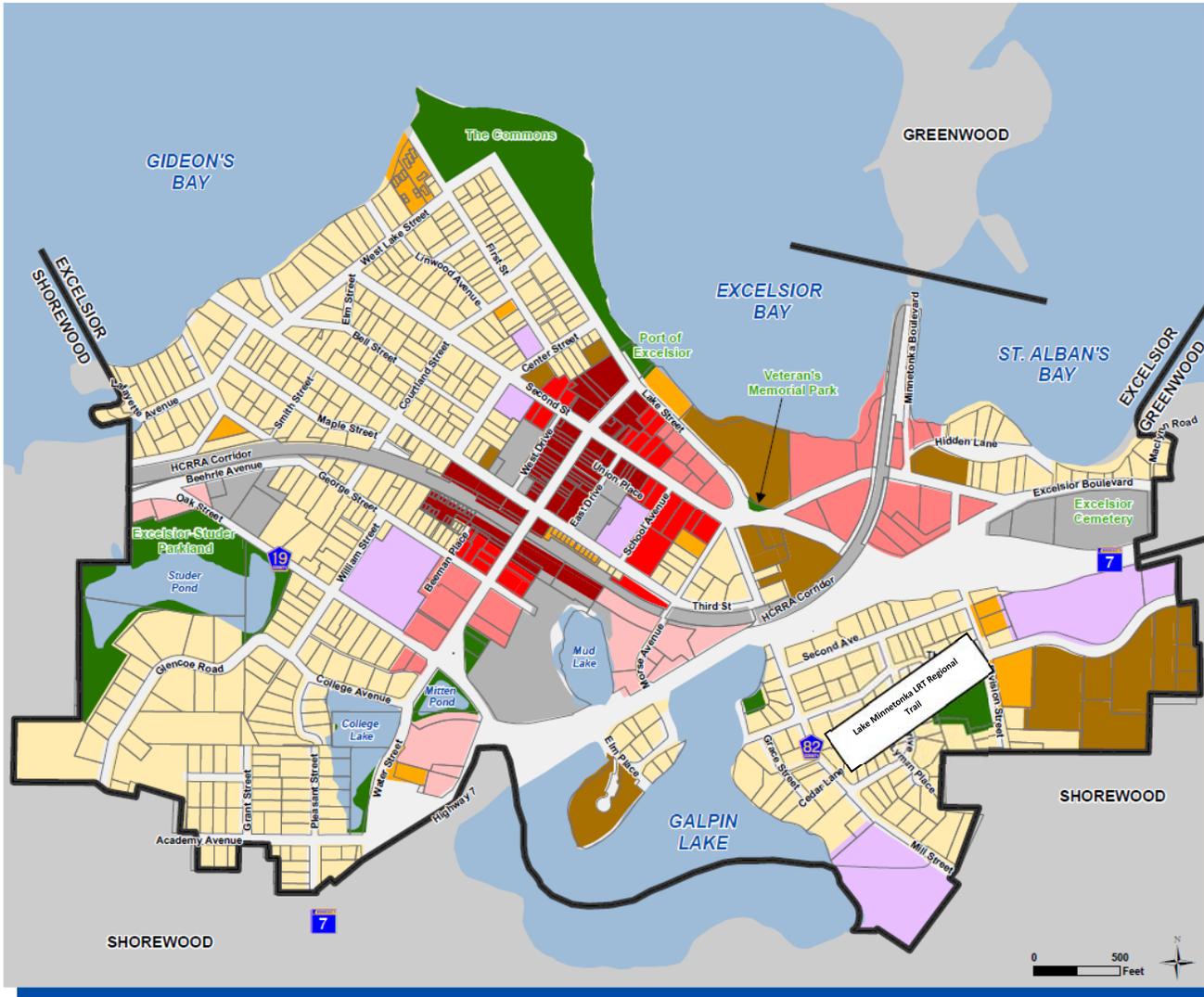
The significant park areas are The Commons on Lake Minnetonka and Excelsior Studer Park on County Road 19. The Commons is a regional attraction hosting weddings, reunions, races, concerts, civic gatherings and more. Open space and wetland areas are found throughout the City. The parks and open space features contribute greatly to the overall character of Excelsior and to the quality of life enjoyed by its residents and should be maintained and enhanced. **Chapter 7: Parks and Open Space includes a detailed discussion of these areas.**

Institutional/Public

Institutional/Public land uses include public and semi-public area occupied by government facilities, community service providers, schools and other institutional users. This land use also contains areas used by both private and public utility providers. The distribution of institutional/public land uses requires adequate and comprehensive service delivery to residents and businesses in the City, which largely determines their location.

The Land Use Plan anticipates that these uses will remain largely as they currently exist in the City. **Chapter 8: Community Facilities provides an expanded discussion of these areas.**





Proposed Land Use Plan

Legend

- Low Density Residential (3-8 Units/acre)
- Medium Density Residential (8-19 Units/acre)
- High Density Residential (19-30 Units/acre)
- Institutional
- Downtown
- Cottage Commercial
- Mixed Use Commercial (8-19 Units/acre)
- General Commercial
- Parks & Open Space
- Public/Semi-Public
- Excelsior Boundary



Planned Growth Areas

Growth within Excelsior is expected to primarily occur in the areas guided for Mixed Use.

Future Land Use Forecast Net Acreage per Decade

The table below indicates anticipated growth percentages per decade for each land use category. There are no expected local infrastructure impacts, as infrastructure is sufficient to accommodate growth for planned growth areas.

Table 3-2: Future Land Use Forecast Net Acreage Per Decade

Future Land Use	Res. Density (Units per Acre)	2020 Acres (%)	2030 Acres (%)	2040 Acres (%)
Low Density Residential	3-8	146.18 (47.2%)	146.51 (46.95%)	146.51 (46.95%)
Medium Density Residential	8-19	8.5 (2.72%)	7.03 (2.52%)	7.03 (2.53%)
High Density Residential	19-30	24.97 (8.00%)	25.07 (8.03%)	25.17 (8.06%)
Institutional	NA	20.99 (6.72%)	20.99 (6.72%)	20.99 (6.72%)
Downtown	NA	10.93 (3.5%)	10.93 (3.5%)	10.93 (3.5%)
Cottage Commercial	NA	7.17 (2.30%)	7.17 (2.30%)	7.17 (2.30%)
Mixed Use Commercial	8-19	8.97 (2.87%)	13.44 (4.15%)	17.9 (5.72%)
General Commercial	NA	17.38 (5.57%)	15.02 (4.80%)	9.02 (2.89%)
Parks & Open Space	NA	41.83 (13.41%)	39.41 (12.62%)	37.73 (12.08%)
Public/Semi Public	NA	25.16 (7.7%)	27.10 (8.68%)	29.63 (9.49%)
Total		312.08 (100%)	312.08 (100%)	312.08 (100%)

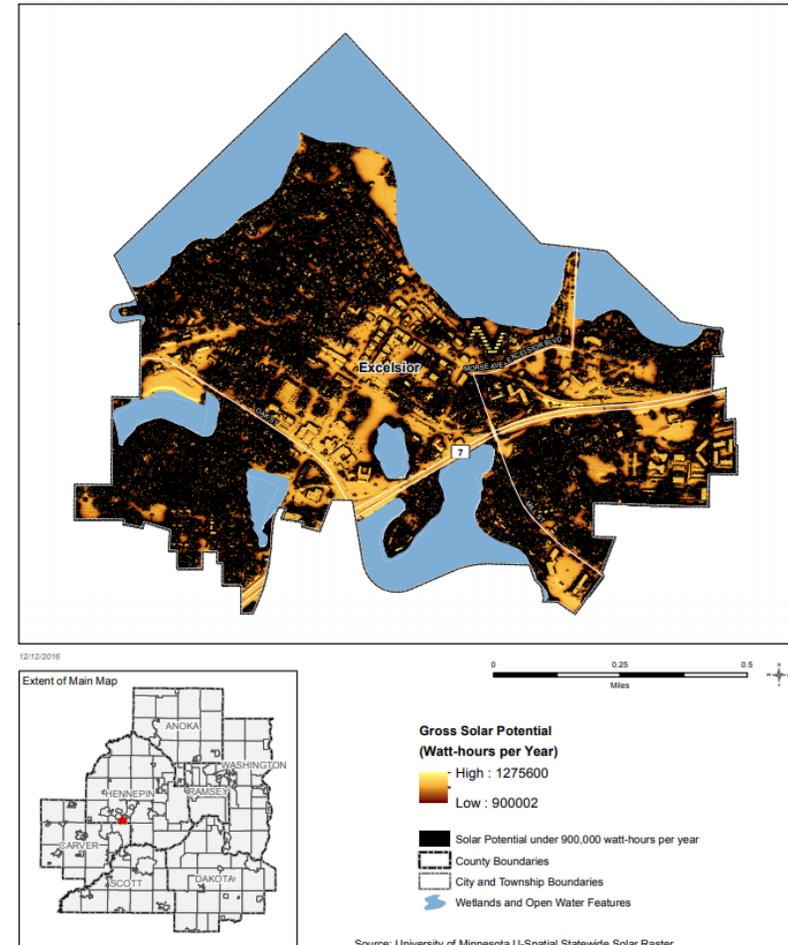
Source: WSB

Solar Access

The City currently has a gross solar potential of 592,617 Mwh/yr, and a rooftop potential of 94,867 Mwh/yr. The gross solar generation potential is 59,261 Mwh/yr, and the rooftop generation potential is 9,486 Mwh/yr.

The City has not yet incorporated standards in to their zoning ordinance regarding siting of structures and buildings to support access to solar structures. Given the City's dominant residential landscape pattern, options for private property owners including individual homeowners to capitalize on solar energy should be supported by City's adopted ordinances and official controls.

Gross Solar Potential City of Excelsior, Hennepin County





4

RESIDENTIAL AREAS

Excelsior's housing stock is diverse in age, architecture, and design and its residential neighborhoods are some of the most significant contributors to Excelsior's unique character and identity. The Residential Areas chapter of the Comprehensive Plan identifies policies that apply to the community as a whole, although the issues these policies address are not necessarily present in every neighborhood. As such, the application of City-wide policies should be tailored to the needs and conditions of Excelsior's various neighborhoods.

EXCELSIOR'S RESIDENTIAL
NEIGHBORHOODS ARE SOME OF
THE MOST SIGNIFICANT
CONTRIBUTORS TO THE CITY'S
UNIQUE CHARACTER AND IDENTITY

Single-family Residential

Of the residential units in Excelsior, nearly 39% (529 units as of 2016, according to the Metropolitan Council) are single family, either rented or owner-occupied. The single-family residential neighborhoods are one of the City's most cherished attributes and one of its most defining characteristics. Single-family residential development should continue to be a predominant use.

Historically, as residential development occurred near downtown, the traditional grid continued. New residential subdivisions, on the other hand, south of County Road 19 and Highway 7, introduced more contemporary development features, including curvilinear streets and cul-de-sacs.

Much of the City's character is derived from these neighborhoods and these distinguishing features should be preserved and enhanced.



Village Area

The City's oldest residential neighborhood is located west of the Downtown and north of County Road 19. The Village Area developed based on a modified grid system. Streets are typically straight, but vary in width and interest at different angles. Sidewalks are typically present on both sides of the street and mature trees contribute significantly to the character of the neighborhood.

The variety of street size and location is also replicated in the variety of lot sizes, house sizes and building setbacks. Larger lots are typically found along the Lake Minnetonka shores, while smaller lots (5,000 – 7,000 square feet) are found closer to Downtown.



Excelsior has historically been a summer vacation destination. Generally, homes in the village area reflect this trend as they were constructed as

secondary homes for vacation purposes. Homes in this area face significant development pressure when combining their age and lack of contemporary interior amenities with the attractiveness of a tight-knit, walkable neighborhood that is close to amenities such as Downtown and The Commons.

Suburban/Curvilinear

Predominantly found south of Highway 7 and County Road 19, the curvilinear streets with dead-ends and cul-de-sacs are defining characteristics of these residential neighborhoods. Contributing to this defining character are larger lots (greater than 10,000 square feet) and trees setback farther from the streets. Sidewalks are typically non-existent.

Multi-family Residential

Multi-family residential areas provide a wider variety of housing options to residents, especially to young households, empty nesters, and senior citizens all of which have been identified as growing markets in the city. Multi-family residential developments are commonly found in the southeast corner of the city or near downtown, providing a transitional land use between single family residential and commercial.

Traditionally, multi-family residential uses are sited near or in commercial areas due to the benefits of high-density housing to support nearby businesses, trends of car ownership/transit ridership among residents and the fact that multi-family residential development is typically more resilient to the impacts of commercial development.

While 61% (726 units as of 2016, according to the Metropolitan Council) of Excelsior's housing units are multi-

family residential, an apartment building has not been built since 1983 (Southshore Park). The last three multi-family developments have been townhouse (The Villas at Excelsior Village, Row Houses on Third Street and Wyer Hill).



Projected Land Use Acreage and Residential Density

As of 2016, there were 181 acres of low density residential; 5.5 acres of medium density residential (townhomes); and 26.3 acres of high density residential (apartments/condominiums). The resulting density in 2017 for each of the land uses is as follows:

- with 477 units, the resulting low density residential density is 2.6 units per acre;
- with 77 units, the medium density residential density is 14.0 units per acre;
- with 650 units, the high density residential is 24.7 units per acre.

Housing Capacity

The Metropolitan Council forecasts how much population communities can expect. Forecasts are then used to help plan infrastructure needs and set community expectations. From 2020 to 2040, the Metropolitan Council forecasts 100 additional housing units in Excelsior. Because Excelsior is fully developed, these additional 100 housing units will need to be provided through the redevelopment of underutilized properties. This will likely be included in the Mixed Use areas, which will, depending on final density and basing on the density ranges designated within the Mixed Use areas, add 69-158 additional units.

Rental vs. Owner-Occupied

As of 2016, there were 525 owner-occupied units and 734 rental units.

Housing Affordability

The Metropolitan Council has identified affordable housing needs for all cities and townships within the Twin Cities for the period from 2021 to 2030. The Metropolitan Council has indicated that Excelsior’s affordable housing allocation is 36 units for the years 2021-2030. To achieve this goal, the City should encourage affordable housing units in new developments. The table below indicates the need within the following bands of affordability:

Affordable Housing Need Allocation	
At Or Below 30% AMI	5
From 31% to 50% AMI	1
From 51% to 80% AMI	6
Total Units	12
<i>AMI = Area Median Income</i>	

The following table shows the number of housing units available within the bands of affordability:

Affordability in 2016

Units affordable to households with income at or below 30% AMI	122
Units affordable to households with income from 31% to 50% AMI	324
Units affordable to households with income from 51% to 80% AMI	256
Total Units	702

The following table shows cost-burdened households in 2016:

Cost Burdened Households in 2016

Income At Or Below 30% AMI	137
Income From 31% to 50% AMI	120
Income From 51% to 80% AMI	59
Total Units	316

A map showing owner-occupied housing units identifying their assessed values above and below \$243,500 (the affordable housing price for a household earning 80% AMI) is on the following page.

Owner-Occupied Housing by Estimated Market Value

Excelsior



Owner-Occupied Housing Estimated Market Value, 2016

- County Boundaries
- City and Township Boundaries
- Streets
- Lakes and Rivers
- \$243,500 or Less
- \$243,501 to \$350,000
- \$350,001 to \$450,000
- Over \$450,000

1 in = 0.21 miles

Source: MetroGIS Regional Parcel Dataset, 2016 estimated market values for taxes payable in 2017.
 Note: Estimated Market Value includes only homesteaded units with a building on the parcel.

Attracting a Younger Population

U.S Census data shows that Excelsior’s population is aging. According to U.S. Census data, the median age of Excelsior residents increased from 33.9 years in 1990 to 42.0 of age in 2010. While this aging trend is similar to the metropolitan area, the rate of increase in Excelsior is greater than the metropolitan area.

The community has expressed a desire to attract a younger demographic. Since 1974 all of the multifamily developments have been owner-occupied townhomes, which have been popular with empty-nesters, and not affordable for the younger population. An apartment building, on the other hand, which is typically sought after by younger professionals has not been constructed in Excelsior since 1983.

Multiple Family Density Guidelines

It is difficult, as well as unreasonable, to apply a rigid set of density standards to multiple family housing because its design varies so greatly. The variables include number of bedrooms, number of units per building, size of unit, vertical stacking and number of levels, understructure vs. surface parking, and units design for empty nesters or the elderly. Since a variety of multiple family building/site designs are desirable, the standards below should be regarded as guidelines to achieve densities proportionate to differing designs. Appropriate densities for individual projects should be determined based on context, traffic review, parking, green space and bulk standards. As a general guide for reviewing such proposals, the following density standards shall be used.

Land Use Type	Density Range (Units per Acre)
Low Density Residential	3-8/acre
Medium Density Residential and Mixed Use	8-19/acre
High Density Residentials	19-30/acre



Housing for Senior Citizens

According to Metropolitan Council, there were 67 publicly subsidized senior units as of 2016. In 2017, the City approved the Waters of Excelsior development, which consists of 115 assisted living and memory care units. Of these units, 23 are to be affordable. With limited areas in

Excelsior available for redevelopment and with the focus of attracting a younger population, another senior citizen housing development is not needed for the next 20 years.



New Development & Reinvestment

It is imperative that new development be sensitive to local context. Regardless of the location or housing type, residential development or redevelopment should be carefully regulated to ensure compatibility with the scale and character of surrounding and adjacent residential neighborhoods. New infill development and alterations to existing development should maintain a setback, height, bulk, and orientation similar to that of neighboring development. The existing tree canopy is important and should be complemented with additional tree plantings when development occurs.

Modernization

Residential, commercial, and institutional properties all require modernization from time to time in order to remain competitive in the marketplace and to avoid becoming functionally obsolete. Modernization helps to achieve a

balance between the past and the future by providing incremental improvements to existing properties, including both sites and structures.

Three are four levels of residential modernization:

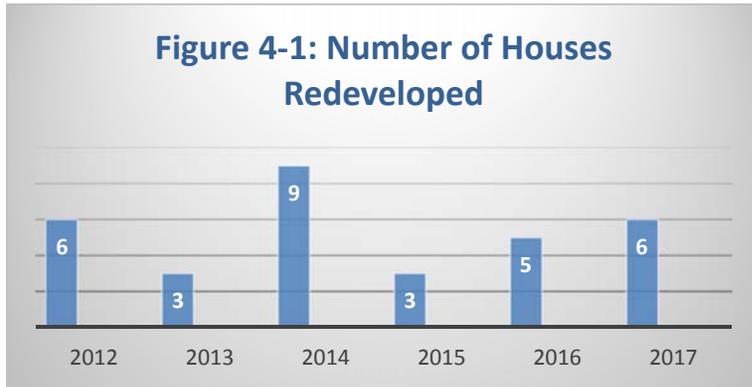
- **Upkeep** which includes the basic maintenance and repair of existing structures (e.g., new exterior paint or roof)
- **Renovation** which includes small-scale projects to update portions of existing structures (e.g., kitchen or bathroom renovation)
- **Expansion** which includes adding onto an existing structure (e.g., a rear or side addition)
- **Redevelopment** which includes demolition of an existing structure to construct a new one (e.g., a residential teardown)

Residential modernization is intended to replenish, rejuvenate and spur reinvestment in the City's housing stock and should not conflict with the promotion and protection of the City's distinguishing character and historic resources.



Infill Development and Redevelopment in Neighborhoods and Neighborhood Character

Over the last several years, Excelsior has experienced a relatively consistent level of houses being razed and new houses being built.



Source: City of Excelsior

The Comprehensive Plan recognizes the value and importance of Excelsior existing housing stock in terms of image, character, and stability. While the replacement of some aging or functionally-obsolete homes may be both natural and desirable, the City changed the single-family bulk regulations and design standards in 2017 in order to ensure new infill developments respect the context of the neighborhood. These changes included:

- Required a Construction Management plan for every new house and significant addition.
- Increased the demolition fee.
- Prohibited lot combinations of smaller residential lots.
- Increased the replacement rate for removing significant trees and designating Landmark Trees that may be removed only if they are diseased.
- Prohibited non-conforming structures from being expanded in height or width.
- Reduced the total lot coverage.

- Increased the setback for attached garages from the front of the house and prohibited three-car garages from facing the street.
- Reduced the size of accessory structures.
- Reduced the maximum height of new houses.

The City should monitor the effects of the new massing standards and design standards for new single-family residences and make modifications where necessary to ensure compatible infill residential development.

It should be noted that the community has not, and cannot reasonably regulate all aspects of infill development, and there will always be differences of opinion regarding style and aesthetics. However, the larger issues of compatible scale, bulk density, and the crucial issues of accessible and walkable design can and will be addressed according to the community values.

Sidewalks

The City should have a sidewalk on at least one side of each local street. However, the construction of traditional sidewalks may negatively impact the character of some neighborhoods. Alternative solutions to traditional sidewalk construction should be considered in sensitive areas where, for example, such improvements may contribute to additional flooding or negatively impact existing parkway trees.

The City's sidewalk network should continue to be expanded to provide better connections between the community's residential neighborhoods, parks, schools and downtown. Within residential areas, sidewalks should be installed and maintained as determined by the City. The City should be cognizant of the differences in the character of individual

neighborhoods when determining locations and types of sidewalk installation; however, preservation of character should not supersede pedestrian safety and connectivity.



Boulevard Trees

Many of the streets within the city's residential neighborhoods are aligned with a canopy from mature boulevard trees. These mature trees contribute significantly to the overall desirability and character of the neighborhoods and the City as a whole. It is recommended that boulevard trees be protected and preserved.

Summary of Existing and Projected Housing Needs

Based on the data and analysis throughout this chapter, we have identified the following housing needs as priorities for our community through 2040.

1. Maintenance assistance for homeowners at or below 60% AMI;
2. Rental units for large families at all affordability levels;
3. Senior housing affordable at 30-50% AMI;

4. Preservation of naturally-occurring affordable housing within all bands of affordability.

To simplify the land use guidance and acknowledge the diverse homeownership options that already exist in the community, the City is focusing on guiding land that would support multi-family affordable housing. As such, the proposed land use map on page 28 reflects minimum densities of at least 8 units per acre for both medium and high-density residential land use (comprising of 10.59% of the City's total acreage) to sufficiently address our total allocation of affordable housing needs of 36 units.

Housing Resources, Strategies, & Tools

The table on the following page outlines a variety of resources and tools to implement Excelsior's identified housing needs and stated housing goals. There is a wealth of resources available to assist communities in meeting their goals. As the City's housing needs evolve or become more defined, it should expand with options. Options that the City has not yet considered for housing include tax abatement; housing bonds; Fair Housing Policy; participation in housing-related organizations, partnerships, and initiatives; City support or direct application to specific resources within the Consolidated RFP put out by Minnesota Housing; Hennepin County's Affordable Housing Incentive Fund; Site Assembly; Partnership with Homes Within Reach to create land trust homes; and Livable Communities Act (LCA) programs.

Housing Goal	Tools/ Resource/ Strategy	Description
Maintenance assistance for homeowners at or below 60% AMI	CDBG funds	The City will consider working with Hennepin County to administer CDBG funds for homeowner rehabilitation programs.
	Minnesota Housing programs	The City will refer residents to maintenance assistance programs available through Minnesota Housing.
	Homes within Reach	The City will consider approaching Homes within Reach to consider the Land Trust model to allow owners at risk of foreclosure to stay in their homes.
Rental units for large families at all affordability levels	CDBG and HOME funds	The City will consider working with Hennepin County to apply CDBG and HOME funds to affordable large family projects when possible.
	Tax Abatement	The City is unlikely to use tax abatement for affordable housing.
	TIF	The City is unlikely to use TIF for non-senior affordable housing.
	Housing bonds	The City is unlikely to issue housing revenue bonds to support affordable housing projects.
	Minnesota Housing Consolidated RFP	The City will consider supporting applications to Minnesota Housing's Consolidated RFP for this type of housing.
	Hennepin County's Affordable Housing Incentive Fund (AHIF)	The City is likely to support or apply to Hennepin County's AHIF programs for this type of housing.
	Site Assembly	The City is not likely to assemble land for this purpose.
	Local HRA/EDA	The City is not likely to use local HRA/EDA powers to support this type of housing.
Livable Communities Act (LCA) Programs	This City is not likely to participate in LCA.	
Senior housing affordable at 30-50% AMI	Tax Increment Financing (TIF)	The City will consider using TIF to support affordable senior housing projects.
	Tax Abatement	The City is unlikely to use Tax Abatement for affordable housing.
	Housing bonds	The City is unlikely to issue housing revenue bonds to support affordable housing projects.
	Minnesota Housing Consolidated RFP	The City will consider supporting applications to Minnesota Housing's Consolidated RFP for this type of housing.
	Site Assembly	The City is not likely to assemble land for this purpose.
	Local HRA/EDA	The City is not likely to use local HRA/EDA powers to support this type of housing.
	Livable Communities Act (LCA) Programs	This City is not likely to participate in LCA.
Preservation of naturally-occurring affordable housing within all bands of affordability	Conservation Districts and Single-Family Scale Standards Task Force	Develop single family standards to allow the modernization of single-family homes while respecting the scale of the existing neighborhood with regulations that are easily understood and possibly develop conservation districts to promote compatible development and offer the ability to tailor development and design-based controls for specific neighborhoods.
	Homes within Reach	The City will consider approaching Homes within Reach to consider the Land Trust model to allow owners at risk of foreclosure to stay in their homes.
Future need for housing at all levels of affordability	Tax Increment Financing (TIF)	The City is unlikely to use TIF for non-senior affordable housing.
	Tax Abatement	The City is unlikely to use Tax Abatement for affordable housing.
	Housing bonds	The City is unlikely to issue housing revenue bonds to support affordable housing projects.
	Minnesota Housing Consolidated RFP	The City will consider supporting applications to Minnesota Housing's Consolidated RFP for this type of housing.
	Site Assembly	The City is not likely to assemble land for this purpose.
	Local HRA/EDA	The City is not likely to use local HRA/EDA powers to support this type of housing.
	Livable Communities Act (LCA) Programs	This City is not likely to participate in LCA.



5

COMMERCIAL AREAS

Excelsior's commercial areas chapter of the Comprehensive Plan promotes high-quality commercial development. It presents recommendations that are intended to capitalize on the City's strong position in the region, while at the same time diversifying the City's tax base and providing residents with access to goods and services. The primary goal of this chapter is to retain, attract and expand high-quality commercial retailers, service providers and employers by addressing location, size and appearance of commercial areas.

THE PRIMARY GOAL OF THE COMMERCIAL AREAS PLAN IS TO RETAIN, ATTRACT AND EXPAND HIGH-QUALITY COMMERCIAL RETAILERS, SERVICE PROVIDERS AND EMPLOYERS BY ADDRESSING THE LOCATION, SIZE AND APPEARANCE OF COMMERCIAL AREAS

Commercial Areas

Because these areas represent a large majority of the community's economic development investment, it is important to maintain and improve the vitality of these areas. Commercial land uses are critically important to the City for three primary reasons. First, they are among the most visible locations in the community, and therefore their image and appearance greatly reflect upon the character and identity of the City. Second, the commercial areas within Excelsior provide a critically important fiscal resource for the City. Third, they provide the community with convenient access to needed goods and services. Ensuring economic stability of these areas will assist in ensuring financial resources for continued quality community facilities, services and infrastructure.

Excelsior's commercial areas can be generally defined as Downtown, Cottage Commercial, General Commercial and Mixed-Use.

Downtown

Downtown Excelsior is characterized by a mix of uses, dense and compact development, and a pedestrian-friendly environment within which to shop, dine, work and live. The Downtown area provides a unique shopping destination within the western suburbs. As the symbolic heart of Excelsior, it is vital that reinvestment and redevelopment reinforce these qualities and preserve and enhance the pedestrian-oriented atmosphere of Downtown Excelsior.

To continue its success and vibrancy, a diverse mix of uses should be promoted and maintained Downtown, including retail, dining, entertainment, professional office, residential

uses, the Hennepin County library, the US Post Office and City Hall.



Downtown Transition

Downtown Excelsior is surrounded on all sides by established residential neighborhoods. Maintaining an adequate buffer is accomplished through a transition area where appropriate commercial development of a compatible scale and character is permitted.

Downtown Office

Offices in Downtown should be required to be located above the ground floor along Water Street to preserve the street level spaces for retail businesses, which increase foot traffic along Water Street.

Downtown Redevelopment

Much of Downtown is located in the Excelsior Downtown Historic District, and all exterior improvements are reviewed under the guidelines of the Preservation Design Manual and the Secretary of Interior Standards.

General Commercial

The general commercial areas are located along Highway 7, Excelsior Boulevard, along Lake Street and along Water Street, south of George Street. Areas designed as general commercial are intended to be smaller-scale retail and service commercial areas geared toward providing for the daily shopping, service, and convenience needs of the surrounding neighborhoods and communities. Uses in the general commercial areas should be of a scale and intensity to be considered generally compatible with adjacent and nearby residential uses.

Cottage Commercial

Downtown Excelsior is surrounded by houses that have been converted into commercial uses. These Cottage Commercial areas contribute to the unique character of Excelsior and provide an important transition area between the commercial activities of Downtown and nearby residential areas. Cottage Commercial areas are different than the Downtown based on increased front yard setbacks, more green space and residential architecture.

The Cottage Commercial areas should be preserved. The City should develop a separate zoning district that supports the Cottage Commercial areas.



Mixed Use

Mixed use areas should be characterized by uses and development patterns that provide a vibrant, safe, attractive, and “walkable” pedestrian environment. Mixed use areas should have a strong pedestrian orientation and seek to create a more interesting and engaging pedestrian experience, accommodating pedestrian generating uses on the ground floor, and other uses above. Retail, entertainment, and dining uses are ideally suited for the ground floor with residential, education, medical and/or office uses located on the upper floors. The primary objective is to provide an appropriate and compact mix of uses to foster an active and interesting district. Parking in the mixed-use areas should be provided on-street, or in subtly located parking garages or parking lots.

Redevelopment/Infill Development

Regional and state regulations require the City to permit and plan for needed growth to capitalize on existing infrastructure instead of metropolitan region paying for the costs of extending new infrastructure to the edges of the region. The Metropolitan Council has estimated that Excelsior plan for 100 new housing units over the next 10 years (from 2020 to 2030). Most of the housing growth will most likely be accomplished in commercial zoning districts that allow residential living above shops. In many areas of the City, these zones are likely to experience redevelopment over the next 20 years; properties are assumed to have redevelopment potential when the building value does not exceed 150% of the land value. When considering redevelopment potential, there is capacity to add more housing than exists today in locations like around Downtown and the East Side area (see Chapter 10).

Excelsior, however, is a built-out community, and the impacts of small land divisions and infill development in established neighborhoods can be significant. The Comprehensive Plan aims to balance the requirement to accommodate growth with livability concerns.



Commercial Design and Design Standards

The City should continue to implement the Design Standards and Preservation Design Manual to address commercial issues such as appearance, signage, service/parking screening, and access management in a coordinated and comprehensive manner.

Regardless of size, a high level of design should be encouraged to ensure that commercial structures blend into adjacent residential areas with regard to built form, scale, walkability and pedestrian connectivity. The design should be human in scale and pedestrian friendly; all buildings

should be architecturally attractive and add value to the adjacent properties.

Through the use of sound planning policies, development standards and guidelines, the City can ensure that growth does not compromise the design quality or integrity of its neighborhoods, and that the benefits of growth are maximized, while negative effects are avoided or mitigated.

The City should continue to promote redevelopment of commercial properties within areas that provide convenient and general commercial needs to the surrounding community and include housing as a mixed-use to reach the Metropolitan Council's housing goals for Excelsior.

Vacant or Underutilized Properties

The activity and physical appearance of vacant or over-parked sites has a significant influence on how visitors and potential patrons to Excelsior businesses perceive the community. The City should promote the redevelopment of underutilized properties.

Modernization

Residential, commercial, office and institutional properties all require modernization from time to time in order to remain competitive in the marketplace and to avoid becoming functionally obsolete. Modernization helps to achieve a balance between the past and the future by providing incremental improvements to existing buildings, properties, parking lots and public rights-of-way.

For commercial properties, there are four levels of modernization:

- **Upkeep** which includes the basic maintenance and repair of existing structures (e.g., new exterior paint or roof)

- **Renovation** which includes small-scale projects to update portions of existing structures (e.g., façade or sign improvements)
- **Expansion** which includes adding onto an existing structure (e.g., business addition)
- **Redevelopment** which includes partial or full demolition of an existing structure to construct a new one (e.g., demolition and new construction)

Commercial modernization is intended to replenish, rejuvenate and spur reinvestment in the City's commercial areas and should not conflict with the promotion and protection of the City's distinguishing character and historic resources.

Stormwater Management

The continued use of the City's stormwater management practices should be encouraged, promoting the use of native plantings, swales, and pervious pavers to improve stormwater management within commercial and off-street parking areas. These techniques are effective stormwater management practices and are generally less expensive to install and maintain than traditional curb-and-gutter and landscaping.



Formula Businesses

The City believes that it is important to maintain an environment which encourages a variety of quality and locally owned businesses and restaurants so that residents of Excelsior can purchase locally while continuing to encourage visitors to visit Excelsior and support our independent businesses. In fact, when asked what the City should do to create a better Excelsior, respondents to the Comprehensive Plan survey ranked limiting franchise businesses as #3. The City supports business establishments that contribute to the City's unique character, and that have traditionally attracted a local clientele.



Parking - Downtown

Excelsior has established a “park once and walk” downtown environment.

Excelsior’s physical configuration is the product of an era in which the automobile was not a dominant factor in daily life. The City benefits from the charm of a mature, pre-World War II ambiance; however, this also means that parking is not always readily available as with businesses that sit adjacent to expansive surface parking lots commonly found in newer suburbs.

One of the main reasons people are attracted to historic downtowns is because of their unique character and urban design. Visitors to Downtown Excelsior notice the large number of shops, salons and restaurants and other destinations all within walking distance. In comparison, the first impression of a big-box store or strip mall is a stroll through the parking lot. Despite the unique layout of Downtown, users still expect to have parking available right in front of each destination. The City acknowledges that adequate and convenient parking is essential for the success of Downtown Excelsior. Parking, however, should not be over emphasized at the expense of a walkable, inviting downtown.

Excelsior’s “park once and walk” theme should include an interesting and stimulating pedestrian environment where very few downtown trips generate more than one parking action, converting drivers to pedestrians while they are downtown.

Parking Impact Fee

In order to provide flexibility for downtown property owners, the City adopted a Parking Impact Fee ordinance in 2010. The fee allows a change to a more intense use that would require additional parking while ensuring that properties benefiting from a change to a more intense use bear the

costs of the City providing, operating, and maintaining, and possible expanding the public parking areas.

A question on the Comprehensive Plan survey asked the community if the City should encourage the redevelopment of parking lots in the Downtown. Seventy-five percent of the respondents disagreed that the City should encourage the redevelopment of private parking lots in the Downtown.

Based on the intention of the parking impact fee program, community input, and the reasonably available parking spaces to allocate to this program, it is recommended that the parking impact fee program should only be for projects changing use, and that redevelopments and building additions in the Downtown are expected to satisfy all of their zoning ordinance parking requirements on-site.

Parking Lot Improvements

Large parking lots and parking lots near the sidewalk are not pedestrian friendly. The two large municipal parking lots should be improved with interior landscaped islands, ground cover, shade trees, and other landscape elements. Parking lots near sidewalks should be effectively screened with a combination of perimeter landscaping, berms, masonry walls, and/or decorative wrought iron fencing. Regardless of the size of parking areas, the City should encourage the regular repair and maintenance of parking surfaces.

Downtown Parking Ramps

Without understanding the complexities of parking, its role in the transportation system, or the high costs of building structured parking, people often say, “the City should just build a parking ramp.” However, building additional parking without properly managing the existing supply can induce more driving and increase parking demand and traffic congestion, leading to parking shortages even after having built a garage.

During the past 30 years the Community has discussed constructing a parking ramp in the Downtown. During that time the City has commissioned six various Downtown parking and parking ramp studies (outlined in the Background Chapter).

High costs (\$30,000 per parking space and maintenance costs), impact on the historic downtown and the limited number of new parking spaces that a new parking ramp would supply, have prevented a parking ramp from being constructed.

The Comprehensive Plan community survey asked if the community believed the City should encourage the development of more housing or retail to build a parking ramp Downtown. Sixty-two percent of the respondents disagreed that additional private development should be used to help finance a parking ramp Downtown.

The City has 664 public parking spaces available in the Downtown. Over the past five years, City staff has routinely performed parking usage studies for the two municipal parking lots, private parking lots and on-street usage during the summer months. The surveys indicate that while public parking areas are quite full at certain times, 26% of the spaces are still available during the peak times in the summer months.

Currently, people may need to drive around a bit to find parking downtown during peak times in the summer months, but during the other nine months, parking is readily available in the Downtown.

As car sharing programs continue to grow in popularity (autonomous vehicles, car sharing companies like Zip Cars, and ridesharing like Lyft and Uber), transportation and parking needs will begin changing in significant ways.

Parking will no longer need to be proximate to uses, which will reduce the amount of parking needed in Downtown.

Instead of focusing on developing a parking ramp, the City should focus on more practical solutions to improve parking in Downtown as discussed below.

Miscellaneous Remedies

Opportunities to implement relatively minor physical improvements to streets and existing facilities may increase the number of parking spaces in some areas. Angle-parking is beneficial because it yields more curb front spaces. The City should study where angle-parking is feasible in or near the Downtown.

It is important to guide non-residents to appropriate parking locations. While it is true that many drivers will see free, on-street parking in residential areas to avoid paying parking meters, some drivers simply may not know where else to go. In these instances, improved wayfinding measures – signage that help drivers find parking locations – are essential.

The City should continue monitoring the parking demand on a bi-annual basis to determine if the amount of parking is decreasing, increasing or holding steady.

Commercial Goals and Objectives are located in Appendix A.





6

HISTORIC PRESERVATION

The Excelsior Community recognizes that the City's historic resources help define the Community's character and differentiates the City from other surrounding communities. As evidenced in a recent community survey, the Community strongly supports the preservation of its historic resources, as the historic downtown ranked #4 for the top favorite things about Excelsior, and maintaining historic buildings ranked #2 in what the City should invest in to create a better Excelsior.

BUILDINGS ARE NOT GOOD BECAUSE THEY ARE OLD; THEY ARE OLD BECAUSE THEY ARE GOOD

THE PRIMARY GOAL OF THE HISTORIC PRESERVATION PLAN IS TO PRESERVE EXCELSIOR'S HISTORIC RESOURCE THAT, WHICH CONTRIBUTE TO THE CITY'S UNIQUENESS AND CHARM

A Brief History of Excelsior

Excelsior, Minnesota began in 1852, founded by settlers from Eastern states of the United States who were attracted to the area by the sale of large tracts of government land opening up in the West. George Bertram, a tailor from upstate New York, along with other early settlers, formed the Excelsior Pioneer Association in 1853. Incorporated in 1877, the Village, located on the south shore of Lake Minnetonka, did not follow the typical north/south street grid, but was oriented to the lake itself. The origin of the name is thought to have been derived from either the Longfellow poem similarly titled and popular at the time, or from the New York State motto "Excelsior", which means "ever upward."

Agriculture, lumberyards and tourism sustained Excelsior's early years. Due to the location's scenic beauty, visitors were attracted to Excelsior early on, and numerous hotels and summer cottages catered to tourists. Prior to the advent of air conditioning, lakeside living held much appeal to city dwellers and southerners during the hot Midwestern summers. Tourists from Minneapolis, Saint Paul and beyond were able to reach Excelsior by steamboat in the mid-century and by railway in 1881 when the Minneapolis and Saint Louis railway reached the village. Shortly thereafter the Minneapolis, Lyndale and Minnetonka Railway and the Saint Paul, Minneapolis and Manitoba (later the Great Northern) Railroad reached Excelsior as well. Farmers, fruit growers and lumbermen all took advantage of the appearance of railroads by shipping their goods via this new mode of transportation.

From 1867, Water Street served as the main thoroughfare of the community. With growing needs to serve both residents and summer visitors, boarding

houses, hotels, and commercial establishments of various kinds were rapidly constructed. By 1890, a large number of goods and services as well as year-round and summer dwellings were in place.



Fire was a constant hazard in the nineteenth century. A major fire on December 31, 1894 destroyed most of the structures between Second and Third Streets on Water Street's west side. Constructed as one and two-story wood-frame buildings, most were re-built in brick: the Apgar Building (nos. 218, 220, and 226; 1895), the Miller Block (nos. 234-236; 1900), and the Odd Fellows Hall (nos. 250-252; 1897) are all notable. Joined by other new brick structures in the 200 block, they all graced Water Street by 1900.

The east side of Water Street between Second and Third Streets was destroyed by fire on April 29, 1902.

Year round residents were increasing in number by the 1880s. Large private homes were being built and steamships carried residents and visitors around the lake. Though scuttled in the second quarter of the 20th century due to the increase in buses and

automobiles, the Minnehaha, one of those boats, was discovered at the lake bottom in 1979. The Minnehaha was restored and returned to service in 1996 and carries passengers between Excelsior and Wayzata yet today.

A prominent feature of Excelsior’s history is the Excelsior Amusement Park. Built east of the docks in 1924, it served as a major attraction with a regional draw. The amusement park was demolished in 1974.



Fire continued to plague Water Street in the 1940s and 1950s. A Red Owl grocery store, a bowling alley, an inn and a theater all burned down or suffered severe smoke damage within a few short years.

Today a stretch of green along the lakeshore harkens back to the early settlers, who set aside the land for the enjoyment of all residents. This thirteen-acre Commons, now over one hundred and fifty years old, remains today a vibrant arena for community events such as summer concerts, art fairs, and sporting events. The Commons is an individually designated Landmark.

Excelsior Downtown Historic District

In 1998, the City Council designated the Excelsior Downtown Historic District. The District extends along three blocks of Water Street from the municipal docks on Lake Minnetonka at the north to George Street on the south. In addition, it extends to the east along portions of Second Street and Third Street. The historic district contains a total of 78 properties, with 56 contributing buildings and 1 contributing site.



Benefits of Historic Preservation

Preservation and reuse of historic and cultural resources has an intrinsic value. Through preservation of Excelsior's most significant landmarks and historic district comes an understanding of how the past influenced the present, and how the present affects the future. These tangible resources are assets that link the lives of our predecessors with our own time and that of the future, providing understanding of changing social, economic, and cultural values. However, preservation is not only a historical concept, but a practical discipline that has economic, social, environmental and educational benefits.

Economic Development

- Downtown is the face of Excelsior for new businesses looking to relocate.
- The State of Minnesota allows an income tax credit of up to 20% for rehabilitation of a building listed on the National Register. This is in addition to the 20% federal historic preservation tax credit.
- Historic preservation-based revitalization can be a catalyst for economic development and increase local property values. When a property sits vacant and neglected, it can negatively affect the surrounding area. Conversely, a successfully renovated project can have spillover effects well beyond the property line, leading to neighborhood improvements in turn that will further improve the specific building being renovated.
- Historic preservation helps attract and retain small businesses. Over the last decade, small businesses accounted for more than 85% of all new jobs created. Historic buildings provide ideal locations for many of these small businesses. The average small firm employs 12 people, and the average space requirement for workers is 250 SF per person, which in total is the average size of a historic building in a downtown.

Social

- Historic downtowns are typically seen as the heart of the community. The level of civic pride, which largely determines the amount of citizen involvement in a community, is affected by the well-being of the downtown. This citizen involvement includes volunteering, improving personal property, contributing to charity, and getting involved in the decisions that affect the downtown.



Environmental

- Reusing historic buildings is the ultimate form of recycling. When historic buildings are demolished, their embodied energy, which is the amount of energy associated with extracting, processing, manufacturing, transporting and assembling building materials, is lost and building material waste is hauled to landfills.

- Historic buildings were designed to operate on much lower energy budgets and took advantage of natural elements. High ceilings, natural light, and windows for cross ventilation, shutters and canopies for controlling sunlight are effective means to reduce a building's energy consumption.
- Excelsior's downtown is pedestrian-friendly with a mix of uses that offer retail stores, housing, offices, governmental uses, and entertainment. Consequently, the people who live and work in and around historic downtowns can satisfy many of their needs by walking, which creates a built-in customer base, improves quality of life, promotes smart growth, and reduces reliance on cars.

Educational

Adult and public school education, involvement and commitment by understanding local history, the value of that history, and applications for that history.



National Register of Historic Places

Established in 1966, the National Register of Historic Places is the official list of the nation's historic and cultural resources. Properties listed are significant and worthy of preservation because of an event or person, an architect or style of architecture represented, or the site has made a significant contribution to the broad patterns of our history. The list is maintained by the Secretary of the Interior, and it contains individual properties and larger districts.

Being listed on the National Register provides several benefits including:

- 1) recognition that the resource is nationally significant,
- 2) protection under the "Section 106 Review" process for all federally funded projects, which is designed to minimize the likelihood that federal funds would damage a nationally recognized property,
- 3) qualification for available grant and loan funding when available, and
- 4) probably the greatest incentive is that these buildings are eligible for a 20% Federal Tax Credit and 20% State Tax Credit for significant rehabilitation.

The requirements for the tax credits: 1) it must be listed on the National Register or be eligible for listing, 2) it must be a substantial rehabilitation, 3) the project must meet the Secretary of Interior's Standards for Rehabilitation, and 4) the building must be income producing (no owner-occupied housing).

Structures and sites listed only on the National Register are not subject to review by any agency for any changes. Only when property owners seek federal funding assistance does State Historic Preservation Office (SHPO) review the proposed changes to the exterior of a building.

The State also has grants available for the maintenance of properties listed on the National Register. Properties listed on either the National Register or a local register are given priority by the State for reuse studies and grants. Listing on either register does not burden property owners by requiring any additional maintenance of the property.

Local Register

Being listed on Excelsior’s local register protects Excelsior’s historic landmarks and historic resources through a design review process. The local register, however, does not protect interior spaces and does not restrict the use of a building. As of 2018, 24 properties are designated historic landmarks and 78 properties are located in the Downtown Historic District. The City should make increasing the number of historic landmarks listed on the local register a priority.



Preservation Design Manual

In 2016, the City Council adopted the City of Excelsior Preservation Design Manual, which is an excellent resource for Heritage Preservation Commissioners, property owners, architects, and contractors. The Preservation Design Manual provides guidelines for maintenance and alterations to historic landmarks and resources. It is also the City’s official list of all historic landmarks and boundaries of the Downtown Historic District. The City should continue to use the Preservation Design Manual for guidance for property owners, contractors, Heritage Preservation Commissioners and staff.

Private/Public Partnerships

Historic buildings and resources are unique in that they are a public asset but are privately owned. The most effective way to ensure their long-term protection is through a private-public partnership. This partnership may be accomplished through education, financial support and a collaborative review process.

Education

The City should continue to act as a resource for property owners on best management practices to preserve the City’s historic resources, which define the character of Excelsior. This involves having a resource library available, which includes: the National Park Service’s Preservation Briefs, the Preservation Design Manual, the Secretary of Interior’s Standards for the Treatment of Historic Properties, and the State Historic Preservation Office’s list of contractors.

The City should also regularly mail a brochure to all property owners of historic resources explaining what

alterations require a Site Alteration Permit and highlighting the boundaries of the Downtown Historic District.

Financial Support

The City should continue to offer reduced permit fees for projects that preserve historic resources (mechanical upgrades, new roofs, new plumbing, etc.).

The City should also consider awarding grants annually for significant renovation projects through a competitive process, for both residential and commercial properties.

Collaborative Review Process

An effective historic preservation program needs the political support of the community and the City Council. The City (Heritage Preservation Commission, City Council and staff) should continuously strive to build public support for historic preservation. With political support, Excelsior's policy makers are able to effectively deal with the more difficult preservation issues.

A positive and collaborative Site Alteration review process is imperative to maintaining political support of historic preservation and ultimately promotes the increasing number of historically-designated landmarks.



Guiding Principles

Excelsior's Preservation ethos is guided by seven basic principles:

- 1) Heritage properties are scarce, non-renewable community resources, the preservation, protection, and use of which are critical to the public welfare. When historical and architectural resources are destroyed, they are gone forever.
- 2) Heritage preservation is an important public service and a legitimate responsibility of city government. Historic buildings, sites, and districts give the City much of its special character and community identity.
- 3) Saving significant historic resources for the benefit of future generations is always in the public interest.
- 4) Collaboration between the private and public sectors is absolutely necessary to preserve the City's significant historic resources.
- 5) Not everything that is old is worth preserving, nor is heritage preservation concerned primarily with the creation of museums or other public attractions. To be considered for preservation, a property must be demonstrably significant in history, architecture or archaeology, and it must also be adaptable for modern needs and uses.
- 6) Heritage preservation is entirely compatible with economic development and growth. Preservation pays, and everybody profits by reusing historically significant buildings and adapting them to new, economically viable uses.

- 7) Reusing older buildings is the ultimate form of recycling and is often much less expensive than razing historic buildings and constructing new ones.



Historic Preservation Goals and Objectives are located in Appendix A.



7

PARKS, TRAILS & ENVIRONMENT

The City of Excelsior contains established parks and several other designed gardens and undeveloped open spaces. These spaces vary in size, location and service. Parks play an important role, not only in their overall recreational benefit to the residents of Excelsior but, as a crucial destination point directly related to the establishment of trails. All are interrelated, and each portion of the park land plays an important role in completing a recreational line, therefore adding to the comprehensive system. The City has identified improvements for existing facilities within its Capital Improvement Program (CIP), which is attached as Appendix E.

THE MAIN GOAL OF THE PARKS,
TRAILS AND WALKWAYS PLAN IS TO
PRESERVE AND ENHANCE
EXCELSIOR'S PARKS AND OPEN
SPACES TO PROMOTE ACTIVE AND
HEALTHY LIFESTYLES

Existing Parks and Open Spaces

Currently, the Excelsior parks and open space system is comprised of approximately 21.8 acres. In addition, 9.4 miles of sidewalks, walking and biking trails throughout the community are maintained by the City. The Lake Minnetonka LRT Regional Trail also bisects the community for a 1.1 mile segment of its total 15.4 mile course. Maps identifying the location of park and trail systems within the community are found on following pages.

The Commons/Port of Excelsior

The most significant aspect of Excelsior is its extensive shoreline on Lake Minnetonka. The Commons and Port of Excelsior are historic, dating to the origins of the City, and are widely recognized as Excelsior's chief assets. The 13 acre park includes open recreation areas, picnic sites, playgrounds, two swimming beaches, tennis courts, baseball fields, a band shell, bathhouse, public restrooms, docks, buoys, and docking for public excursion boats that provide lake access. In addition to traditional park uses, such as picnics and family gatherings, the Commons and Port of Excelsior serve diverse recreational opportunities for all age groups with the annual Art Fair, 4th of July celebration, organized sports, and other large events.

Park Classification: Community Park

Location Northeast edge of Central Business District on a peninsula between Excelsior and Gideon Bays

Size 13.06 acres

Physical Features

The Commons dominant physical characteristic is its extensive Lake Minnetonka shoreline, resulting in dramatic

lake views and other beachfront areas. Topography varies from rolling hills to flat shallow spaces. Spaces within the park vary from narrow shorelines along the southern leg to more generous areas within the northern central area.

Vegetative Features Mature canopy of trees are scattered through much of the park. Trees vary in their species and vitality.

Notes The Commons is the most heavily used park in Excelsior, providing beaches, a playground, docks, playfield, as well as space for a wide range of active and passive areas.



Excelsior – Studer Parkland

Excelsior – Studer Parkland is a 15.5-acre park located on Oak Street (Highway 19). The park currently includes rental garden plots and a large wetland, Studer Pond, which is bordered by trees and vegetation that is habitat for woodland animals. As a park, Excelsior - Studer Parkland provides a significant and desirable opportunity to observe and study the natural world, a feature which should be maintained and enhanced. In addition to Studer Pond, College Lake, Mitten Pond, Mud Lake, and Galpin Lake also provide opportunities for observing and appreciating the natural world.

Park Classification	Neighborhood Park
Size	South of County Road 19 on the western edge of Excelsior.
Physical Features	Significant wetland area, referred to as Studer Pond, surrounded by
Vegetation with undeveloped land and garden plots.	
Vegetative Features	Wetland aquatic community, limited canopy except at parcel edges.
Notes	The Excelsior-Studer Parkland is currently used for garden plots and as a passive use in a natural setting. The site is a former landfill site with environmental issues that have been mitigated.

Fire Lanes

Ten public fire lanes exist at the ends of Excelsior streets. These were historically established by the City for an accessible water supply in fire-fighting. Although the fire lanes are no longer needed for fire-fighting, Excelsior residents value and appreciate these neighborhood public

access points to Lake Minnetonka and Galpin Lake as a part of the unique quality of life in a lakeside community.

Hidden Lane Two fire lanes (On St. Albans Bay)	One, twelve-foot-wide fire lane on east side of marina One area, 200 feet of lakeshore with dock for two boats and slide for four boats, access off Excelsior Boulevard, Hidden Lane No parking
Lafayette Avenue (On Gideon Bay)	Approximately 66 feet of lakeshore and slide for four boats Limited on-street parking
George Street (On Gideon Bay)	Approximately 49½ feet of lakeshore with four slides Limited on-street parking
3 rd Street (On Gideon Bay)	Approximately 66 feet of shoreline Observation platform on top of old pump house building Steps leading down to grassy slope at concrete seat wall Limited on-street parking
Bell Street (On Gideon Bay)	Approximately 60 feet of lakeshore with four slides Limited on-street parking
Linwood Avenue (On Gideon Bay)	Approximately 50 feet of lakeshore with four slides Parking meters
1 st Street (On Gideon Bay)	Approximately 50 feet of shoreline, adjacent to City beach area Metered parking

Linden Street / Elm Place Two fire lanes (On Galpin Lake) Two rights-of-way areas on Galpin Lake
 Limited on-street parking

Excelsior Cemetery On Excelsior Boulevard at the eastern border of Excelsior

Mitten Pond The pond and surrounding area is at Water Street and County Road 19. It is owned by the Minnetonka Public Schools.

Other Open Space and Cemetery in Excelsior

Veteran’s Memorial Park Near Lake Street and Second Street. Maintained by Men’s Garden Club

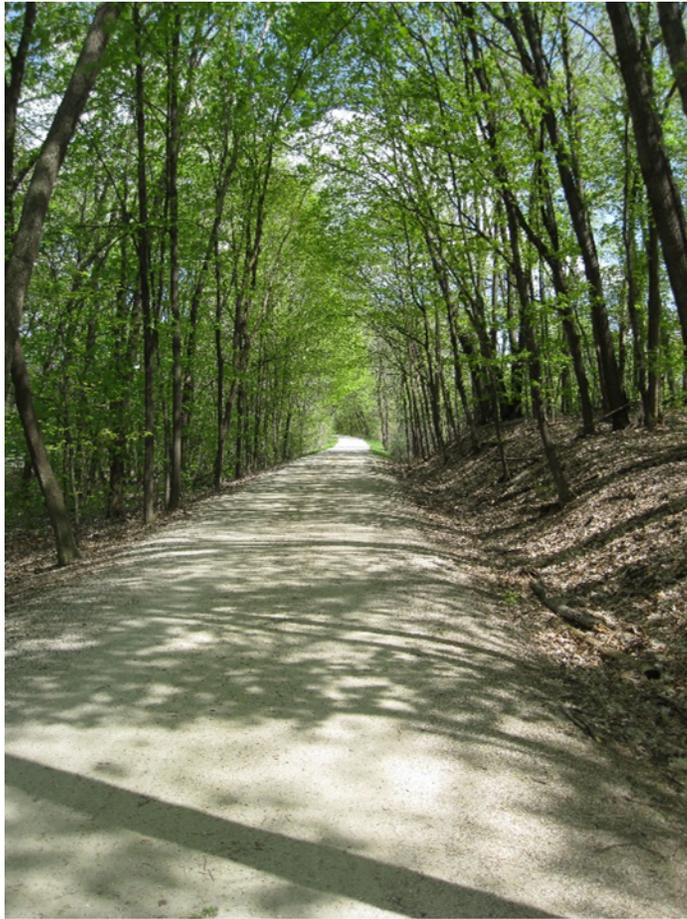
Arey Memorial Triangle Near County Road 19 and Water Street. Maintained by Men’s Garden Club

College Lake Open Space On Water Street, adjacent to College Lake

Lake Minnetonka This body of water is a series of lakes interconnected by channels. Providing more than 14,000 acres of water and more than 125 miles of shoreline, Lake Minnetonka serves as the dominant physical feature in the area. Residents benefit from this natural feature and visitors are drawn to Excelsior to enjoy lake sports and activities in that Excelsior is perceived as a destination point and has public facilities.

MISSION STATEMENT

To preserve, protect, enhance and maintain for public use Excelsior's parks, lakes, ponds, and open space. To promote active and healthy lifestyles, provide a walking and biking network, provide recreational facilities and open areas for all ages of residents of Excelsior and its visitors.



PARK PLANS

The Commons/Port of Excelsior

The Commons is known for the access it provides to Lake Minnetonka, its sweeping open areas, its woods and hills, its beach, its port area and its recreational facilities. What is lesser known is the history of the park, the fact that it is as old as the City itself and the role it has played as a community gathering place. Promoting that legacy should be an important part of any park planning.

In 2015, the Community of the Commons was established by residents who wanted to support the park. A 501(c)(3) "conservancy" non-profit was created with the purpose of raising funds. In 2016, The Community for the Commons identified the need for a master park plan and a committee was appointed by the City Council. Three studies were commissioned to develop a final master plan.

- The Parenteau-Graves Public Opinion Study was conducted to better understand residents and businesses vision, priorities and concerns for The Commons.
- An Existing Conditions Park Site Assessment was conducted by SRF Consulting Group, Inc.
- A Site Inventory and Period of Significance Study was conducted by PVN Preservation Design Works, LLC.

In early 2017, a request for proposals was created to identify a design team to assist in the development of the final master plan and supporting documents. MSR (structural architecture) and DF/Damon Farber (landscape architecture) were selected.

Public meetings were conducted on July 19, 2017 and September 20, 2017 and a final presentation to the City Council is expected by the end of 2017. The design plan is entitled the Excelsior Commons Conceptual Guide Plan. This plan as well as the three supporting documents will serve as the park plan for The Commons and Port of Excelsior.

Excelsior - Studer Parkland

Excelsior - Studer Parkland combines active and passive uses within an attractive natural setting. The usable space for active use is limited, but the community garden plots were expanded as part of the environmental mitigation. Previous plans have included an ice skating rink, skate park and open area for a dog park. The primary issue with this parkland is its inaccessibility. For that reason, planning activities for young adults and adults is preferable to gearing the park improvements for children.

The City could make significant improvements for accessing the parkland by providing the following. The map on the following page highlights the access improvements.

- Work with Hennepin County on a possible crossing under or over County Road 19, near the Public Works facility, when major utility and roadway improvements in this area are done.
- Construct a trail on the southeast side of the park, connecting the trail along County Road 19 to a point at the intersection of College Avenue and Glencoe Road.
- Provide an extension of the trail completely around Studer Pond. An easement may be required from property owner(s) to achieve this access or the City could construct a dock from the berm as a trail connection.

The ideal uses and improvements for this park include the following. The map on the following page reflects these planning objectives.

- Maintain and improve the community garden plot area.
- Naturalize the park with trees and a prairie restoration area.
- Leave the open area clear of trees and promote as a dog park, soccer field, and active recreation area.
- Maintain a pleasure ice skating rink in the open recreation area.
- Develop a skate park.

Southeast Neighborhood Park / Play Area

The City has identified the need to provide recreational facilities in the southeast corner of the City. The City does not control adequate property in this area to provide a park facility. The Excelsior United Methodist Church, at 881 Third Avenue has recently constructed playground equipment. This playground is directly across Third Avenue from the largest concentration of multiple family units in the City.

Issues remain with adequate and safe pedestrian and bicycle connections across Highway 7, Mill Street and the five corners intersection. The City will continue to work to improve these connections to ensure access for residents of the southeast neighborhood.

Excelsior - Studer Parkland Master Plan



Fire Lanes

The 10 fire lanes in the City provide public access to the lakes as well as open space areas throughout the community. All of the fire lanes have been surveyed and the City has actively pursued removal of private improvements in the fire lane properties and to sign the lanes as public use areas.

Other than providing continued public access and areas for boat docks and slides, there are no improvements projected for the fire lanes.

OTHER OPEN SPACE IN EXCELSIOR

Veteran's Memorial Park

This park area, near Lake Street and Sunset Street, provides an attractive welcome into Excelsior at the Five Corners intersection. The park includes a Veteran's memorial and historical lighting. The park area is maintained by the Men's Garden Club. No additional projects are planned at this time, but the signage could be replaced to a design consistent with all the park system.

Arey Memorial Triangle

This park area, located near the intersection of County Road 19 and Water Street, also provides an attractive welcome into Excelsior. The park area is maintained by the Men's Garden Club. The area is within Hennepin County right of way. The existing garden and gazebo have been allowed by Hennepin County with no formal agreement. Roadway improvements to the intersection of County Road 19 and Water Street may impact some of the landscaped areas. Any future improvements to the park would require an agreement with Hennepin County. After the roadway

improvements have been completed, a plan should be created for this area.

College Lake Open Space

An open area at the south side of College Lake, along Water Street, is maintained by the City. The City will continue to maintain this as open space and may consider an ice skating rink and warming house in the Winter.

Mitten Pond

A joint effort of the Rotary Club of Excelsior, Minnetonka Public Schools and the City Parks and Recreation had resulted in a plan for the area around Mitten Pond that would include walkways, observation areas with seating and interpretive kiosks, and a water's edge platform/dock. Implementation of the plan will depend upon funding sources.

Excelsior Cemetery

The cemetery, owned and maintained by the City of Excelsior, is located between State Highway 7 and Excelsior Boulevard at the east edge of the City. The historical cemetery provides open space and the roadways for walking paths.

Lake Minnetonka and Other Lakes and Waterbodies

Lake Minnetonka, as well as Galpin Lake, Mud Lake, College Lake, Mitten Pond, and Studer Pond provide recreational opportunities, significant open space, and potential for natural study/educational areas. Protection of these waterbodies from encroaching development and construction of facilities to pre-treat the stormwater prior to release is of the highest community goal.

The City owns a small point of land on the east side of Galpin Lake. There is no deeded land access to the parcel.

The City will continue to explore options for sale or use of this property.

TRAILS AND WALKWAYS PLAN

The trails and walkways plan can be found in the Transportation Chapter of this plan.

Parks, Trails & Environmental Goals and Objectives are located in Appendix A.





8

COMMUNITY FACILITIES

As an established community, Excelsior is well served by a variety of community facilities and service providers. The City's high quality schools, municipal services, library, healthcare facilities, and other private organizations all contribute significantly to the quality of life which Excelsior's residents enjoy. The Community Facilities chapter of the Comprehensive Plan provides an overview of the community facilities within the City. A map of the community facilities is found on the following page.

EXCELSIOR'S HIGH-QUALITY SCHOOLS,
MUNICIPAL SERVICES, LIBRARY,
HEALTHCARE FACILITIES, AND OTHER
PRIVATE ORGANIZATIONS ALL
CONTRIBUTE SIGNIFICANTLY TO THE
QUALITY OF LIFE WHICH CITY
RESIDENTS ENJOY

Community Facilities



- Legend**
- Parks/Open Space
 - Municipal Facilities
 - Quasi-Public Facilities
 - School Facilities
 - Fire Lanes
 - Excelsior Boundary



Administration

The City of Excelsior is a Home Rule Charter, Plan B City, as authorized by Minnesota Statute. The operation of the City is governed by the Mayor and a four member City Council. Elections are held on even-numbered years. The Mayor's term is for two years and the Councilmember terms are for four years. Councilmembers' terms stagger, so only two of the Councilmembers' terms expire at the same time. Day-to-day operations of the City are the responsibility of a full time City Manager.

Communication & Cooperation

It is important to note that the City has no jurisdiction or control over many of the community facilities within its municipal limits. While some are provided by the City of Excelsior, others are provided by other public and quasi-public agencies and organizations which provide desired, necessary and sometimes critical services to residents of the community. Consequently, identifying and understanding the needs of each community service provider puts the City in a better position to assist in meeting the needs of Excelsior residents. It is important that the City maintain communication with these service providers regarding their existing needs and plans for expansion.

Schools

The City of Excelsior is entirely within Independent School District 276. There is one district facility within the City, Excelsior Elementary, that is located at 411 Oak Street. The school provides instruction for students in K-5 grades and enrollment during 2015/16 was about 746 students. The oldest portion of the school facility was built in 1915 as the high school. The building has since been added on, once in 1929 and again in 1958.



The other elementary school serving Excelsior residents is the St. John the Baptist School (Catholic), which is located at 680 Mill Street. St. John the Baptist Catholic Parish was established in 1903. The parish opened the school in 1951. As of Fall 2017, 22 students in grades K-8 were enrolled in the school.

Public Library

Library service to Excelsior and the surrounding communities was established beginning in 1922, when the library was housed out of the former White House Hotel. For several decades, the library operated out of various locations in the community, with the first permanent library location opening on Third Street in 1965. In 2014, Hennepin County constructed a new library building at 337 Water Street keeping the library in downtown Excelsior.



City Facilities

City Hall

The City of Excelsior City Hall facility is located in the downtown at 339 Third Street. The City Hall includes the administrative offices and the City Council chambers. In 2015, BKV Architects completed a facility assessment for renovating the City Hall building and remodeling the former library space into City Hall offices and Council chambers. The City held an open house on May 28th to solicit community input on the proposed remodel. Seventy-eight percent of the participants favored the proposed remodeling plans. This Plan recommends renovating the current City Hall building and moving City Hall offices to the former library space.

Public Works

The Public Works Department is located at 151 Oak Street (County Road 19). The Public Works Department is responsible for the day-to-day operation and maintenance of the City's water, sewer, streets, parks and cemetery.

810 Excelsior Boulevard

The City owns a building at 810 Excelsior Boulevard that was the former location of the South Lake Minnetonka Police Department. The City is currently trying to sell the property for low to medium density residential development.

Fire Protection

Fire protection for the City of Excelsior is provided by the Excelsior Fire District (EFD). The EFD is a joint powers unit of government supported by the Cities of Excelsior, Greenwood, Deephaven, Shorewood, and Tonka Bay. The department is staffed with 40 volunteer members, a full time Fire Chief, and three part-time positions.

The headquarters of the EFD and Station #1 is at 24140 Smithtown Road in Shorewood, adjacent to the South Lake Minnetonka Police Department facility. Station #2 is located at 20225 Cottagewood in Deephaven.



Police Protection

Police protection for the City of Excelsior is provided by the South Lake Minnetonka Police Department (SLMPD). The SLMPD was created in 1973 under a joint powers agreement between the Cities of Excelsior, Greenwood, Shorewood, and Tonka Bay. The combined service area has an estimated population of nearly 13,000 residents.

The state of the art facility for the Police Department became operational in January 2004 and is located at 24150 Smithtown Road in Shorewood. The facility also serves as the location for the Excelsior Fire District.

The SLMPD also administers park patrol and dock master services for the City of Excelsior. This service is provided on a seasonal basis primarily between Memorial Day and Labor Day weekends.

Health Care

The Ridgeview Medical Center and Ridgeview Excelsior Clinic facilities are both located at 675 Water Street in Excelsior. Hospital facilities are located in the West Metro area proximate to Excelsior. The City of Excelsior is served by the Hennepin County EMS and Ridgeview Ambulance Service for emergency medical care.

United States Postal Service (USPS)

The United States Postal Service (USPS) provides service to the residents and businesses in the community via a U.S. Post Office on the outskirts of downtown at 545 Second Street.

Fire Lanes

Reference to “fire lanes” within this document is intended to refer to the property interest the City has in those areas referred to as Fire Lanes on the Community Facilities Map found on a previous page of this Comprehensive Plan. The scope of the City’s property interest in those areas is intended to be consistent with the original dedication of the fire lanes and interpretations of the scope of that ownership interest including the 1996 Hennepin County District Court case of *Burton v. City of Excelsior* (Court File No.: 96-07328).

Capital Improvement Plan

On a yearly basis, the City develops capital improvement plans for water and sewer. The City is currently working on capital improvement plans for streets, stormwater, parks and buildings. The City needs to take a more comprehensive approach to improvement planning. This will be a major action item for the Comprehensive Plan. The current five-year plan is found in the Appendix of this plan.



9

TRANSPORTATION

Excelsior is a mature community with an established street network. The Transportation Plan acknowledges the limited opportunities to solve issues through the construction of new streets and instead focuses on strategic improvements to the City's existing network of roads, public transit, and pedestrian and bicycle routes. This collection of improvements strives to maintain a balanced transportation system that ensure the safe and efficient movement of vehicles, pedestrians and cyclists. Of major concern is mitigating the impacts of State Highway 7, as well as County Roads 19 and 82, in terms of traffic and the role these roadways play in separating the community.

A BALANCED TRANSPORTATION
SYSTEM ENSURES THE SAFE AND
EFFICIENT MOVEMENT OF
VEHICLES, PEDESTRIANS AND
CYCLISTS

There are three primary objectives of this Transportation chapter:

- 1) To provide a guidance document for City staff and elected officials regarding the planning and implementation of effective transportation facilities and systems over the planning horizon.
- 2) To give private citizens and businesses background on transportation issues and allow them to be better informed regarding the City's decision-making on transportation issues.
- 3) To communicate to other government agencies Excelsior's perspectives and intentions regarding transportation planning issues.

An integral part of the Transportation Plan will be the Master Parks, Trails, and Walkways Plan. The Master Parks, Trails, and Walkways Plan is a document separate from the Comprehensive Plan and was completed in 2009.

ROADWAY AND HIGHWAY NETWORK

The City of Excelsior is connected to and contains a number of transportation modes, all of which contribute to the movement of goods and people throughout the City and region. The significance of these existing and developing networks in terms of economic, social, and recreational considerations makes them a central concern for comprehensive planning. The map on the following page indicates the existing network of local, County, and State highways as they relate to the City.

TRANSPORTATION PLANNING CONTEXT

Transportation facilities should effectively serve land uses which the City supports and/or anticipates. The remainder of this chapter was prepared with the goal of supporting the land use vision identified in the previous section.

A key aspect of transportation planning is effective coordination between different governmental agencies as transportation authorities. In the case of Excelsior, this includes the Metropolitan Council, Mn/DOT, Hennepin County, and neighboring communities. As part of the process of preparing this Transportation chapter, transportation planning documents prepared by other agencies were reviewed and considered. This included the following:

- Metropolitan Council 2040 Transportation Policy Plan
- Mn/DOT Statewide Transportation Plan
- Hennepin County Transportation Plan
- Transportation plans of adjacent communities where applicable

The previous Excelsior Transportation Plan was prepared in 2008 as part of the Comprehensive Plan. This document was also considered and portions of that plan were incorporated as part of this update.



Existing Roadway Jurisdiction

Legend

Roadway Jurisdiction

- MN Highway
- County-State Aid Highway (CSAH)
- City Street (MSA)
- Excelsior Boundary
- Parks



FUNCTIONAL CLASSIFICATION

The functional classification system is the creation of a roadway and street network which collects and distributes traffic from neighborhood streets to collector roadways to arterials, and ultimately, the metropolitan highway system. Roads are placed into categories based on the degree to which they provide access to adjacent land versus providing higher speed mobility for “through” traffic. Functional classification is a cornerstone of transportation planning. Within this approach, roads are located and designed to perform their designated function.

The functional classification system used in the City of Excelsior, as described below and shown on the following page, conforms to the Metropolitan Council standards. The Metropolitan Council has published these criteria in the Transportation Development Guide/Policy Plan. This guide separates roadways into four street classifications, including principal arterials, minor arterials, collectors, and local streets. In addition, the City has identified a fifth category of connector. These classifications address the function of State, County, and City streets from a standpoint of the safe and efficient movement of traffic through the City, while providing satisfactory access to residents and businesses located within the City.

Principal Arterial Roadways

The metropolitan highway system is made up of the principal arterials in the region. Principal arterials include all interstate freeways. Interstate freeways connect the region with other areas in the State and other states. They also connect the metro centers to regional business concentrations. The emphasis is on mobility as opposed to land access. They connect only with other interstate freeways, other principal arterials, and select minor arterials and collectors. The principal arterial through or adjacent to Excelsior is State Trunk Highway 7, which has four lanes. It is not yet known if there will be changes to the number of lanes on this Highway.

Minor Arterials

The emphasis of minor arterials is on mobility as opposed to access in the urban area; only concentrations of commercial or industrial land uses should have direct access to them. The minor arterial should connect to principal arterials, other minor arterials, and collectors. Connection to some local streets is acceptable. The Metropolitan Council has identified “A” minor arterials as streets that are of regional importance because they relieve, expand, or complement the principal arterial system. The “A” minor arterials in the Excelsior area are summarized as follows:

“A” Minor Arterial Roadways					
Roadway	From	To	Type	No. of Lanes	
CSAH 19 (Oak Street)	TH 7	North City Limit	Expander	4	
CSAH 82 (Mill Street)	TH 7	South City Limit	Expander	2	

All other minor arterials are considered other arterials have the same function as “A” minor arterials, but are not eligible for Federal funds. There are no other arterial roadways in Excelsior.

Collector Streets

The collector system provides connection between neighborhoods and from neighborhoods to minor business concentrations. It also provides supplementary interconnections of major traffic generators within the metro centers and regional business concentrations. Mobility and land access are equally important. Direct land access should predominantly be to development concentrations. In order to preserve the amenities of neighborhoods, while still providing direct access to business areas, these streets are usually spaced at one-half mile intervals in developed areas. Collector roadways in Excelsior, as recognized by the Metropolitan Council, are summarized below:

Collector Streets		
Street	From	To
CSAH 82 (Mill Street)	TH 7	Excelsior Boulevard
Excelsior Boulevard	CSAH 82 (Mill Street)	East City Limit
2 nd Street	CSAH 82 (Mill Street)	Water Street
Water Street	Lake Street	South City Limit
Minnetonka Boulevard	Excelsior Boulevard	North City Limit

Connector Streets

Connector streets are similar to collector streets in that they provide connections between neighborhoods and minor business centers throughout the City. In the City of Excelsior, these roadways connect collector streets with other collector streets or minor arterials. These roadways provide a higher level of access than a collector street but typically not to the extent of a local street. Connector roadways within the City of Excelsior are summarized below:

Connector Streets		
Street	From	To
3 rd Street	CSAH 82 (Mill Street)	Water Street
Lake Street	TH 7	Water Street
3 rd Avenue	CSAH 82 (Mill Street)	East City Limit
2 nd Avenue	3 rd Avenue (via Wheeler Drive)	CSAH 82 (Mill Street)

Local Streets

Local streets provide the most access and the least mobility within the overall functional classification system. Local streets include both City collector roadways as well as local streets. They allow access to individual homes, shops, and similar traffic destinations. Through traffic should be discouraged by using appropriate roadway designs and traffic control devices.

TRAFFIC VOLUMES AND FORECASTS

The maps on the following pages illustrate existing roadway lanes, existing and 2040 forecasted Average Annual Daily Traffic (AADT) and existing Heavy Commercial Average Daily Traffic (HCAADT) for Principal Arterial and A-Minor Arterial roadways. Existing AADT and HCAADT information for the City of Excelsior was taken from the MnDOT website. Forecasted 2040 AADTs were calculated from the Metropolitan Council travel demand model.

As illustrated on the Existing and Forecasted Traffic map on Page 79, when comparing existing roadway lanes to forecasted 2040 AADT along State Trunk Highway 7, Hennepin CSAH 82 and Hennepin CSAH 19, these roadway corridors will be approaching or over their planning level urban roadway capacities by 2040. This conclusion is based on the planning level threshold Level of Service (LOS) D lane capacity of these roadways found in the table on this page. These threshold capacities were derived from the AASHTO Highway Capacity Manual and other sources.

Planning Level Urban Roadway Capacities

Facility Type		Daily Two-Way Volume	
		Lower Threshold	Higher Threshold
Arterials	Two-Lane Undivided	10,000	12,000
	Two-Lane Divided or Three-Lane Undivided	15,000	17,000
	Four-Lane Undivided	18,000	22,000
	Four-Lane Divided and Five-Lane Undivided	28,000	32,000
Freeways	Four-Lane Freeway	60,000	80,000
	Six-Lane Freeway	90,000	120,000
	Eight-Lane Freeway or Higher	Calculated on a segment-by-segment basis	



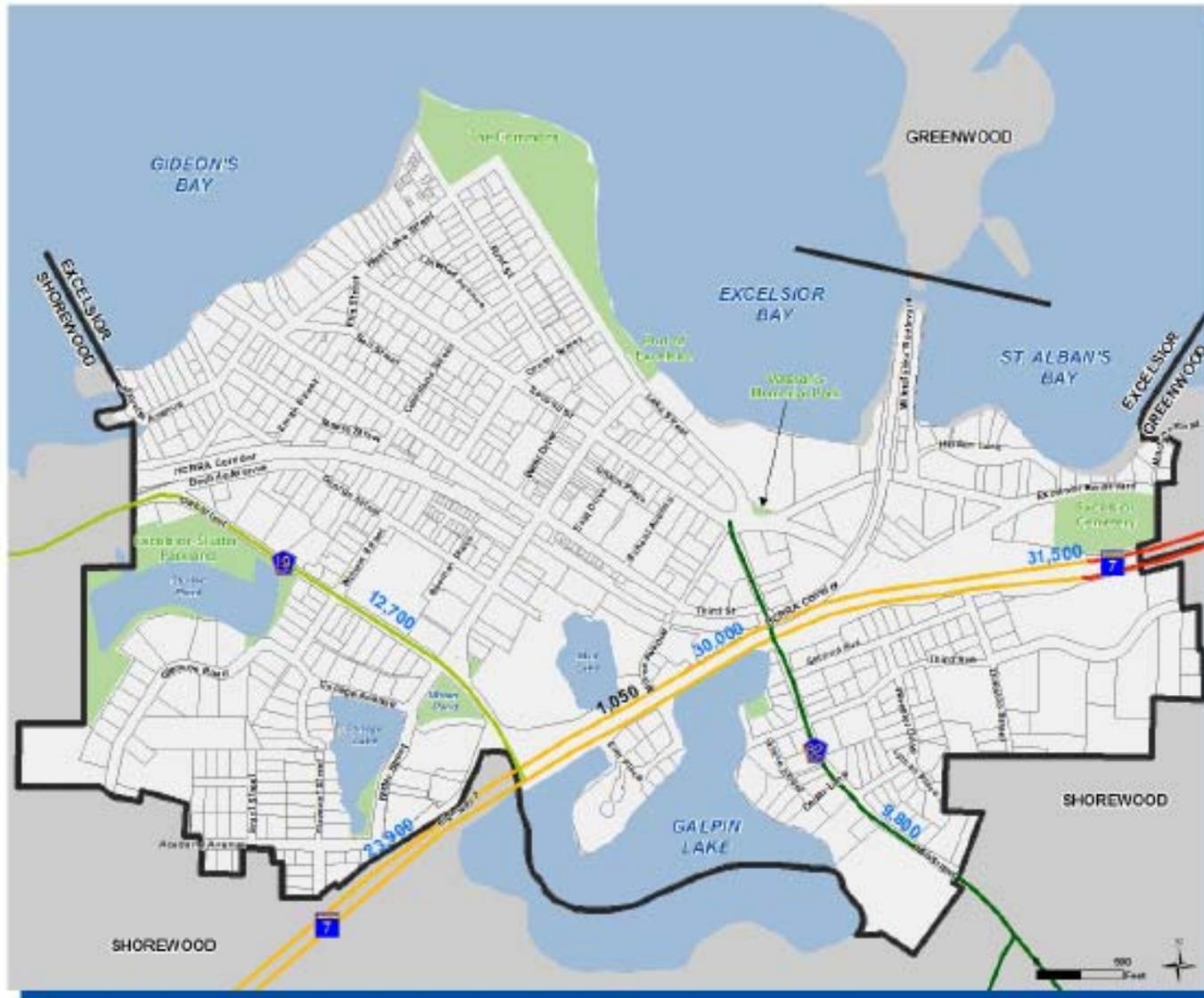
Existing Roadway Lanes (Principal & A-Minor Arterials)

Legend

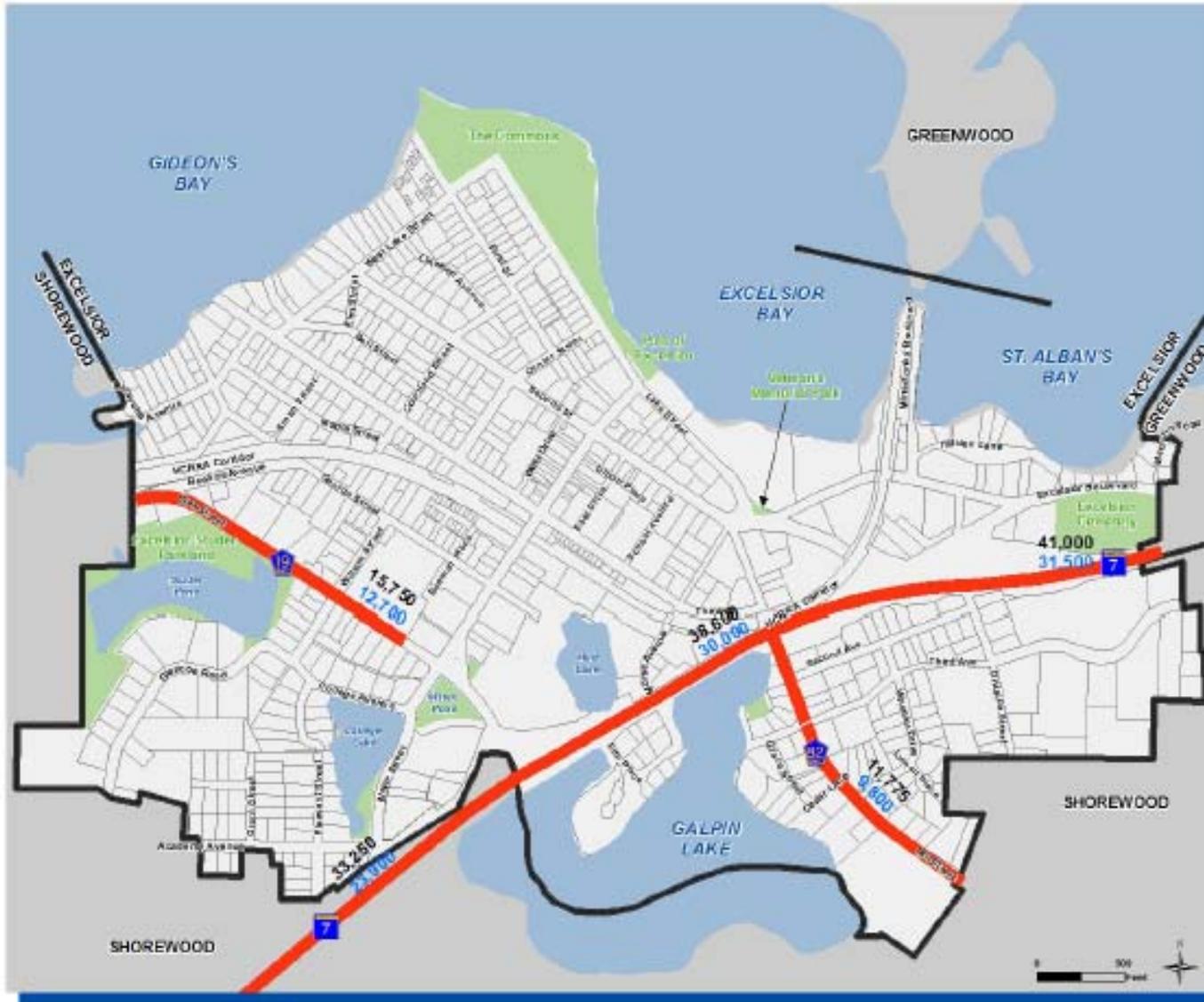
- 4 Lane Divided
- 4 Lane Undivided
- 2-Lane
- Excelsior Boundary
- Parks



Existing Traffic



Existing & 2040 Forecasted Traffic



Legend

- █ 2040 Forecast Approaching Or Over Capacity
 - Excelsior Boundary
 - Parks
 - XXX- Forecasted 2040 AADT
 - XXX- Existing AADT
- Source:
 *Met Council Model
 ** MnDOT Website



PLANNED ROADWAY IMPROVEMENTS – HENNEPIN COUNTY/STATE

The Hennepin County Transportation Systems Plan was approved in June of 2011. The plan is an ongoing planning effort. The County is currently updating the Transportation Systems Plan to align it with the 2040 Regional Development Framework and Transportation Policy Plan that was developed by the Metropolitan Council and the 2040 Transportation Plan developed by Mn/DOT.

Other than maintenance and preservation improvements planned in 2018 on both CSAH 19 (Oak Street) and CSAH 82 (Mill Street), there are no planned improvements to either Hennepin County roadway in Excelsior. There have been community discussions revolving around the feasibility of an off-street multi-use trail on CSAH 82 (Mill Street) from 5 Corners Intersection to the Shorewood city limits, which would ultimately close an identified gap in the Hennepin County bike and trail system and connect to the multi-use trail in Carver County to the south. This would provide an ultimate connection for trail users from downtown Excelsior to Chanhassen and points beyond. However, at this time, only Shorewood has studied a segment of this connection, and Hennepin County has not included this project concept in their current Capital budget. Excelsior supports the vision of a multi-use trail facility on Hennepin County CSAH 82 (Mill Street), and although city funds have not been programmed for this project, Excelsior did apply for Hennepin County Bikeway Study Grant funds in 2018. At the time of this writing, the grant funds have not yet been awarded.

Minnesota Trunk Highway 7 is the only metropolitan State highway that directly impacts Excelsior. The roadway was improved through Excelsior in 2002.

Within the System Statement for Excelsior, developed by the Metropolitan Council, there are no major expansion plans identified for State Highway 7. Maintenance and preservation investments are expected to be made on all highways.

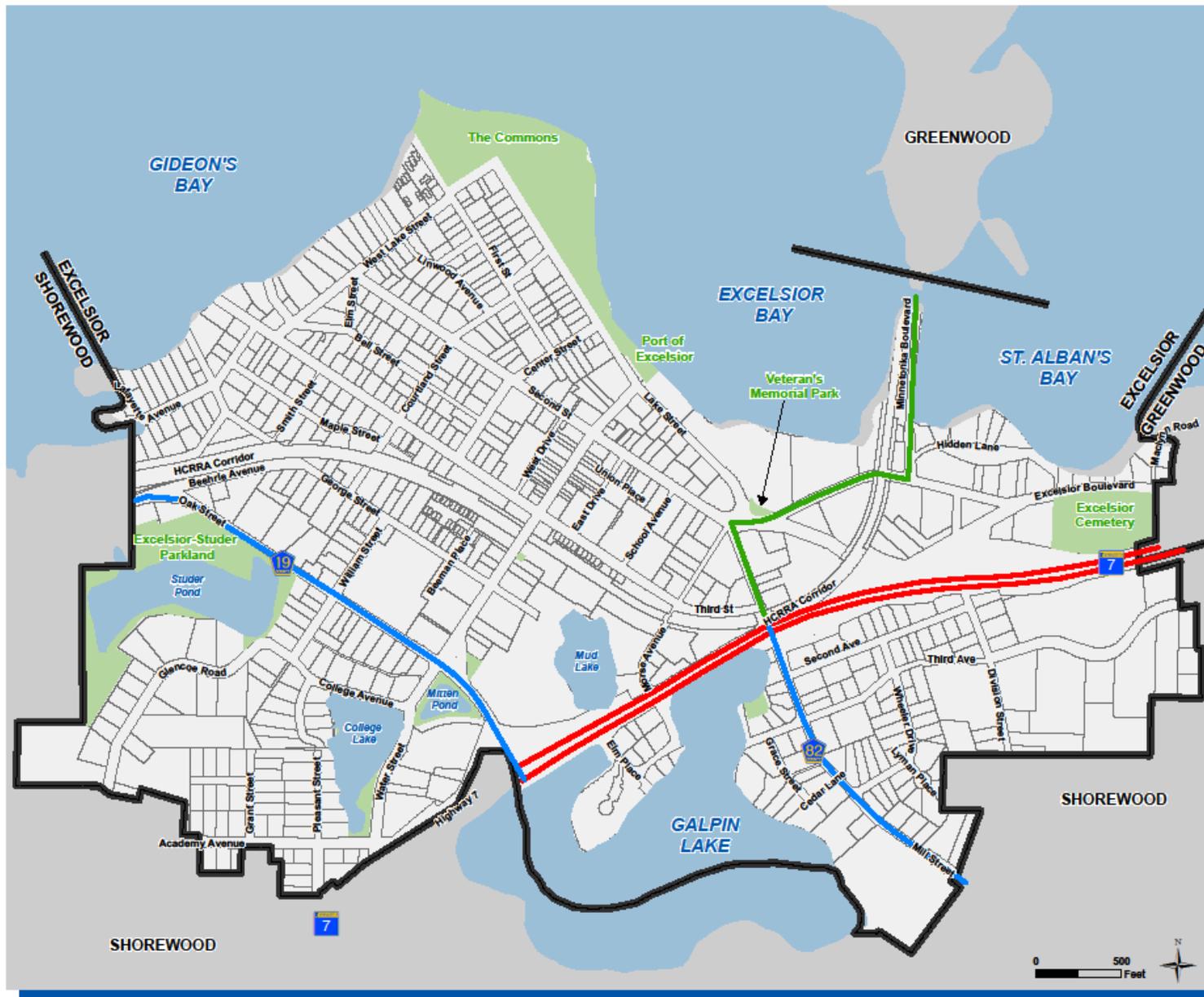
TRANSPORTATION PLAN-INTRODUCTION

Based upon the information established by the Physical Profile and the foundation provided by the Goals and Policies, this section provides the framework for a Transportation Plan. A functional classification system is established for roadways, guidelines for access management outline are provided, and the capital improvement program is highlighted. The other transportation routes are also discussed, but trails and sidewalks are addressed in the Master Parks, Trails, and Walkways Plan, as found as a separate document.

FUNCTIONAL CLASSIFICATION SYSTEM / TRANSPORTATION PLAN

The Transportation Plan Map, found on the following page, illustrates the functional classes for those roadways within Excelsior. The role and importance of functional classification is a central transportation planning concept. For collector roadways and above, the Metropolitan Council determines functional classification for individual roadways. Local authorities may request changes (either from arterial to collector or from collector to arterial), but must provide sound justification for the request, and the Metropolitan Council will make the final determination. For collector roadways, the jurisdiction which owns and operates the facility has the authority to define functional classification status. The City has proposed functional classification system changes within the Transportation Plan.

Existing Functional Classification



- Legend**
- Existing Functional Class Roads
- Principal Arterial
 - A-Minor Expander
 - Major Collector
 - Excelsior Boundary
 - Parks



ACCESS MANAGEMENT

In an effort to maintain effective traffic flow and safety, while accommodating the access needs of land development, access management techniques are utilized. For Excelsior, access to adjacent roadways is overseen by three primary jurisdictions: Mn/DOT along the State highways, Hennepin County along County roads, and Excelsior along local streets.

TRAFFIC ANALYSIS ZONES

The Transportation Plan must include the allocation of the Metropolitan Council's 2040 population, household and employment forecasts separated into Traffic Analysis Zones (TAZ). TAZ zones are the foundation of the traffic forecasting for the Metropolitan Area. The Metropolitan Council has provided the City a TAZ map with the zones indicated. The boundaries of these zones extend beyond the City limits and into adjacent jurisdictions. A map of the zones is found on the following page.



The allocation of population, household and employment numbers and forecasts for the years 2010, 2020, 2030, and 2040 is found below:

ALLOCATION OF FORECASTS TO TRAFFIC ANALYSIS ZONES (TAZ)												
TAZ	2010			2020			2030			2040		
	Pop	HH	Emp									
962	302	125	20	400	125	20	360	125	20	400	125	40
963	1,050	579	2000	1,120	700	1,980	1,270	720	2,010	1,170	720	2,110
964	836	411	200	980	445	200	800	455	270	980	455	270
Total	2,188	1,115	2,220	2,500	1,270	2,200	2,550	1,300	2,300	2,550	1,300	2,400

Source: Metropolitan Council, WSB and Associates
 Pop = Population Forecasts HH = Households Forecasts
 Emp = Employment Forecasts

Traffic Analysis Zones



Legend

-  Traffic Analysis Zone (TAZ)
-  Excelsior Boundary
-  Parks



RAIL FACILITIES

The City of Excelsior does not have an active railroad line at present. The Three Rivers Park District maintains the Lake Minnetonka LRT Regional Trail that extends from Hopkins through downtown Excelsior, ending at the Carver Park Reserve. While the former rail corridor is now used for recreational purposes, the right-of-way could eventually be used for mass transit purposes. The Metropolitan Council 2040 Transportation Policy Plan does not include this as a potential mass transit corridor during this planning period.

The City of Excelsior will work with representatives of the Metropolitan Council on any rail or mass transit transportation plan proposal for the Lake Minnetonka LRT Regional Trail. The 2040 Transportation Plan does not indicate any light rail or other mass transit corridors that would access Excelsior or neighboring communities in the South Lake Minnetonka area.

AIRPORTS/AIR SPACE

Excelsior does not have a public airport but lies proximate to two public airport facilities. Minneapolis/St. Paul International Airport serves as the region's major airport by providing residents with access to national and international markets. The International Airport is approximately 23 miles from Excelsior. The Flying Cloud Airport in Eden Prairie is approximately 11 miles from Excelsior. It serves as a reliever airport under the Metropolitan Airports Commission. This facility serves the major airport by accommodating corporate and small aircraft as well as the recreational and transportation needs of the area residents. The City is not within the airport influence area of these two airports.

There are two private sea plane bases on Lake Minnetonka adjacent to Excelsior. One is Lake Minnewashta and the other is Fudpucker International which is located in Excelsior Bay.

The City of Excelsior has taken the necessary steps to protect navigable air space. All municipalities must protect air space from potential electric interference and obstacles to air navigation. The Zoning Ordinance limits the height of structures within the City to 35 feet or less.

There is no impact to Excelsior resulting from the Minneapolis/St. Paul International and Flying Cloud Airports and the City is not within the airport influence area. The City regulates building and structure height as it relates to navigable air space.

PEDESTRIAN / BICYCLE FACILITIES

Regional Trails

The Regional Connections Map, found within the Inventory section of this plan, indicates the Lake Minnetonka LRT Regional Trail as well as the existing and planned trail connections with the adjacent Cities of Shorewood and Greenwood. The City of Excelsior will work with the Three Rivers Park District in providing additional trail connections from the regional trail to City trails, walkways, or destination points. Additionally, the City will continue to work with the Three Rivers Park District on crosswalk issues, especially as it relates to the high traffic crossings at Water Street and Excelsior Boulevard.

A continuing dialogue with the Cities of Greenwood and Shorewood, as well as Hennepin County, will be needed to provide the linkages indicated on the Regional Connections Map. Off-street, as well as on-street, trails in these areas of connection are a high priority for the City of Excelsior.

Local Trails and Walkways

The Proposed Trails, Sidewalks, and Walkways Map is found on the following page. It provides the City a plan for providing on-street trails as well as off-street trails and walkway connections. The City has a strong desire to continue the interconnection of neighborhoods, schools,

commercial areas, public facilities, and parks. Of greatest importance to this plan is to establish better connections to link the southeast neighborhood to the north areas of Excelsior, over Highway 7. City staff has indicated that trails or walkways will be added as part of any City street project, where possible, and as part of any new or redeveloped commercial projects. The City will also work with MnDOT and Hennepin County on roadway upgrade projects to ensure that on and off-street trails and walkways are incorporated into the final design.

City Sidewalks, Walking and Biking Trails

City trails and sidewalks supplement the regional corridors and adjacent community trails, connecting this larger trail network to local neighborhoods, commercial nodes, school facilities and other parks within the network. Approximately 9.4 miles of sidewalks, walking and biking trails currently exist within the City. The corresponding map can be found on the following page.

Regional Trailway Corridors and Adjacent Community Trail Connections

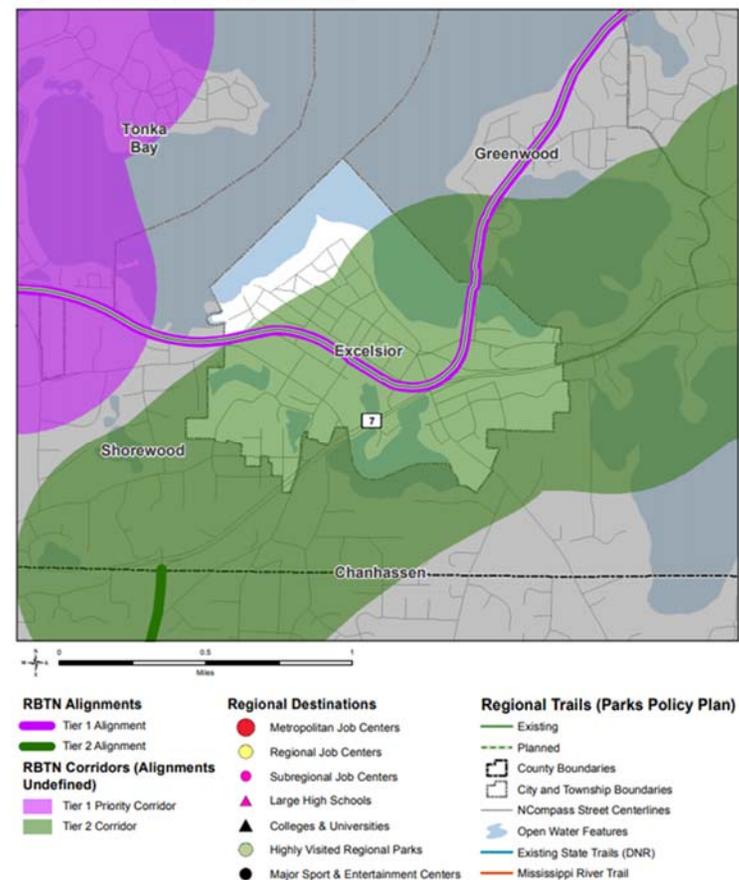
The Lake Minnetonka LRT Regional Trail, maintained seasonally by the Three Rivers Park District follows an abandoned railroad line. The trail corridor was acquired by the Lake Minnetonka LRT Regional Trail for future light rail transit use. A cooperative agreement between Lake Minnetonka LRT Regional Trail and Three Rivers Park District allows the corridors to be used in the interim for recreational purposes. The 1.1-mile Excelsior portion of this regional trail bisects the City from west to northeast. It is surfaced with crushed limestone and measures 10 feet in width.

In addition, adjacent community trail connections are identified on a corresponding map on a following page.

Regional Trailway Corridors and Adjacent Community Trail Connections

A map of the Regional Bicycle Transportation Network (RBTN) is shown in this Chapter. The Tier 1 alignment coincides with the existing Lake Minnetonka LRT Regional Trail, and the Tier 2 alignment aligns with a future trail as indicated in the Proposed Sidewalks, Trails, Walkways, and Parks and Open Space map. Additionally, while the Mid-Lake Regional Trail does not technically reach the Excelsior boundary, it is near the city and provides alternative transportation connections northwest of the city and to the Dakota Rail Regional Trail.

**Regional Bicycle Transportation Network (RBTN)
City of Excelsior, Hennepin County**



Regional Connections



Legend

-  Existing Sidewalk/Trails
-  Lake Minnetonka LRT Regional Trail
-  Proposed Shorewood Sidewalk
-  Proposed Shorewood Trail
-  Fire Lanes
-  Parks
-  Excelsior Boundary



Existing Sidewalks, Trails, Walkways, Parks and Open Space

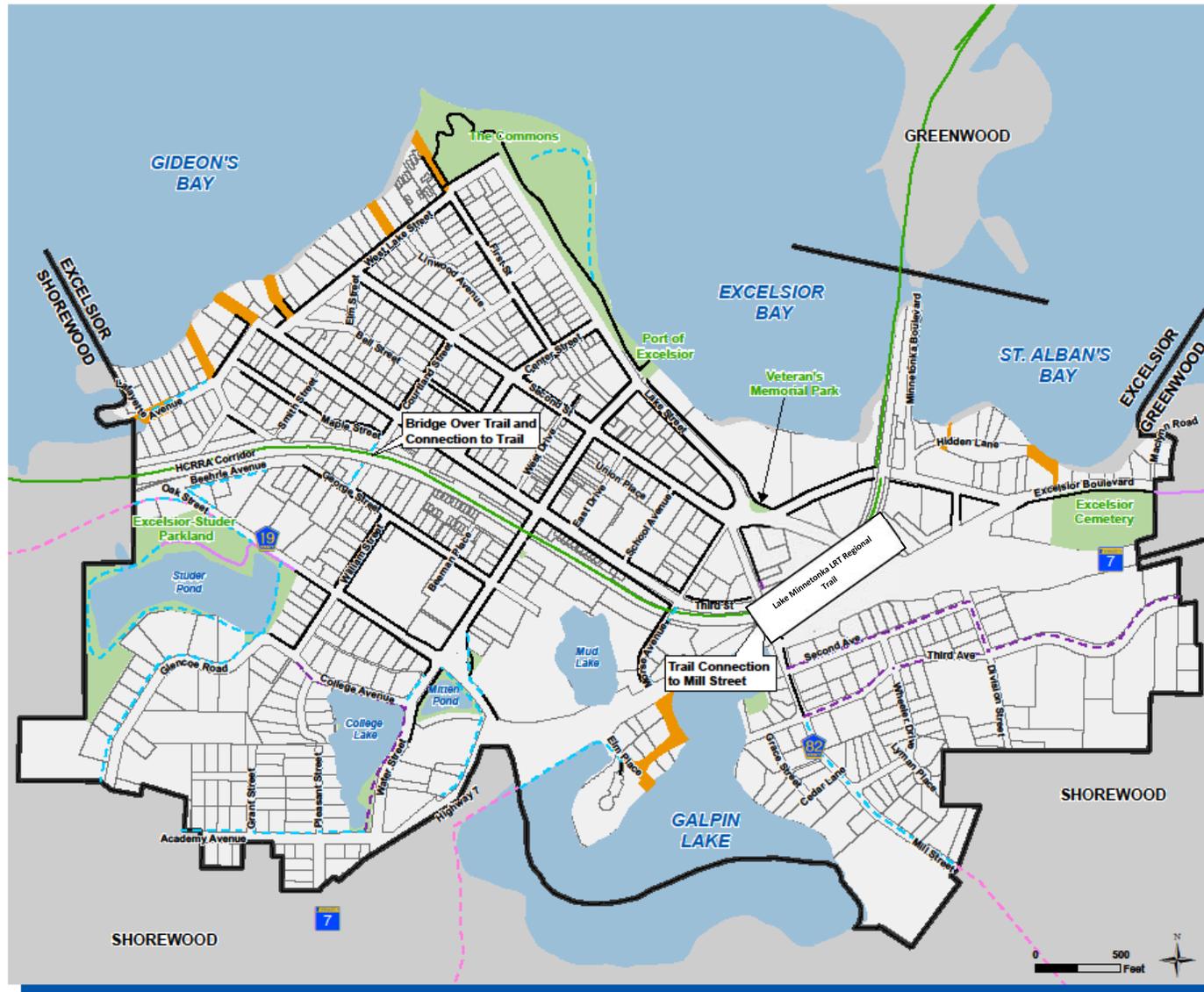


Legend

-  Existing Sidewalk
-  Existing Trails
-  Regional Trail
-  Fire Lanes
-  Parks
-  Excelsior Boundary



Proposed Sidewalks, Trails Walkways, Parks and Open Space



Legend

-  Existing Sidewalk
-  Existing Trail
-  Regional Trail
-  Proposed Trail
-  Proposed Sidewalk
-  Proposed Shorewood Trail
-  Fire Lanes
-  Parks/Open Space
-  Excelsior Boundary



BUS / TRANSIT SERVICE

The City of Excelsior is served by Metro Transit, Transit Link, and special needs paratransit. ADA and senior transit is provided by Metro Mobility. As shown on the following map, Metro Transit provides two express bus routes (670 and 671) that serve the Lake Minnetonka area with access into downtown Minneapolis and the remainder of the Metro Transit system. Route 670 serves the Monday through Friday eastbound and westbound trips between downtown Minneapolis and Orono. There are six stops in Excelsior along Water Street. Route 671 serves the Monday through Friday eastbound and westbound trips with the same stops as Route 670. There is one park and ride located in Excelsior located on the north side of Water Street and just west of 3rd Street.

The City is located in Transit Market Area IV, which has lower concentrations of population and employment and a higher rate of auto ownership, and Emerging Market Areas II or III. This market can support peak-period express bus services if a sufficient concentration of commuters likely to use transit service is located along a corridor. The low-density development and suburban form of development presents challenges to fixed-route transit. General public dial-a-ride services are appropriate in Market Area IV. The Emerging Market Overlay identifies locations within Transit Market Areas III and IV that have a higher potential for transit usage than the rest of the market areas surrounding them. These areas are currently too small or non-contiguous to support a higher level of transit service. Focusing growth in and around these areas to connect to other areas of higher potential transit use will present good opportunities for future transit improvement.

One of the issues raised by City officials and residents was the lack of mass transit options for people in Excelsior and the South Lake Minnetonka Area. The service is only

designed to serve weekday commuters with no weekend trips. The 2040 Transportation Plan does not call for any significant changes to the level of service to Excelsior.

The City will continue to work with Metro Transit officials on continuing and expanding bus service for Excelsior. Additionally, the City continues to support the local transit service provided by Transit Link and Metro Mobility. This service is especially important for elderly residents and those that are less independently mobile. Expansion of this service may be necessary as the population of the South Lake Minnetonka Area grows older and less mobile. The Transportation Plan, on a previous page, includes the transit plans included in the 2040 transit plans.



Metro Transit Facilities



Legend

- Bus Stops
- P Park and Ride
- Express Route
- Excelsior Boundary
- Parks



RIGHTS-OF-WAY

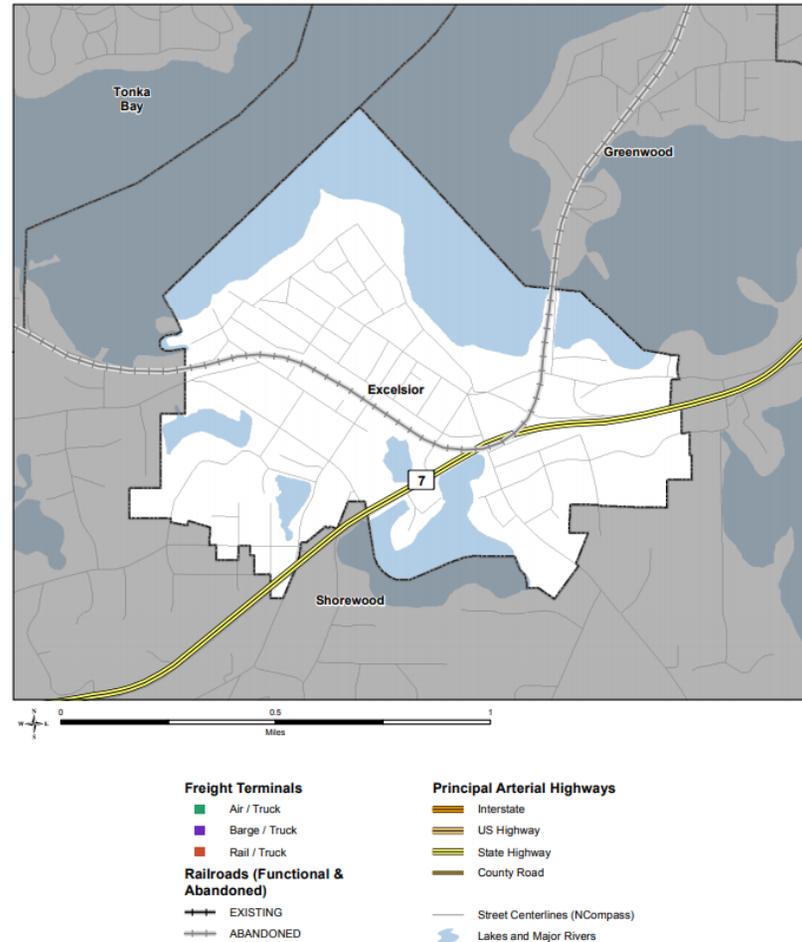
Specific right-of-way that are to be preserved are unknown at this time. The City will evaluate future planned road projects when properties are being subdivided in order to properly preserve required rights-of-way. As noted earlier, corridors that may be subject to future rights-of-way needs, pending future study, include State Highway 7, Hennepin CSAH 82 and Hennepin CSAH 19.

FREIGHT

The City of Excelsior does not have an active railroad line at present. The Three Rivers Park District maintains the Minnetonka LRT Regional Trail. While the former rail corridor is now used for recreational purposes, the right-of-way could eventually be used for mass transit purposes. The following map shows the Metropolitan Freight System. This is the only node that may generate freight movement.

State Highway 7 serves as the primary heavy truck corridor through the City of Excelsior. As noted in the Existing Traffic map, Highway 7 serves a regional freight need currently carrying approximately 1,000 HCAADT and 30,000 total AADT. Forecasted 2040 AADT along the State Highway 7 corridor is expected to exceed the carrying capacity of this 4-lane divided roadway. This forecasted traffic may create periodic congestion for automobile and heavy commercial truck freight. As a result, it is recommended that the City of Excelsior, Hennepin County and MnDOT discuss the merits of conducting a future corridor study along State Highway 7 to evaluate potential needs for investment to maintain adequate mobility and safety for freight and other modes of transportation.

Metropolitan Freight System
City of Excelsior, Hennepin County



Transportation Goals and Objectives are located in Appendix A.



10

SEWER & WATER PLANS

The City of Excelsior's Comprehensive Sewer and Water Supply Plans evaluates the City's existing sewer and water demands, projects future sanitary sewer and water demands through the year 2040, and proposes infrastructure improvements to satisfy the future demands.

THE GOAL OF THE SEWER AND
WATER SUPPLY PLANS IS TO
ENSURE THE SANITARY SEWER
AND WATER SUPPLY WILL MEET
THE FUTURE GROWTH OF
EXCELSIOR

Water Supply Plan

The City of Excelsior's Comprehensive Water Supply Plan evaluates the City's existing water distribution system and water demands, projects future water demands through the year 2040, and proposes infrastructure improvements to satisfy the future demands.

Existing System

The City of Excelsior's water distribution system provides approximately 80 million gallons of water each year to about 735 service connections. The system has one single pressure zone, with three active production wells, one water treatment plant, one ground storage reservoir, and one water tower.

Population and Water Demand

The population of the City of Excelsior has remained relatively constant since 2005. Total and per capita water use have fluctuated over the last ten years with no significant trends; fluctuations are likely due to variable annual climate conditions.

Growth and Demand Projections

The Metropolitan Council projects that the population served by the City of Excelsior's water system will increase slightly over the lifetime of this Plan. The population served by the City of Excelsior's water distribution system is expected to increase to 2,550 people by the year 2040, at which time the projected total per capita water use of 123 gallons per capita per day will result in an average day demand of 0.30 million gallons per day and a maximum day demand of 0.75 million gallons per day.

Proposed Improvements

The City of Excelsior's existing water production and storage capacity will be sufficient to supply the projected population and its demands through the year 2040. However, that infrastructure, as well as the distribution system, must be maintained in good condition, which will require capital investment. A schedule of the maintenance work anticipated to sustain the system is outlined in greater detail in the Capital Improvements Program section.

Water Supply

It is the policy of the City of Excelsior to provide the following to all customers receiving water from the City's water distribution system:

- **Water Quality:** Provide water to the community that meets the standards required by the State of Minnesota.
- **Water Affordability:** Provide water at utility rates so that current and future residents contribute to the maintenance of the water supply system.

Capital Improvements Program

A Capital Improvement Plan based on estimated water system improvements is presented in the appendix. This table includes system improvements and rehabilitation efforts and estimated years for the improvements to ensure the City's water system is in working condition. The overall cost associated with these improvements over the next ten years is approximately \$912,000.

Water Treatment Plant Improvements

The following water treatment plant improvements are detailed in the City's water system capital improvements fund for the years 2017 through 2026:

- Water Treatment Plant Building Upgrades
- Rehab Softeners
- Filter Media Replacement
- Water Treatment Plant Floor Resurfacing
- Rehabilitation of Sand Filters

Water Storage Improvements

The following water storage improvements are detailed in the City's water system capital improvements fund for the years 2017 through 2026:

- Ground Storage Tank Inspection and Painting
- Elevated Storage Tank Inspection and Painting

Water Supply and Distribution Improvements

The following water supply and distribution improvements are detailed in the City's water system capital improvements fund for the years 2017 through 2026:

- High Service Pump
- Rehabilitate Well No. 2
- Hydrant Replacement
- Emergency Water Interconnection
- Rehabilitate Well No. 3
- Rehabilitate Well No. 1

Funding

The City's current water fee structure is provided in the appendix. Fees consist of water user fees only.

Utility usage fees are charged to both residential and non-residential users based on the actual water usage metered during the billing period. The purpose of the user charges is

to fund the operation, maintenance, and replacement costs of existing distribution systems. User charges are primarily based on the actual costs of operations, maintenance, and replacement of all water system facilities.

Sanitary Sewer Plan

The City of Excelsior's Comprehensive Sanitary Sewer Plan evaluates the City's existing sanitary sewer system and wastewater flows, projects future wastewater flows through the year 2040, and proposes infrastructure improvements to satisfy the future flows.



Existing System

The City of Excelsior's sanitary sewer system is a collection system only and is divided into eight sanitary sewer service districts. The system includes 10.5 miles of gravity sewer, six lift stations, and 1.43 miles of sanitary forcemain.

Intercommunity Service

The City currently has two intercommunity flow connections from Greenwood and to/from Shorewood. There are 135 Residential Equivalency Units (RECs) connected to the City of Shorewood and 43 RECs connected to the City of Greenwood. The estimated unmetered wastewater flow into Excelsior from Greenwood was 4.3 million gallons. In this same year, the estimated wastewater flow into Excelsior from Shorewood was 13.54 million gallons. Both cities reimburse the City of Excelsior at a cost of \$3,360.44 per million gallons.

Population and Wastewater Flow

The population of the City of Excelsior has remained relatively constant since 2005. Metering data from the Metropolitan Council from the past five years indicate that the City produces an average wastewater flow of 0.24 million gallons per day (MGD).

Growth and Demand Projections

The Metropolitan Council projects that the population served by the City of Excelsior's sanitary sewer system will increase slightly over the lifetime of this Plan, while its average wastewater flow generation will remain relatively constant.

Proposed Improvements

The City of Excelsior's existing sanitary sewer collection capacity will be sufficient to accommodate the projected population and its wastewater flows through the year 2040. However, in order to maintain the system in good condition, inspection and rehabilitation of the sanitary mains and lift stations will be required. A schedule of the maintenance and rehabilitation work anticipated to sustain the system is outlined in greater detail in the Capital Improvements Program section.

Capital Improvements Program

A Capital Improvement Plan based on estimated trunk sewer construction is presented in **Appendix 2-D**. This table includes system improvements, rehabilitation efforts, and estimated years for the improvements to ensure the City's sewer system is in working condition. The overall cost associated with these improvements over the next five years (2017-2022) is approximately \$811,000.

Collection System Improvements

The following collection system improvements are detailed in the City's sewer system capital improvements fund for the years 2017 through 2022:

- Lining of Trunk Mains
- Inspection and Repair of Sewer Mains
- Televised Inspection of Sewer Mains
- Manhole Rehabilitation

Lift Station Improvements

The following lift station improvements are detailed in the City's sewer system capital improvements fund for the years 2017 through 2022:

- Replace 3rd Avenue Lift Station Grinder
- Redesign and Replace Excelsior Lift Station
- Replace Park Lift Station Control Panel
- Replace 3rd Avenue Lift Station Pumps and Grinder Control Panel
- Replace Highway 7 Lift Station

Funding

The City's current sewer fee structure is provided in **Appendix 2-C**. Fees consist of sewer-user fees.

Utility usage fees are charged to both residential and non-residential users based on the actual water usage metered during the billing period. The purpose of the user charges is to fund the operation, maintenance, and replacement costs of existing collection systems. User charges are primarily based on the actual costs of operations, maintenance, and replacement of all wastewater system facilities.

Sewer and Water Supply Goals and Objectives are located in Appendix A, and the Comprehensive Sewer Supply and Water Supply Plans are located in Appendix B and C respectively.



11

SURFACE WATER PLAN

The Comprehensive Surface Water Management Plan (SWMP) for the City of Excelsior has been developed to meet local watershed management planning requirements of the Metropolitan Surface Water Management Act and Board of Water and Soil Resources Rules 8410. It has also been developed to be in conformance with the requirements of the local watershed district and watershed management organizations, Metropolitan Council requirements, and applicable State and Federal laws.

THE CITY WILL COLLABORATIVELY
WORK WITH APPROPRIATE
AGENCIES TO MANAGE
STORMWATER RUNOFF

Land and Water Resource Inventory

The hydrologic system of the City consists of wetlands, streams, and major water bodies as outlined below.

Wetlands

MCWD acts as the Local Government Unit (LGU) for the City for the Wetland Conservation Act (WCA). All land use plans submitted to the city with wetlands on-site are forwarded to MCWD for comment as well as any wetland related concerns.

Major Bodies of Water

There are several water bodies that convey and store water within and through the City. These water bodies are Lake Minnetonka, Galpin Lake, Mud Lake, and College Lake



Hydrologic Modeling (Water Quantity)

The City's hydrologic/hydraulic system consists of Lake Minnetonka as well as other lakes, ponds, wetlands, and storm sewer systems. The City is divided into approximately 57 subwatershed areas.

Additional information regarding water quantity within the City can be found in the following studies. Hard copies of these studies can be found at City Hall.

- Second Avenue Storm Sewer Study
- Bells Street Hydrological Study

Flood Insurance Studies

A FEMA Flood Insurance Study (FIS) was completed for Hennepin County and updated in 2016. The FIS consists of a study report, a set of floodway and floodplain delineation maps, and a set of Flood Insurance Rate Maps (FIRM) maps. The FIRMs are available from the City Engineering Department or on FEMA's [website](#). **Table 2-2** includes the City model's HWL and FEMA's 100-year floodplain elevation for lakes located within the City.

TABLE 12-1: HIGH WATER LEVELS FOR LAKES LOCATED WITHIN THE CITY

Lake Name	City Model HWL	FEMA 100-year Floodplain Elevation
Lake Minnetonka	Not included in model	931.5
College Lake	948.8	946.0
Galpin Lake	945.7	946.0
Mud Lake	945.1	946.0

Cooperation with Other Agencies

There are a number of other local, state, and federal agencies that have rules and regulations related to stormwater management. Through this strategy, the City recognizes these other agencies' role in this endeavor and will cooperate and coordinate with these agencies as necessary.

This Plan is in conformance with but does not restate all other agency rules that are applicable to water quality and natural resource protection. The other agency rules and policies include rules, policies, and guidelines associated with the following organizations:

- Minnesota Department of Health
- Minnesota Pollution Control Agency
- Board of Water and Soil Resources and the Wetland Conservation Act
- Minnesota Department of Natural Resources
- US Army Corps of Engineers
- Minnesota Department of Agriculture
- Minnehaha Creek Watershed District
- US Fish and Wildlife Service

Problems and Corrective Actions

Outlined below is an assessment of known existing and potential water resource-related problems.

Lake and Stream Water Quality Problems

Problem - Impaired waters to which the City discharges stormwater include the following:

- Lake Minnetonka
- Christmas Lake (located outside of the City)
The impairment for each of these is mercury.

Corrective Action The Environmental Protection Agency (EPA) has approved the statewide TMDL mercury study. No action by the City is needed.

Problem - The MCWD requires that the City provide an annual reduction of 10 pounds of phosphorus for areas that drain to Lake Minnetonka from the City.

Corrective Action - The City has an extensive street sweeping program. This includes sweeping all streets once in the spring and once in the fall. It also includes sweeping the downtown area twice a week. It is estimated that this program will remove 11.7 pounds of phosphorus annually.

Flooding and Stormwater Rate Control Concerns

Problem - Drainage problems have been reported in the following areas:

- Glencoe Road
- Division Street
- Various areas in which the structures do not have a two-foot freeboard protection for the 100-year event.

Corrective Action - To date, high water in these areas have created short-term nuisances during heavy rainfall events and have not posed a threat to public health, safety, and property. The City will work with the MCWD to manage flooding and rate control concerns experienced within the City. The City will also complete hydraulic and hydrologic analysis of problem areas as redevelopment and street and utility reconstruction occurs.

Problem - Drainage problems located in the downtown area.

Corrective Action - The City hired WSB and Associates, Inc. in 2013 to complete a feasibility study for the downtown area to identify possible BMP opportunities to reduce phosphorus loading and runoff volume to the Lower Lake of Lake Minnetonka. The feasibility study recommended installing surface bio-filtration areas within two downtown municipal parking lots to achieve these goals.

Problem - There are small landlocked subwatersheds located within the City at the following locations:

- South of Third Avenue and west of Division Street
- North of Third Avenue and east of Mill Street
- At the west end of Monroe Avenue
- West of Glencoe Road and South of Wood Duck Circle

Corrective Action - The City will complete feasibility studies for these areas, identifying potential flooding areas as well as strategies to minimize flooding, and create new outlets with future redevelopment or street improvement projects. Outlets will be provided in areas where there is a demonstrated threat to structures or public safety.

Impacts of Erosion and Sedimentation on Water Resources

Problem - Soil erosion and sediment transportation associated with re-development may impact the quality of water and storage volume available within City lakes, streams, and ditches.

Corrective Action - The City has updated the erosion control requirements in the stormwater ordinance. New

develop and redevelopment will also be subject to the policies of the MCWD.

Problem - Erosion problems have been reported at the storm sewer outlets discharging to Lake Minnetonka.

Corrective Action - The City will inspect the storm sewer outlets in conformance with the City's NPDES permit. The outlets that discharge directly into Lake Minnetonka will be inspected annually. If the outlets require maintenance, the City will repair the outlet or remove sediment deltas if present.

Problem - Erosion at Lake Minnetonka at 'the Point' has been noted as a problem.

Corrective Action - The City and MCWD collaborated on a project in 2009 to reduce shoreline erosion on 'the Point', a unique section of lakeshore on the Commons. The project aimed to educate local land owners about shoreline stabilization techniques that provide habitat and wave energy dissipation benefits that cannot be achieved through standard riprap (hard armoring). A secondary goal was to stabilize the shoreline around 'the Point', reversing years of damage and stopping the flow of sediment from the land into the lake. MCWD designed and built the project, as well as maintained it for a three-year establishment phase, after which the City took over maintenance duties.

Problem - Erosion problems have been reported in the following areas where storm sewer is not present:

- Lafayette Fire Lane
- George Street Fire Lane
- Highway 7 runoff near Water Street
- Wheeler Drive: 2nd Avenue – 3rd Avenue
- Grathwol Lane: Water Street – Dead End
- Linden Street: Elm Place – Dead End
- West Lake drainage
- Localized drainage from Shoreview

Corrective Action - The City will conduct feasibility studies at the listed locations to determine the best course of action to resolve the erosion problem. Storm sewer and/or permanent stabilization may be utilized to alleviate erosion concerns.

Problem - Erosion problems have been reported in the following areas where storm sewer is present:

- Water Street at Port Outlet
- Courtland Avenue: 2nd Street – 3rd Street
- William Street: Oak Street – George Street
- Commons Park Pipe Outlet
- Downtown Parking Lot BMPs

Corrective Action - The City will conduct feasibility studies at the locations above to determine the best energy dissipation and permanent stabilization techniques for these areas to resolve the erosion problem.

Impact of Land Use Practices and Development on Water Resource Issues

Problem - Selected areas of the City have been exposed to increased rates and volumes of stormwater runoff as a result of an increase in impervious surface area. Other land development and land use practices have negatively impacted both water quality and quantity outside the City limits.

Corrective Action -The City will implement policies and projects in this SWMP. Additionally, areas that develop or redevelop will be subject to the policies of the MCWD. The City places high priority on maintaining local parks and open spaces. The use of natural landscaping in these areas will help minimize runoff and erosion concerns. When maintenance or upgrading to local parks, trails or open spaces is required, the City will look for opportunities to install additional BMPs to help further reduce erosion and runoff concerns.

Education Program

Problem - The City recognizes the need for community education programs to increase public awareness of water resource management and improve the quality of stormwater runoff.

Corrective Action - The City will continue to provide educational content and opportunities to residents, businesses, developers and others. These efforts may include postings on the City website and publishing an annual newsletter to spread awareness of stormwater related issues. Roughly 1,400 copies of the newsletter will be distributed. The City will work with MCWD on educational efforts when possible to avoid duplicating efforts.

Illicit Discharges

Problem - The City must detect, locate, and eliminate existing and future illicit discharges.

Corrective Action 4.11.A The City will hire a consultant to televise a section of the storm sewer system and collect grab samples or perform other effective testing procedures to find illicit connections in the system as needed as well as complete regular illicit discharge inspections.

Problem - There is no user-friendly way to report an illicit discharge on the city webpage currently.

Corrective Action - The City will update their Request Tracker on the City webpage to include a link to report illicit discharges.

Surface Water Goals and Objectives are located in Appendix A.

The Surface Water Plan is located in Appendix E. The date of Minnehaha Creek Watershed District was July 26, 2018.





12

SUBAREA PLANS

The purpose of examining targeted subareas is to provide more specific recommendations for areas of the City that are either of most concern to residents, are most likely to change, face increased redevelopment pressure, have significant vacant or underutilized properties, or all of the above. Any Subarea Plan is intended to provide a framework for the redevelopment and revitalization of each area, and to establish policies for the City moving forward. These plans are not meant to be firm development plans, but merely illustrative ideas of what could be possible if the City adopts the recommendations in the plan.

SUBAREA PLANS FOCUS ON AREAS OF MOST CONCERN TO RESIDENTS, AREA MOST LIKELY TO CHANGE, FACE INCREASED REDEVELOPMENT PRESSURE, OR ALL OF THE ABOVE

East Side Subarea Plan

The East Side Subarea Plan is founded in the patterns of Excelsior's past, an understanding of its current conditions and opportunities, and a look into future potential. This plan is more a prescription for desired change, than an explicit solution; it recognizes existing assets, qualities and character, and strives to add new features that can fulfill the community's vision for a unique and economically viable place where people live, work, and play.

This kind of change will not happen overnight and it will not likely happen on its own. The plan envisions a pace of incremental change over a period of 20 years or more. To move forward, it is important that the community commit itself to a sense of planned evolution. It will also take a commitment of continued partnerships, without which the vision may not be realized.

The vision is aimed at helping the community shape future development in the area to be true to the small-town character of Excelsior, yet unique and identifiable. The vision seeks a pedestrian-friendly, economically sustainable and ultimately, more livable area for new residents of Excelsior.

Elements of the Plan should be used to frame regulatory tools, such as zoning overlays or ordinances, to convey what is desired for public improvements, and to express the community's goals for a desired development pattern to prospective developers, investors, property owners, architects and planners.

Vision

The East Side area is envisioned as a distinctive neighborhood complete with a diversity of housing types, restaurants, and waterfront entertainment typical of many traditional "lakeside towns." Traditional lakeside towns have long enjoyed the benefits of having compact, walkable

centers that offered residents places to live, work, shop and dine. Often, the identity of these towns was established by the scale, character and set of uses in these areas .

One of the benefits of a mixed-use lakeside town is that it offers new choices in a supportive environment. This appeals to a sizable segment of the population that seeks convenient transportation to work, a pedestrian friendly environment, and proximity to entertainment, restaurants and other amenities provided in these mixed-use neighborhoods. These living environments are desired by both young professionals and the empty nester generation of baby boomers. Studies indicate that many are attracted to live in a vibrant, attractive mixed-use neighborhood. These walkable neighborhoods and villages are emerging as socially desirable, environmentally sound, and economically affordable.

The community desires a vision of the East Side area that would be compatible, yet stand alone from the Downtown district along Water Street, both in terms of land use and in physical development character. The Downtown would be the retail hub of the community, while the East Side would have more of an entertainment theme. The Downtown has the historic buildings, while the East Side would have more current architecture, but compatible in design and scale to the Downtown.



Public Input

The City hosted three open house meetings to solicit feedback from the community on the East Side study.

Common themes from the three open house meetings included:

- Maintaining a visual connection to Lake Minnetonka is very important.
- Surface parking is not viewed as the best use for land in this part of town.
- Maintain a character suited for waterfront entertainment.
- A mixture of land uses is preferred for this area.
- A general concern for building heights of new development.
- Create a “small town” feeling in this area.

Issues and Opportunities

Building Heights

Community members are specifically concerned with future developments four stories or greater. The current building height maximum per the zoning code throughout the East Side area is 35 feet, and nothing herein is intended to change that height limit. Community feedback during the planning process showed a significant concern for building heights exceeding this limit and a “tunnel” effect potentially created by close building setbacks of buildings with a tall height.

Surface Parking

One of the most striking existing characteristics of the East Side area is the abundance of surface parking lots. Every parcel along Excelsior Boulevard within the planning area currently has surface parking located along the street. Feedback from the community shows that these surface parking lots are not the most desired uses for this area and

are considered unsightly and underutilized for much of the year. However, during peak events at Maynard’s and the former Bayview Event Center, all the surface parking is needed, and often there is a lack of parking, causing visitors and employees to park downtown and in neighborhoods and walk to their destination.

Finding a solution to parking within the East Side study area would also relieve some pressure on parking in Downtown Excelsior.

Traffic

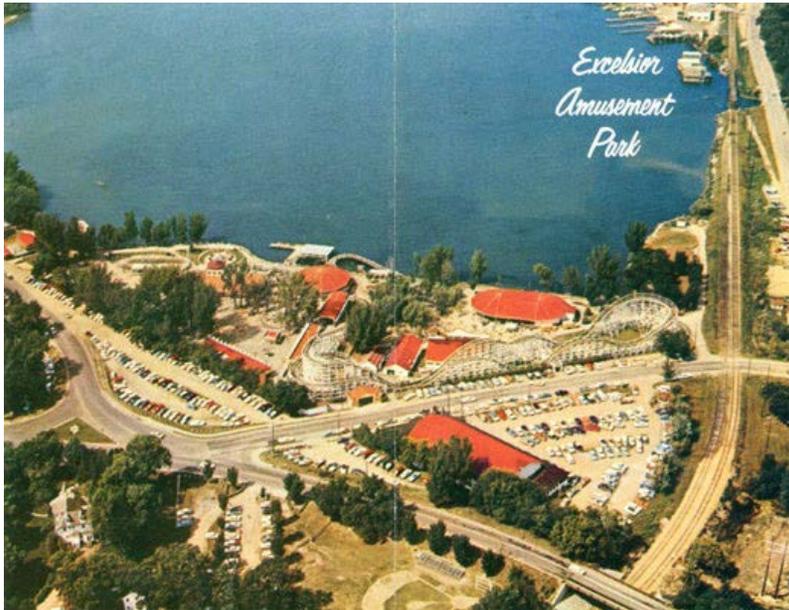
As part of the East Side planning process, WSB completed a traffic review of all the properties as if they were redeveloped exactly as prescribed by the East Side Study. Although the WSB review concluded that there would not be a significant difference in the amount of estimated traffic being generated by the preferred concept land use when compared to the amount of current traffic being generated by the existing land uses, it is required that each future development complete individual traffic studies because conditions change over time.

Market Analysis

Hoisington Kogler Group Inc. (HKGi) prepared a high-level market study as part of the East Side Study. HKGi concluded that the East Side area is less likely to develop with significant office and retail development components. The district has a greater potential to include a variety of residential formats (condominiums, townhomes, apartments), coupled with smaller quantities of retail and office uses that would complement residential development. The East Side area also has the potential to continue to capitalize on its location along Lake Minnetonka in offering some restaurant and entertainment land uses to the broader suburban market in the Twin Cities.

Land Uses

Feedback from the community regarding future land uses in the East Side area pointed to a desire to maintain an entertainment and waterfront focus for the area. It was recognized that downtown Excelsior is known for retail business, and this identity should remain. An entertainment focus for this area continues the regional entertainment theme as established by the Excelsior Amusement Park, which was open from 1924 to 1974.



Outdoor recreation and entertainment focused commercial and retail uses are possibilities for the East Side area, and would complement the existing uses. There are opportunities for a future bike shop or an outfitter in the East Side area, as well as opportunity for a cultural destination such as a boat museum (in conjunction with the Museum of Lake Minnetonka and the Minnehaha Steamboat). Hotels, restaurants, and other hospitality-related uses would contribute to a theme of waterfront entertainment.

Views of Lake Minnetonka

Maintaining a visual connection to Lake Minnetonka was a high priority expressed from the community during the open house meetings. This Subarea Plan seeks to achieve this goal by encouraging property owners along the lake to maintain a visual connection to Lake Minnetonka. When appropriate, the City will work with the property owners to encourage lake views using City tools that may offset the cost of maintaining a visual connection. These tools may include tax abatement, reducing parking impact fees, or easing/relaxing zoning requirements such as ground level commercial use requirements, parking requirements or setbacks.

Tree and Open Space

Street trees and green spaces are important to retain. Evergreen trees and shrubs are encouraged to provide year-round interest.

Key Strategies

Several key strategies are promoted to achieve the Plan's vision of creating a vibrant lakeside town environment, including the following:

District Identity

One of the hallmark strategies of the Plan calls for the creation of a unique district identity that will be compatible in scale and building placement to the Downtown, but different in use and building design. While the Downtown is the retail heart of Excelsior, the East Side is planned to be an entertainment area for the community. Similar to the Downtown, buildings should have smaller footprints that promote a pedestrian friendly environment.

EAST SIDE STUDY

DEVELOPMENT CHARACTER AREA DIAGRAM

1/21/2020

A. WATERFRONT

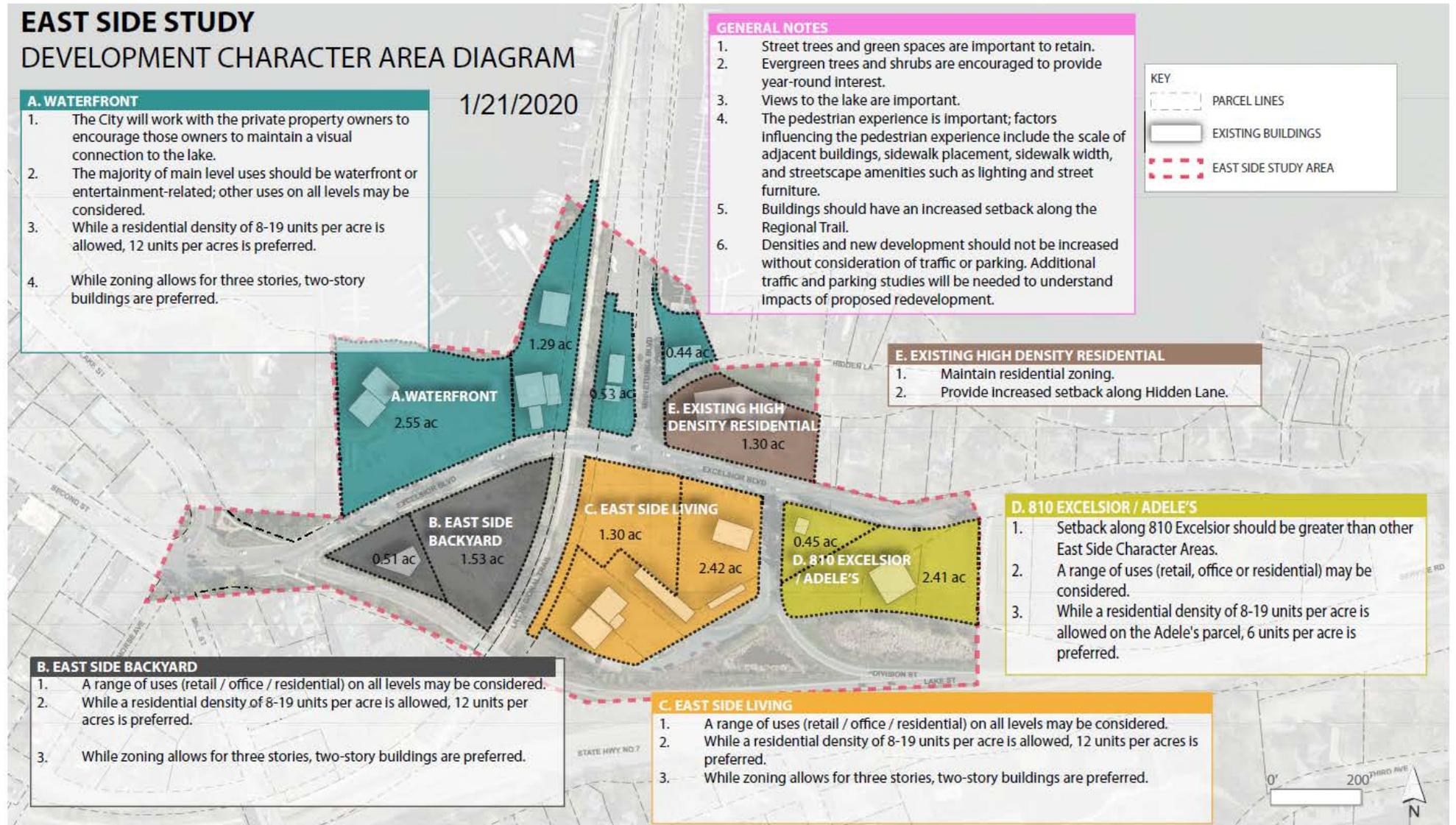
1. The City will work with the private property owners to encourage those owners to maintain a visual connection to the lake.
2. The majority of main level uses should be waterfront or entertainment-related; other uses on all levels may be considered.
3. While a residential density of 8-19 units per acre is allowed, 12 units per acres is preferred.
4. While zoning allows for three stories, two-story buildings are preferred.

GENERAL NOTES

1. Street trees and green spaces are important to retain.
2. Evergreen trees and shrubs are encouraged to provide year-round interest.
3. Views to the lake are important.
4. The pedestrian experience is important; factors influencing the pedestrian experience include the scale of adjacent buildings, sidewalk placement, sidewalk width, and streetscape amenities such as lighting and street furniture.
5. Buildings should have an increased setback along the Regional Trail.
6. Densities and new development should not be increased without consideration of traffic or parking. Additional traffic and parking studies will be needed to understand Impacts of proposed redevelopment.

KEY

- PARCEL LINES
- ▭ EXISTING BUILDINGS
- - - EAST SIDE STUDY AREA



A. WATERFRONT

2.55 ac

1.29 ac

E. EXISTING HIGH DENSITY RESIDENTIAL

1.30 ac

0.53 ac

C. EAST SIDE LIVING

1.30 ac

2.42 ac

D. 810 EXCELSIOR / ADELE'S

0.45 ac

2.41 ac

E. EXISTING HIGH DENSITY RESIDENTIAL

1. Maintain residential zoning.
2. Provide increased setback along Hidden Lane.

B. EAST SIDE BACKYARD

1. A range of uses (retail / office / residential) on all levels may be considered.
2. While a residential density of 8-19 units per acre is allowed, 12 units per acres is preferred.
3. While zoning allows for three stories, two-story buildings are preferred.

C. EAST SIDE LIVING

1. A range of uses (retail / office / residential) on all levels may be considered.
2. While a residential density of 8-19 units per acre is allowed, 12 units per acres is preferred.
3. While zoning allows for three stories, two-story buildings are preferred.

D. 810 EXCELSIOR / ADELE'S

1. Setback along 810 Excelsior should be greater than other East Side Character Areas.
2. A range of uses (retail, office or residential) may be considered.
3. While a residential density of 8-19 units per acre is allowed on the Adele's parcel, 6 units per acre is preferred.



Compact Mixed-Use Development Patterns

Mixed-use development refers to the integration of residential, commercial, retail, employment, recreational, and entertainment uses; the integration is accomplished in such a way as to reduce traffic congestion and contain urban sprawl. The mix of land uses not only supports and enhances each element in the East Side area but also provides residents a rich and diverse environment in which to live, work, shop, and play.

Housing Diversity

The East Side area provides Excelsior an excellent opportunity to add to the variety of Excelsior's housing options. Communities that have relied on one type of housing have struggled when the housing market and population changes. Those communities with a mix of housing options are better able to weather through future demographic and market changes. The East Side area also provides the City the opportunity to provide affordable housing that would help meet Metropolitan Council's affordable housing goals for Excelsior.

Pedestrian-Friendly Environment

Promoting future mixed-use development in the East Side area is critical to creating a vibrant, lakeside town because it produces the variety and ground level activity needed to encourage a pedestrian-friendly environment. Moreover, mixing residential and commercial uses adds vitality to neighborhoods by extending street activity beyond the typical nine-to-five workday. It is this activity that will create a sense of place within the area and provide the interest that will encourage pedestrian use. Factors influencing the pedestrian experience, including the scale of adjacent buildings, sidewalk placement, sidewalk width, and streetscape amenities such as lighting and street furniture, should be included in new development and implemented as improvements when possible.



Parking

While parking is critical to the success of any future development in the area, it should not be a dominant land use seen from the public environment. Parking should be configured and located to ensure that buildings and pedestrian areas are the focus of the area.

Subarea Goals and Objectives are located in Appendix A.



13

IMPLEMENTATION

The Comprehensive Plan sets forth an agreed-upon “road map” for growth and development within the City of Excelsior for the next 20 years. Its implementation will come in many different forms. Some will be reactive, such as zoning ordinances to primarily guide private developments; others will be proactive, such as the City’s Capital Improvement Program for undertaking various public improvement projects – streets, sewers, parks, etc. The first part of this chapter outlines the more significant devices to implement Excelsior’s 2040 Comprehensive Plan. The chapter concludes with a table of specific implementation actions that will achieve the goals and objectives stated in Excelsior’s Comprehensive Plan.

THE IMPLEMENTATION SECTION
HIGHLIGHTS SEVERAL STEPS THAT
SHOULD BE TAKEN TO INITIATE
AND SUSTAIN THE PLAN
IMPLEMENTATION PROCESS

Official Controls

Zoning Ordinance

Excelsior's original zoning ordinance was enacted in 1973, preceding its first comprehensive plan. The original zoning ordinance was then repealed and replaced in 1982. The zoning ordinance has since been structured to carry out the goals and policies of the Comprehensive Plan. The 1995 Legislature mandated that local zoning ordinances and comprehensive plans be consistent with each other; and determined that, where issues arise, the comprehensive plan will take precedence over zoning. This reverses the previous situation where zoning prevailed over the comprehensive plan.

The 2040 Comprehensive Plan brings the zoning map and Comprehensive Plan map into close conformity; but a few changes to the zoning map are still needed to achieve full conformance. Such zoning map changes will be made following formal adoption of the 2040 Comprehensive Plan by the City Council. The map on the following page outlines these needed changes. The red outlines indicate properties that will need to be rezoned outside of the business districts, and the black-outlined areas indicate commercial areas that will need to be rezoned to one of the four business zoning districts that will be created as mentioned later on in this chapter.

Shoreland Management

The State Department of Natural Resources (DNR) requires local governments to adopt and enforce shoreland management regulations adjacent to designated public waters. Excelsior has adopted DNR's shoreland regulations in as an amendment to the zoning ordinance. In 1989, the DNR

updated its shoreland management standards and established a priority system for local governments to update their regulations.

Building and Housing Maintenance Codes

Excelsior uses the Minnesota State Building Code, which it adopted by reference several years ago. This document is used for all new construction. The City prepared and adopted a Rental Housing Maintenance Program/code in 1982, which establishes minimum standards for maintenance of all existing rental housing. Such housing code prevents overcrowding, assures safe and sanitary living conditions, and maintains property values by helping to prevent housing/neighborhood deterioration and blight.

Tax Increment Financing (TIF)

TIF is one of the most popular local development financing tools. TIF enables a city to use the additional property taxes generated by new development to pay for certain development expenses.

During the 1980's and 1990's, numerous Minnesota communities turned to TIF to redevelop blighted areas, to provide affordable housing, to preserve historic resources, to stimulate economic activities, and to pay for certain public improvements.

Although the State Legislature amended the TIF law in the 1990's to create greater restrictions on its use, Excelsior may continue using this valuable development/redevelopment tool within the limits prescribed by State law.



Capital Improvement Programming (CIP)

A Capital Improvement Program identifies and schedules public improvements necessary for serving a community's existing and future needs. Integral to the CIP is setting

After staff has prepared a draft CIP, the draft should be submitted to the Planning Commission and Park and Recreation Commission for review and comment. Finally, the document is reviewed and adopted by the City Council.

As financial resources in Excelsior will always be limited and public dollars must be spent wisely, the city will continue to use the CIP to provide the most desirable public improvements and stay within budget constraints. Likewise, the City of Excelsior is very aware of the importance of capital improvement programming and will use the 2040 Comprehensive Plan as a basis for annually preparing subsequent CIP's.

priorities for public improvements and the estimated cost and source of financing for each project.

The CIP is typically used to schedule the implementation of specific projects related to the Comprehensive Plan, particularly the restoration and upgrading of existing infrastructure, utilities, and City facilities.

Implementation Measures

The following strategies are organized by chapter. In some cases, some of the implementation strategies will apply to more than one chapter. In such cases, the implementation strategy is listed with the Comprehensive Plan Chapter that the implementation strategy most directly supports. The implementation strategies are listed to guide the City Council and City staff as they develop work programs during the life of the plan. This is not intended to be an exhaustive list. The City may pursue different strategies and adjust priorities, depending on changing opportunities and resources. The City should use this as a guide when preparing its Capital Improvement Plan and budget each year.

Implementation Tools

The City will use the following programs, fiscal devices, and other actions to implement its plan:

- 1) Zoning Map – updated to be consistent with the Comprehensive Plan.
- 2) Zoning and Subdivision Ordinances – updated to be consistent with the Comprehensive Plan.
- 3) Stormwater Management Ordinance.
- 4) Local Water Management Plan.
- 5) Capital Improvement Program.
- 6) East Side Area Plan, once adopted by the City.
- 7) Excelsior Commons Conceptual Guide Plan.
- 8) City of Excelsior Preservation Design Manual.
- 9) Design Standards of Excelsior.
- 10) Annual City Budget, Bonding Authority, and fiscal devices including Tax Increment Financing (TIF) where appropriate.

Chapter 3: Land Use

The following implementation steps and strategies are identified to support the City's Future Land Use Plan and the corresponding goals and objectives identified within Appendix A of this Plan. All of these actions will be done within nine months of adoption of this Comprehensive Plan.

- 1) Revise the six commercial zoning districts into four commercial zoning districts: Downtown, Cottage Commercial, Mixed Use, and General Commercial.
- 2) Establish a staff and policymaker process and/or create and adopt a formal policy that defines how mixed-use development projects will be tracked for compliance with this Plan. The process must identify how the City will track the mix of land uses and provide a minimum of 50-percent of the land area within the designations for residential uses at densities that meet minimum thresholds as identified within this Plan. Tracking may consist of creating an inventory of existing land uses within the Mixed-Use areas and creating an ordinance and process reference sheet for developers and landowners that describe the mix of uses and process (PUD or otherwise) to ensure compliance with the ordinance.

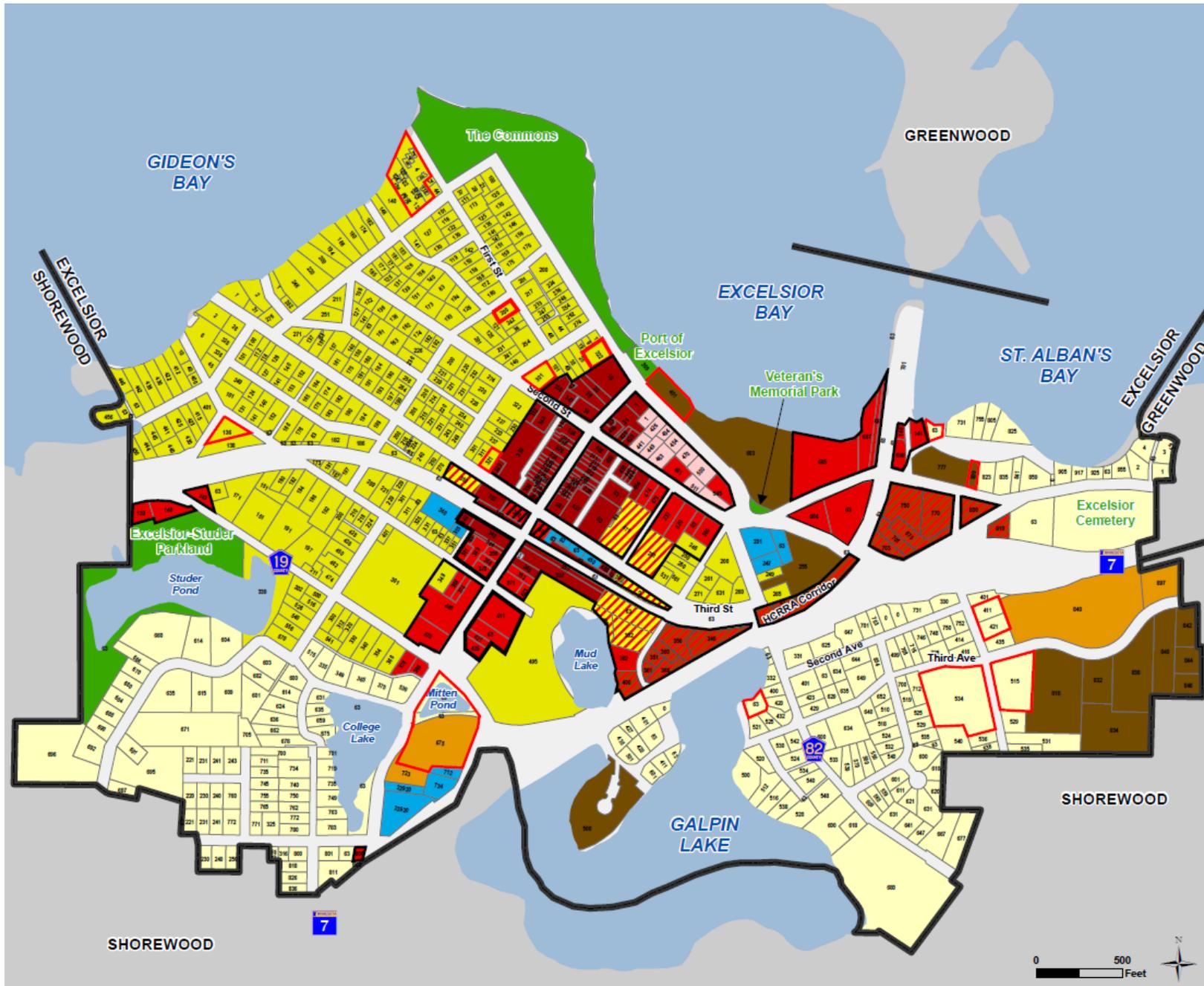
- 3) Update the Zoning Map to achieve full conformance with the 2040 Comprehensive Plan. The areas that need to be updated are shown on the following page. The areas outlined in red delineate parcels outside of commercial areas that need to be rezoned, and the areas outlined in black indicate commercial areas that will need to be rezoned in accordance with the newly updated business zoning districts.
- 4) Incorporate standards into zoning ordinances regarding siting of structures and buildings to support access to solar resources.

Chapter 4: Residential Areas

- 1) Continue to give out the “Excelsior Award” as a positive tool to promote compatible infill projects (ongoing).
- 2) Create a Structures of Merit list and periodically contact owners of properties on the Structures of Merit list to gauge interest in individual designation (ongoing).
- 3) Consider the development of additional guides or tools to ensure that new residential construction and additions are of an appropriate scale and character. This will be done within nine months of adoption of this Plan.
- 4) Maintain existing affordable housing units (ongoing).
- 5) Support Hennepin County and Regional housing programs that provide lifecycle and affordable housing to provide information to its residents (ongoing).
- 6) Additional tools, resources and strategies are outlined within Chapter 4: Residential Areas.

Chapter 5: Commercial Areas

- 1) Research and adopt a formula business ordinance that will ensure Excelsior remains unique. This will be done within nine months of adoption of this Plan.
- 2) Study where parallel parking may be changed to angled parking to increase the parking supply. This will be done within three years of the adoption of this Plan.
- 3) Use City-owned land to expand the East parking lot within three years of adoption of this Plan within three years of adoption of this Plan.
- 4) Establish a system of wayfinding signage to help drivers located off-street parking facilities within four years of adoption of this Plan.
- 5) Implement physical improvements (such as minor street widening) to enable an increase in the amount of on-street parking.
- 6) Amend the Design Standards to allow buildings along Water Street to be divided in half in order to promote the appeal and use of the rear of the buildings that are adjacent to the two municipal parking lots.



Chapter 6: Historic Preservation

- 1) Continue recognizing property owners for good preservation practices. Schedule preservation activities during Preservation Month (May).
- 2) Work with the Heritage Preservation Commission to create incentives for preserving and restoring historic buildings within the next one to three years.
- 3) Nominate the Downtown Historic District, or parts thereof, to be listed on the National Register. Apply for Certified Local Government grants and Legacy grants to help fund the nomination process within the next one to three years.
- 4) Develop financial assistance that would benefit buildings that are designated historic within the next one to three years.
- 5) Install signs that indicate the boundaries of the Downtown Historic District within the next four to eight years.

Chapter 7: Parks, Trails & Environmental Features

- 1) Continue to implement and expand a Capital Improvement Program that addresses needed park improvements and maintenance (ongoing).

Chapter 8: Community Facilities and Services

- 1) Continue to regularly update and publish information through the City's multiple news platforms including the City website, the City newsletter, and local newspapers (ongoing).
- 2) Periodically review and update development related fees to ensure equitable compensation to the City for impacts on public facilities and services (ongoing).
- 3) Renovate City Hall, bringing it into compliance with the Americans with Disabilities Act (ADA) using funds made available through the sale of City property in the East Side area, which is projected to occur within three years of adoption of this Plan.
- 4) In the next nine years, work with the various public and private schools to ensure safe and adequate access to school sites.

Chapter 9: Transportation

- 1) Continue to review and assess pavement needs and include necessary roadway, trail and other transportation system maintenance needs and implement and expand a Capital Improvement Program that addresses the repair and improvement of streets (ongoing).
- 2) Implement projects from Capital Improvement Program including crack seal projects in 2020 and 2025 and rehab St. Albans Bridge in 2020.

- 3) Establish better connections to link the southeast neighborhood to the north areas of Excelsior over Highway 7 by adding trails or walkways as part of any City street project, where possible, and as part of any new or developed commercial projects.
- 4) Coordinate with Met Council and others to ensure that existing and future transit services are adequate to accommodate anticipated demands (ongoing).
- 5) Cooperate with neighboring jurisdictions on coordination of street, roadway, and trail extensions and improvements (ongoing).

Chapter 10: Water and Sewer Plans

- 1) Continue to implement and expand a Capital Improvement Program that addresses the repair and improvement of water and sewer facilities (ongoing).
- 2) Execute the Capital Improvement Plan by installing sewer lining in the years 2018-2028; replace 1978 lift station at Excelsior Boulevard in 2018; and replace Highway 7 lift station in 2022.
- 3) Continue ordinance enforcement and activities to reduce Infiltration and Inflow (ongoing).

Chapter 11: Surface Water Plan

- 1) Enhance the two municipal Downtown parking lots with landscaping and best management practices for stormwater drainage within four to eight years.
- 2) Encourage homeowners to install native plantings along shorelines. The MNDNR's Restore Your Shore is an example of a tool to be promoted in city communications.

Chapter 12: Subarea Plans

- 1) Utilize the East Side Subarea Plan as a guide for development in the East Side Area (ongoing).
- 2) Explore opportunities for additional parking within the area to support area's existing and future development and corresponding parking needs.



APPENDIX: GOALS & OBJECTIVES

The Excelsior Comprehensive Plan looks forward over the next 10-20 years and expresses what the City desires to become in the future. This section presents the relevant goals and objectives derived from public input through the Comprehensive Plan planning process.

Goals describe desired end situations toward which planning efforts should be directed. They are broad and long-range. They present an end to be sought, although they may never actually be fully attained.

Objectives describe more specific actions that should be undertaken by the City to advance toward the overall goals. They provide more precise and measurable guidelines for planning action.

GOALS AND OBJECTIVES FORM THE
FRAMEWORK FOR PLANNING
RECOMMENDATIONS, POLICIES,
FUTURE PROJECTS AND ACTIONS

Residential Areas

Goal

Maintain the Community's image and desirability as a great place to live and raise a family by preserving and enhancing the quality, character, safety and appeal of residential neighborhoods and developments, and providing diversity in its housing stock and unit types.

Objectives

- 1) Promote the economic importance, and support the provision of, a variety of housing types and choices within the Community to meet the varied needs of residents of all ages and socio-economic circumstances in all geographic areas of the City.
- 2) Continue to support the development of multiple family housing in a dispersed pattern throughout the community as opposed to designation of specific areas, which would create large concentrations of such housing.
- 3) Encourage the inclusion of affordable housing in new residential developments.
- 4) Accommodate residential renovation and redevelopment through a consistent, expedient and thorough permitting process.
- 5) Ensure new residential development be of a character, size, density and quality architecture that respects the traditional neighborhood character and maintains the quality of life for existing and future residents.
- 6) Consider the development of additional guides or tools to ensure that new residential construction (including infill and teardown construction) and additions are of an appropriate scale and character.
- 7) Continue to give out the "Excelsior Award" as a positive tool to promote compatible infill projects.
- 8) Examine alternative solutions to sidewalk construction in certain challenging areas of the community.
- 9) Discourage conversions of single family structures to townhomes or condominium redevelopment projects.
- 10) Encourage, support and promote the application of sustainable building practices in all private sector rehabilitation and redevelopment.
- 11) Promote the use of existing housing rehabilitation grant or loan programs, either through State, County, regional or private agencies.
- 12) Work with owners of multiple family properties to ensure that housing units are safe, functional and provided with adequate amenities.
- 13) Protect residential areas from the encroachment of incompatible land uses and the adverse impacts of adjacent activities. Encourage the development of affordable housing in new multi-family developments.
- 14) Encourage the maintenance and preservation of boulevard trees as an important component of the City's tree canopy.



Commercial Areas

Goal 1

Maintain an environment which encourages a variety of quality and locally owned businesses and restaurants so that residents of Excelsior can purchase locally while continuing to encourage visitors to come to Excelsior and support our local businesses.

- 1) Research and adopt a formula business ordinance that will ensure Excelsior remains unique.

Goal 2

Develop aesthetically pleasing and functionally well-designed retail and commercial shopping areas that are market supportable, maintain a diversified tax base, and serve the needs of the City's residents and a larger regional market.

Objectives

- 1) Maintain a range of retail and service commercial activities throughout the City.
- 2) Ensure that new commercial development and redevelopment is designed in scale with, and complementary to, existing adjacent development.
- 3) Balance the desire to provide a full range of commercial goods and services for the residents of the Excelsior area, with the corresponding desire to achieve and protect a quality residential environment, and a high-quality image of the City for motorists that travel through the City.
- 4) Ensure that all new and improved commercial development, and encourage existing commercial development are effectively screened and buffered from adjacent residential uses.

- 5) Work with property owners to develop adequate parking that is enclosed or appropriately landscaped using native species or screened from view.
- 6) Ensure that any new parking structure should be designed to complement the architecture and urban form of the surrounding areas.
- 7) Conduct a comprehensive review of commercial uses in the zoning ordinance to ensure they are up-to-date and serving the City well.
- 8) Encourage continued investment in renovation of the primary entrances to the community, such as Highways 7 and 19.



Goal 3

Continue to support Downtown as the symbolic “heart” of the community and enhance its role and the City’s primary mixed-use pedestrian environment.

Objectives

- 1) Continue to support Downtown with a mixture of uses including commercial, office, restaurant, civic, and residential.
- 2) Maintain Downtown as pedestrian-oriented area and a walkable shopping area that is unlike any other commercial area in the western suburbs.
- 3) Continue to require retail/service orientation at street level for Water Street.
- 4) Preserve and strengthen the role of Downtown as the focus of community identity and activity. Facilities which collectively add to Downtown’s vitality and identity include city hall, library, churches, schools, farmer’s market and housing. The many civic functions that are held in Downtown such as Apple Days are very important ingredients of a vital Downtown.
- 5) Work with the U.S. Postal Service to assure the Post Office remains in Excelsior with possible relocation into the Downtown area.
- 6) Encourage the continued operation of the farmers market in the Downtown.
- 7) Continue to maintain, improve and promote the Port of Excelsior as an important part of the City fabric and as a connection from the Downtown commercial areas to Lake Minnetonka and The Commons.
- 8) Require development and redevelopment projects within the Downtown to provide parking that meets current and future parking demand.
- 9) Consider enhancements to existing public and private parking lots.
- 10) Encourage additional housing in appropriate locations within convenient walking/driving distance of the

Downtown as a means to strengthen its vitality and customer base.

- 11) Encourage the conversion of second floor space into housing options within the Downtown.
- 12) Plan for the renovation of the City Hall in the Downtown.
- 13) Work with the Heritage Preservation Commission to create incentives for preserving and restoring historic buildings.
- 14) Stress the importance of historic preservation to the character of Excelsior to both current and prospective business people in the community.
- 15) Explore the idea of allowing buildings along Water Street to be divided in half in order to promote the appeal and use of the rear of the buildings that are adjacent to the two municipal parking lots.

Goal 4

Improve the effectiveness of the existing on-street and off-street parking facilities.

Objectives

- 1) Implement physical improvements (such as minor street widening) to enable an increase in the amount of on-street parking.
- 2) Study where parallel parking may be changed to angled parking to increase the parking supply.
- 3) Establish a system of wayfinding signage to help drivers located off-street parking facilities.
- 4) Work with the Minnetonka School District to promote the use of the Excelsior Elementary School parking lot.
- 5) Continue monitoring parking demands in the Downtown on a bi-annual basis.

East Side Area

Goal 1

Protect and enhance East Side's unique asset of being a recreational/entertainment destination located on the Excelsior Bay lakefront.

Objectives

- 1) Focus lakefront development primarily on commercial uses that enables public access and maintains a visual connection to Lake Minnetonka.
- 2) Explore adding complementary recreation/entertainment amenities, such as a public pier, non-motorized boating options, trailhead facilities, bike shop and a boat museum.
- 3) Manage traffic and parking needs outside of the lakefront area, south of Excelsior Boulevard, as much as possible.

Goal 2

Promote the Excelsior Boulevard corridor to become more walkable, pedestrian and bike-friendly street.

Objectives

- 1) Expand the sidewalk system and create a high-quality pedestrian environment.
- 2) Place parking behind or on the side of new buildings, not between buildings and the street.
- 3) Create a vibrant crossroads where Minnetonka Boulevard, the regional trail, and trolley cross Excelsior Boulevard, such as a new public plaza, trailhead, and street-oriented restaurants/stores.

Goal 3

Evolve East Side into a vibrant mixed-use neighborhood that offers views of and easy walking to the lakefront.

Objectives

- 1) Allow new housing that provides a variety of housing options in the East Side area and broader Excelsior.
- 2) Develop new buildings to fit the scale of Excelsior with lower scaled buildings near the lakefront and along the Excelsior Boulevard frontage and higher scale buildings away from Excelsior Boulevard and the lake.
- 3) A minimum building height of two stories is preferred.

Goal 4

Enhance the economic viability and physical appearance of the East Side area.

Objectives

- 1) Support redevelopment of underutilized sites, including large surface parking lots.
- 2) Leverage redevelopment as opportunities to bring new housing options to East Side and Excelsior.
- 3) Explore opportunities for the development of a public/private parking structure to support the area's existing and future development and corresponding parking needs.

Historic Preservation

Goal 1

Continue to promote Excelsior's reputation as a community where historic preservation is a vital part of the community's identity.

Objectives

- 1) Create a Structures of Merit list and periodically contact owners of properties on the Structures of Merit list to gauge interest in individual designation; schedule public information meetings to discuss.
- 2) Recognize and protect significant historic properties through official designation as historic landmarks and districts based on designation criteria set forth in the historic preservation ordinance.
- 3) Nominate the Downtown Historic District, or parts thereof, to be listed on the National Register.
- 4) The City should set an example as a responsible steward of preservation and adaptive re-use of City-owned historic buildings.
- 5) Maintain its status as a Certified Local Government.
- 6) Install signs that indicate the boundaries of the Downtown Historic District.

Goal 2

Continue to promote historic preservation and its importance in maintaining community character, identity and unique features that define Excelsior through public education.

Objectives

- 1) Develop, support and promote methods to educate and communicate local history to residents and visitors.
- 2) Educate residents and property owners on the preservation process, and the economic benefits and incentives of historic preservation.

- 3) Promote Excelsior's historic preservation accomplishments. Continue recognizing property owners for good preservation practices. Schedule preservation activities during Preservation Month (May).

Goal 3

Develop strong public-private partnerships for the preservation of the City's historic resources.

Objectives

- 1) The Heritage Preservation Commission should keep its Design Manual up to date so that Site Alteration Review continues to maintain a high level of integrity, consistency and collaboration.
- 2) Retain a library of resources available to owners of historic resources.
- 3) The City should develop financial assistance that would benefit buildings that are designated historic.
- 4) The City and Heritage Preservation Commission shall pursue outside funding support for preservation activities.

Goal 4

Ensure that preservation issues are considered in all pertinent City actions.

Objectives

- 1) Excelsior's City Council, Heritage Preservation Commission, Planning Commission, Park and Recreation Commission and city staff shall work together to ensure that preservation issues are considered in all pertinent City actions.
- 2) The Heritage Preservation Commission shall submit an annual report that details their accomplishments for that year and priorities for the upcoming year to the

City Council, Park and Recreation Commission and Planning Commission.

- 3) Assure that municipal regulatory policies are conducive to preservation. City departments should consider the impact on historic preservation in the development and enforcement of land use, building code, fire code and other regulations.



Transportation and Circulation

Goal 1

Approach transportation in a comprehensive manner, giving attention to all modes while providing safe and convenient movement of all persons and vehicles.

Objectives

- 1) Consider all modes of transportation and related facilities as a system to be coordinated and related on a comprehensive basis in the planning and development of the transportation system.
- 2) Encourage citizen involvement in transportation planning and implementation projects.
- 3) Bicycle and pedestrian trail access throughout the community will be planned for both for its transportation and its recreational values.
- 4) Work to provide effective communication to the many non-local travelers in Excelsior to maximize the benefit of that traffic to the commercial district, as well as to maximize public safety and protect residential neighborhoods.
- 5) Implement safety improvements to address high crash locations or other dangerous areas of concern.
- 6) Bring sidewalks, trails and intersections into compliance with ADA standards.
- 7) Review and assess pavement needs and include necessary roadway, trail and other transportation system maintenance needs in an improvement program.
- 8) Preserve necessary rights-of-way for roadway, trail and sidewalk improvements identified as part of a 20-year transportation planning vision.

Goal 2

Coordinate transportation planning and implementation with state, county, and other local jurisdictions.

Objectives

- 1) The City will follow MnDOT and Hennepin County access management guidelines when reviewing development proposals and considering requests from developers and other private property owners.
- 2) The City will coordinate, as necessary, with MnDOT and Hennepin County to maintain a well-connected system of collector and arterial roadways with adequate capacity to accommodate emergency and public safety vehicles, regional travel patterns and truck freight.
- 3) Coordinate with Met Council and others to ensure that existing and future transit services are adequate to accommodate anticipated demands.
- 4) Cooperate with neighboring jurisdictions on coordination of street, roadway, and trail extensions and improvements.
- 5) Plan for a highway and local road system that complements and facilitates local movement provided by local streets, bicycle trails, and pedestrian facilities.

Goal 3

Develop a system of priorities for improving the various elements of the transportation network emphasizing appropriate standards of safety and efficiency.

Objectives

- 1) Promote the use of on-street parking as long as it does not conflict with moving traffic or create hazards.
- 2) Relate street improvements to redevelopment projects in order to minimize interrupted or inadequate access.
- 3) Require design and control of all intersections to promote proper visibility, safety, and crosswalks as needed.
- 4) Develop a uniform system and policy regarding public signage which eliminates unnecessary signs and replaces outdated, inappropriate and confusing public signs.

- 5) Correct traffic safety hazards within the community as these are identified.
- 6) Explore parking and traffic management solutions for high use areas.
- 7) Work on traffic calming measures to lower speed on roadways throughout the City.

Goal 4

Provide enhanced mass transit options for the residents of Excelsior and the South Lake Minnetonka Area.

Objectives

- 1) Work with the Metropolitan Council and State representatives on development of enhanced transit systems for Excelsior and the South Lake Minnetonka area.
- 2) Encourage options for increased rideshare programs and expand park and ride facilities in Excelsior, especially as the transit needs increase for an aging population.
- 3) Participate in feasibility studies for mass transit and rail options for Excelsior and the South Lake Minnetonka area.

Goal 5

Continue a positive working relationship with MnDOT on issues related to Highway 7.

Objectives

- 1) Work with MnDOT on issues related to Highway 7 including: bridge maintenance and reconstruction, bicycle and pedestrian access, noise control, lighting, signage, landscaping, and other issues concerning the City.
- 2) Work with MnDOT to assure maintenance of the existing roadway systems.



Infrastructure and Development

Goal 1

Support future population and job growth as required by Thrive MSP 2040, reducing sprawl development through redevelopment and a compact urban form, while maintaining and enhancing an attractive quality of life for Excelsior residents.

Objectives

- 1) Maintain a compact urban form by focusing higher density development in Mixed-Use areas around Downtown.
- 2) Promote carefully organized growth compatible with Excelsior's small-town character through land use regulations and design standards that reduce impacts on natural resources and provide opportunities for local economic growth.
- 3) Encourage developers to use qualified design professionals to enhance the visual quality of development.

Goal 2

Maintain high-quality, green and efficient infrastructure systems through regular investment and maintenance to meet the changing needs of the City today and in the future.

Objectives

- 1) Continue to provide reliable and cost effective utility services allowing growth to dictate timing and location of new infrastructure.
- 2) Provide residents and businesses with affordable potable water that is safe and high quality. Operate and maintain the water system to ensure its long-term function with equitable user charges.

- 3) Continue to educate the community about water conservation.
- 4) Protect the groundwater source from contamination by conforming to the Wellhead Protection Plan.
- 5) Provide adequate water supply and pressure for residents and businesses.
- 6) Continue to manage existing utility infrastructure efficiently, anticipating the need for repair or replacement and combining with street reconstruction projects where possible to minimize the expenses over time.
- 7) Continue to line or replace sanitary sewer pipes during street reconstruction projects to reduce Inflow and Infiltration.
- 8) Continue to be an adaptive and resilient community that utilizes the latest environmentally conservative methods of drinking water conservation and stormwater and wastewater management.
- 9) Continue efforts to become a "green community" by integrating sustainability practices into existing City ordinances.
- 10) Consider developing a system to recognize and encourage water conservation in City facilities. Progress towards achieving water use reduction will be communicated to City staff and facility users.
- 11) Work with the Metropolitan Council and adjoining communities to provide a mutually cooperative sanitary sewer system and emergency water service.

Goal 3

Preserving the water resources of the lakes, wetlands and streams is recognized as a high priority in Excelsior.

Objectives

- 1) Manage land disturbance and increased impervious surfaces to prevent adverse impacts to water resources and minimize public capital expenditures needed to correct flooding and water quality problems.
- 2) Identify and plan for means to effectively protect and improve surface and groundwater quality.
- 3) Prevent erosion of soil into surface water systems.
- 4) Promote groundwater recharge.
- 5) Protect and enhance fish and wildlife habitat and water recreational facilities.
- 6) Manage the City's floodplains, shorelands and natural areas to preserve the functions and values of these resources for future generations.
- 7) Manage water resources and drainage systems on a citywide scale.
- 8) Coordinate local surface water management with the work of watershed management organizations and state agencies.
- 9) The City will seek grant funds or other resources to assist with special projects or implementation of plan goals.
- 10) The City will develop and maintain a public education program for landowners to promote reduction of nutrient and sediment loading to water bodies. The City will encourage residents and landowners to practice environmental friendly lawn care and to encourage the use of native plantings or natural landscapes, where practical.
- 11) The City will promote citizen and volunteer efforts to protect, restore and enhance local water and natural resources.
- 12) Continue to operate and maintain stormwater management systems.



Community Facilities

Goal 1

Ensure the provision of high-quality public facilities, including municipal and education facilities, for all residents of the City of Excelsior.

Objectives

- 1) Work with the various public and private schools to ensure safe and adequate access to school sites.
- 2) Continue to support the operation of other important community service providers, such as Ridgeview Medical Center, to maintain a positive and mutually beneficial relationships with each organization.
- 3) Continue to implement and expand a Capital Improvement Program that addresses the repair and improvement of community facilities including streets, utilities, storm water management, community buildings, and parks.
- 4) Continue to use historic streetlights and other historic elements as part of all private and public redevelopment projects.
- 5) Work to enhance the local shopping environment through public improvements, such as landscaping, seating areas, additional street trees, and incorporating native species as a way of contributing to the areas' identity.
- 6) Work on enhancements to the east and west municipal parking lots to include coordinated trash containment, landscaping, underground utility wires, and rear building façade improvements.
- 7) Keep all public buildings and grounds well maintained.
- 8) Adequately screen, landscape and buffer public facilities in order to minimize their impact on surrounding uses and enhance the community and area in which they are located.
- 9) Renovate City Hall, bringing it into compliance with the Americans with Disabilities Act (ADA).
- 10) Support the continued location of the U.S. Postal Service in Excelsior.
- 11) Cooperate with other local jurisdictions on maintenance and enhancements, as needed, of the police and fire complexes.
- 12) Retain fire lanes as public use areas and preserve the lake views created by these open spaces.

Goal 2

Utilize sustainable development principles in Excelsior whenever feasible.

Objectives

- 1) Work to incorporate sustainable development principles and practices into the design, construction, and operation of community facilities and projects.
- 2) The use of green building practices should be employed in City construction projects.



Parks, Open Space and Environmental Features

Goal 1

Protect, preserve and improve Lake Minnetonka and environmentally sensitive areas to actively preserve and enhance these resources for future generations.

Objectives

- 1) Restrict or prohibit development/redevelopment within Excelsior's drainageways, floodplains, wetlands, and other natural features which perform important environmental functions in their natural state.
- 2) Require all development/redevelopment to manage its on-site storm water generation to ensure no negative impact to downstream flooding or water quality.
- 3) Preservation of a site's inherent physical attributes such as tree cover and topography shall be an important priority and consideration of all park and trail development.
- 4) Preserve open spaces such as fire lanes for access to the lake and as view corridors.
- 5) Landscaping and tree planting in the parks, along trails and boulevards shall enhance the facilities, buffer adjacent and internal uses, provide shade and comfort for participants and create unique spaces within the park or trail.

Goal 2

Establish and maintain recreation facilities that maximize participation by residents and non-residents to overcome physical or economic limitations regardless of age, race, or gender.

Objectives

- 1) Provide facilities for seniors and disabled persons as the needs for those facilities and services dictate.

- 2) Evaluate the younger and aging population in Excelsior and their future needs in relation to existing facilities and programs.
- 3) Provide programming that is important and valued in proximity to the residents, and provide the programming that can be realistically supported by the City and its residents.

Goal 3

Preserve The Commons and the Port of Excelsior as the preeminent City asset to be enjoyed by its residents and to be shared with the greater community.

Objectives

- 1) Work to enhance the facilities, maintenance, appearance, landscaping, and trees of The Commons and Port.
- 2) Consider the Port of Excelsior as a gateway to the community and as such, make the area a community gathering space, add restrooms and enhance the service areas for charter boats.
- 3) Implement the improvements proposed in the Excelsior Commons Conceptual Guide Plan.

Goal 4

Develop the Excelsior – Studer Park as a community asset that can be utilized and enjoyed by all residents.

Objectives

- 1) Develop a plan for the potential re-use/facility options for the Excelsior - Studer Park.
- 2) Improve access to the Park over/under County Road 19 and by the addition of a trail from College Avenue to the Park.
- 3) Work to improve the signage, appearance, and maintenance of the Park.

Goal 5

Provide linkages within Excelsior and to neighboring communities and regional systems via a safe and convenient comprehensive multi-use trail/sidewalk/walkway system.

Objectives

- 1) Work with Mn/DOT, Hennepin County, and Three Rivers Park District on trail/sidewalk/walkway connections and construction that affect each of the jurisdictions
- 2) Maintain all trails and walkways in good repair and ensure that designated trail segments are kept open and clear of snow throughout the year unless designated for winter use.
- 3) Provide support facilities such as bike racks, benches, and signage in conjunction with trail and walkway development.
- 4) Consideration shall be given to safety, visibility, and emergency access for all trails and walkways.

Goal 6

Maintain an ongoing planning and development process for the development, enhancement and maintenance of Excelsior's park, trail and walkway system.

Objectives

- 1) Promote public participation in the planning process via the Park Commission by hosting forums for open discussion of issues, by newsletter, and the City's website.
- 2) Financing for the development of the park, trail and open space system should be provided through a variety of revenue resources to include the general fund, park dedication fees, grants, bond referendums and donations.
- 3) Staff will provide a five-year capital improvement program (CIP) that defines priorities and cost estimates for acquisition and development of parks, recreation

facilities and trails to assist in the planning and budgeting for these projects.

- 4) Minimize park, trail, and walkway construction costs by constructing trails in conjunction with State, County and City street improvements.
- 5) Provide for the efficient maintenance and operation of clean, orderly, controlled, safe, and attractive parks and trails.
- 6) Develop a clear and concise system of park, trail, and walkway graphics and signage that direct people along trails and into parks to specific points of interest.
- 7) Develop ways in which to promote citizen interest and volunteer involvement in the City's park, trail, and walkway system.

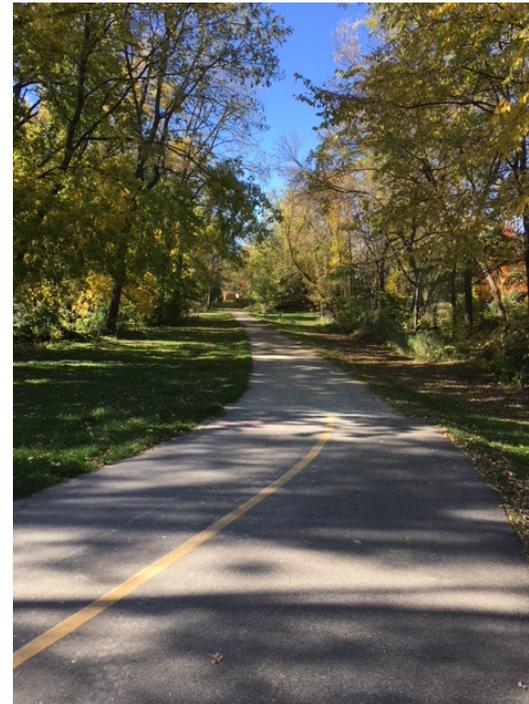


Image and Identity

Goal 1

Maintain an attractive and distinctive community image and identity that builds upon and enhances Excelsior's traditional and historic qualities and characteristics, and distinguishes it from surrounding communities.

Objectives

- 1) Maintain and enhance the City's "small town" atmosphere and character.
- 2) Ensure that new development and redevelopment complements and reinforces the existing desired character of the community.
- 3) Maintain the attractive tree-lined streets, pedestrian scale and other distinguishing qualities of Excelsior's residential neighborhoods.
- 4) Reinforce and strengthen the traditional role of Downtown as the City's centralized, multi-purpose focal point with a unique charm, appeal and historic character.
- 5) Design and enhance public sites and buildings so that they become focal points and landmarks within the community.
- 6) Encourage compatible and high-quality design and construction for all development/redevelopment with an emphasis on site design, building orientation, architecture, building materials and site improvements.
- 7) Provide for consistent and high-quality maintenance of all local streets, sidewalks, water towers and other visible municipal infrastructure.
- 8) Review existing and install new wayfinding signage to direct vehicles and pedestrians to key community destinations.
- 9) Sponsor and promote programs, activities, events, and celebrations that can stimulate public involvement and participation, foster a strong and unified community

spirit and identity, and bring together residents on a regular basis.

- 10) Work with the owners of the Wyer Peirce house to thin out some of the vegetation to highlight this historic landmark, which is on the National Register.

Goal 2

Create a community that is kid-friendly and safe for our children.

Objectives

- 1) Create family friendly public amenities that are safe for children to play and interact with one another in parks and open space, as well as in more urban "hardscape" environments such as public plazas.
- 2) Maintain a good working relationship with local schools to ensure that Excelsior Schools remain among the best in the district, which is important to the positive development of our children.



City Services and Administration

Goal 1

Continue to ensure high-quality and efficient services are provided to residents and businesses through a well-organized, and participatory support system allowing both neighborhoods and business to thrive.

Objectives

- 1) Work with appropriate agencies and community service providers to provide reliable infrastructure and quality services to the residents and businesses within the community including fire protection, police protection, electricity, water supply and distribution, sanitary sewers, and telecommunications.
- 2) Regularly review the City's Zoning Ordinance to ensure it meets the changing needs of the community, specifically consolidating the six different commercial zoning districts to the four described in the Commercial chapter of the Comprehensive Plan.
- 3) Periodically review and update development related fees to ensure equitable compensation to the City for impacts on public facilities and services.
- 4) Prioritize the Capital Improvement Plan (CIP) projects to implement desired CIP goals and policies.

Goal 2

Maintain a high level of communication with residents, business owners, property owners and partner agencies.

Objectives

- 1) Continue community outreach efforts for large planning and capital projects, including opportunities for public review and comment such as open houses or online tools to solicit input and feedback.

- 2) Continue to regularly update and publish information through the City's multiple news platforms including the City website, the City newsletter, and local newspapers.
- 3) Maintain transparency related to City operations, including public finances and large City expenditures.

Goal 3

Encourage planning on a regional level and promote cooperation among neighboring jurisdictions.

Objectives

- 1) The City will continue to work with neighboring Cities of Shorewood, Tonka Bay, Greenwood, Deephaven, and Hennepin County on issues of regional importance.
- 2) The City will continue to work with neighboring cities and organizations for sharing of necessary services.
- 3) Maintain communication between City, County and the School District to address community, regional and school issues.

B

**APPENDIX: Comprehensive Sewer
Plan**

EXECUTIVE SUMMARY

Introduction

The City of Excelsior's Comprehensive Sanitary Sewer Plan evaluates the City's existing sanitary sewer system and wastewater flows, projects future wastewater flows through the year 2040, and proposes infrastructure improvements to satisfy the future flows. This report has been prepared according to the guidelines established by the Metropolitan Council, who use this report to plan for their regional wastewater collection and treatment systems.

Existing System

The City of Excelsior's sanitary sewer system is a collection system only and is divided into eight sanitary sewer service districts. The system includes 10.5 miles of gravity sewer, six lift stations, and 1.43 miles of sanitary forcemain.

Population and Wastewater Flow

The population of the City of Excelsior has remained relatively constant since 2005. Metering data from the Metropolitan Council from the past five years indicate that the City produces an average wastewater flow of 0.24 million gallons per day (MGD).

Growth and Demand Projections

The Metropolitan Council projects that the population served by the City of Excelsior's sanitary sewer system will increase slightly over the lifetime of this Plan, while its average wastewater flow generation will remain relatively constant.

Proposed Improvements

The City of Excelsior's existing sanitary sewer collection capacity will be sufficient to accommodate the projected population and its wastewater flows through the year 2040. However, in order to maintain the system in good condition, inspection and rehabilitation of the sanitary mains and lift stations will be required. A schedule of the maintenance and rehabilitation work anticipated to sustain the system is outlined in greater detail in the Capital Improvements Program section.

Appendix 2: Comprehensive Sanitary Sewer Plan

2.1 INTRODUCTION

Purpose

The City of Excelsior, located in Hennepin County, is currently fully developed, and all the properties within the City limits are currently serviced by the City's sanitary sewer utility. To accommodate the existing and projected population, the City initiated an update to the 2008 Comprehensive Sanitary Sewer Plan in conjunction with the City's 2040 Comprehensive Plan and in accordance with Minnesota Statute 473.513. The purpose of this study is to provide the City with an updated plan to serve existing and future residents and also to identify existing system facilities and deficiencies.

Scope

The scope of this study incorporates the population projections from the City's overall 2040 Comprehensive Plan to project sanitary sewer flows for the City of Excelsior through the year 2040. The potential 2040 service area was defined as all areas within the City that are currently served by the City's sanitary sewer system and was based on the current Land Use Plan prepared for the City's 2008 Comprehensive Plan. The 2040 service area for the City is considered to be the full build-out of the City's service area, generally defined as the entire community. Based on the 2030 service area, sanitary sewer districts were defined. Existing and future sanitary sewer flow rates were calculated for each district based on the respective land uses. Projected sanitary sewer flow rates were used to analyze the existing trunk sanitary sewer and lift station capacity.

Data Available

In preparing this report, the following sources of information were utilized:

- Existing Sanitary Sewer GIS Information prepared by WSB & Associates, Inc.
- City of Excelsior Sanitary Sewer Infiltration and Inflow Study prepared by WSB & Associates, Inc., dated April 23, 2007
- MCES System Statement for City of Excelsior
- MCES Metering Data
- MCES Sanitary Sewer Design Peaking Factors

2.2 EXISTING CITY SANITARY SEWER SYSTEM

Overall Sanitary Sewer Service Area

Typically, sanitary sewer systems consist of two elements: collection and treatment. Collection systems include sewer services, trunk sewer pipe, manholes, lift stations, and forcemains which collect the sewer flows from private residential, commercial, and industrial properties within a city. Treatment systems include the biological or chemical treatment in order to remove targeted contaminants from the wastewater.

The City of Excelsior's existing sanitary sewer system is a collection system only; the Metropolitan Council Environmental Services (MCES) provides treatment for Excelsior's sanitary sewer flows. MCES is also responsible for major trunk facilities conveying wastewater across City boundaries to regional treatment facilities. All wastewater flows from the City of Excelsior entering the MCES Interceptor system and is conveyed to the MCES Blue Lake Wastewater Treatment Plant (WWTP) located in the City of Shakopee, directly adjacent to the Minnesota River.

The sanitary sewer service area is defined as the area from which wastewater flows are collected by the City's regional system. The existing service area within the City of Excelsior is comprised of the entire City and is approximately 300 acres which excludes the lakes, open park land, and road right-of-ways. This service area is shown on **Map 2.1** that is included in **Appendix 2-A**. Eight sanitary sewer service districts were developed within the City boundaries based on trunk gravity service and lift station service areas. These districts were used to develop design flows and analyze existing trunk facility capacities.

Gravity Sanitary Sewer

The City of Excelsior's gravity sanitary sewer system consists of approximately 10.5 miles of gravity sanitary sewer pipe ranging from 8- to 12-inch diameter in size. The original sanitary sewer system was constructed in 1938 and was continually expanded through the 1970s to meet development demands. The entire system discharges into the MCES trunk sewer and treatment system. The existing gravity sanitary sewer trunk mains (8-inch diameter and larger) and the MCES forcemain are shown on **Map 2.2** included in **Appendix 2-A**.

The City of Excelsior was identified as having excessive infiltration and inflow (I/I) by MCES. The City developed an infiltration and inflow (I/I) study to identify possible sources of I/I in 2007. The study presented a number of improvements to reduce the amount of I/I entering the City's sanitary sewer system. The report was submitted to the MCES, and the City's surcharge was deferred as the City committed to spending the surcharge amount on City projects aimed at reducing I/I. The I/I capital improvements program developed with this study is available upon request. The City prohibits the

connection of sump pumps, rain leaders, and passive drain tile into the sanitary sewer system.

Lift Stations

The City of Excelsior’s sanitary sewer system consists of six lift stations ranging from a small 30 gallons per minute (gpm) station to a large 405 gpm lift station and approximately 1.43 miles of forcemain. The lift station capacities vary depending on size of service area.

The locations of the existing lift stations, shown on **Map 2.2. Table 2-1**, summarizes capacity information for each of the lift stations:

Table 2-1. Existing Lift Station Information

<i>Lift Station Area</i>	<i>Year of Construction</i>	<i>Approx. Length of Forcemain (feet)</i>	<i>Pumping Capacity (gpm)</i>	<i>Control Panel Age</i>	<i>Pump Age</i>
Lafayette		30	90		
3 rd Avenue	2002	600	100	2002	2002
Highway 7	1982	63	280	2008	2008
Cemetery	1966	20	30	1966	1966
Park	1969	20	100	2002	2002
Excelsior	2001	40	405	2001	2006/2007

Individual Sewage Treatment Systems (ISTS)

All portions of the City are currently served by the City’s sanitary sewer system, and there are no areas served by ISTS.

Community Treatment Systems

There are no public or private community treatment system within the City of Excelsior. All properties within the City are served by the City’s sanitary sewer system.

2.3 MCES SANITARY SEWER SYSTEM

The majority of the wastewater generated in the City of Excelsior is conveyed to one MCES lift station identified as the L19 Lift Station and then discharges to a 24-inch MCES forcemain. The remainder of the wastewater generated in the City is discharged directly to the 24-inch MCES forcemain from the Excelsior Lift Station. The wastewater is then conveyed to the Blue Lake Wastewater Treatment Plant, the third largest of the Met Council's treatment plants. The Blue Lake WWTP is located near the Minnesota River in Shakopee.

Two MCES meters measure the sanitary flow rates from the City of Excelsior's sanitary sewer system prior to the flows entering the interceptor system that conveys wastewater to the Blue Lake Wastewater Treatment Plant. The existing sanitary sewer lift station service areas and MCES meter locations are shown on **Map 2.1** and **Map 2.2** in **Appendix 2-A**.

The two meters, Meter 417 and Meter 417A, are located at the intersection of County Road 19 and Oak Street and at the intersection of Excelsior Boulevard and 2nd Street, respectively. Meter 417A measures all flow from the Park and Excelsior Lift Station sewer sheds with the remaining sewer being measured by Meter 417. The two meters, when added together, measure the total flow from the City of Excelsior.

2.4 LAND USE

Land Use Breakdown

The Land Use Plan for the City of Excelsior is described in the previous chapters of this Comprehensive Plan. This plan was developed by the City and separates the planning area into ten (10) different land-use categories. Land use is a critical factor in determining future sanitary sewer alignments and sizes due to the fact that different land uses generate different wastewater flow rates. The following table presents the current City land-use breakdown:

Table 2-2. Land Use Summary

<i>Land Use Designation</i>
Business/Warehousing
Commercial
Low-Density Residential
Medium-Density Residential
High-Density Residential (Apartments)
High-Density Residential (Condos)
Open Space/Wetland
Churches
Public/Semi-Public
Parks

Existing Developed and Developable Areas

The City of Excelsior's 2040 Urban Service Area, in accordance with the Land Use Plan, is approximately 0.87 square miles or 554.50 gross acres. Currently, all portions of the City of Excelsior are served by City municipal sewer service. The 2040 Urban Service Area includes the existing served areas and any growth in population that may occur by the year 2040 will result from the re-development of existing serviced areas. Undevelopable land-use categories that are not serviced by existing sanitary sewer include open space, wetlands, and water.

Existing developed and undevelopable areas as defined in the Land Use Plan were subtracted to obtain a developable acreage of 268.55 acres. This is identified as "Net" Developable Acreage because it does not include right-of-way and open space or public/park areas. In communities of similar size, roads, open space, and parks typically consume 25 percent to 30 percent of the gross area within a development.

2.5 SANITARY SEWER DISTRICTS

To assist in analyzing the current infrastructure capacity and future infrastructure needs, the existing service area was divided into major service areas or districts according to the lift station sewer sheds. The sanitary sewer service area for the City of Excelsior is divided into eight major sanitary sewer districts designated by the name of the lift station that serves the respective area. **Map 2.1** in **Appendix 2-A** shows the major sanitary sewer districts. The following sections describe the major sanitary sewer districts:

Lafayette District

The Lafayette Sanitary Sewer District consists of approximately six acres of developed land served by the Lafayette Lift Station. The sanitary sewer district is located in the Northwest portion of the City directly adjacent to Gideon Bay on Lake Minnetonka. The district is bordered by the City's west boundary, Beehrle Avenue to the south, and Lafayette Street to the east.

The entire district is zoned low-density residential and is served by an 8-inch sanitary sewer. The Lafayette Lift Station located on Lafayette Street has a pumping capacity of 90 gallons per minute which is sufficient to serve the entire district. The sanitary sewer is then pumped to the Central Gravity Sewer District prior to entering the MCES L19 Lift Station located at Beehrle Avenue and Oak Street.

Park District

The Park Sanitary Sewer District consists of approximately three acres of developed land served by the Park Lift Station. The sanitary sewer district is located in the north portion of the City directly adjacent to Gideon Bay on Lake Minnetonka. The district is bordered by Lindwood Avenue to the south and west and Grove Street to the east.

The district is zoned low-density residential, medium-density residential, and parks. The district is served by an 8-inch sanitary sewer and the Park Lift Station, which is located adjacent to 1st Street. The Park Lift Station has a pumping capacity of 100 gallons per minute which is sufficient to serve the entire district. The sanitary sewer is then pumped to the Excelsior Sewer District.

Excelsior District

The Excelsior Sanitary Sewer District consists of approximately 57 acres of developed land served by the Excelsior Lift Station. The sanitary sewer district is located in the north central portion of the City directly adjacent to Excelsior Bay on Lake Minnetonka. The district is generally bordered by 2nd Street to the south and Minnetonka Boulevard to the east.

The district is zoned a combination of low-density residential, medium-density residential, high-density residential, churches, commercial, parks, and public/semi-public. The district is served by an 8-inch sanitary sewer and the Excelsior Lift Station located adjacent to Excelsior Boulevard and 2nd Street. The Excelsior Lift Station has a pumping capacity of 405 gallons per minute which is sufficient to serve the entire district in addition to the flows from the Park Sewer District. The sanitary sewer is then pumped directly to the MCES forcemain within Excelsior Boulevard and metered by the MCES Meter 417A.

Highway 7 District

The Highway 7 Sanitary Sewer District consists of approximately 47 acres of developed land served by the Highway 7 Lift Station. The sanitary sewer district is located in the east central portion of the City and is bordered by Excelsior Bay on Lake Minnetonka to the north, generally by Division Street to the east, the City's south boundary, and Mill Street and Minnetonka Boulevard to the west.

The district is zoned low-density residential, high-density residential, commercial, public/semi-public, and open space/wetland. The district is served by an 8-inch sanitary sewer and the Highway 7 Lift Station located adjacent to Highway 7 and east of Mill Street. The lift station has a pumping capacity of 280 gallons per minute which is sufficient to serve the entire district plus the flows received from the Cemetery Sewer District and the 3rd Avenue Sewer District. The sanitary sewer is then pumped to the Central Gravity Sewer District prior to entering the MCES L19 Lift Station located at Beehrle Avenue and Oak Street.

Cemetery District

The Cemetery Sanitary Sewer District consists of approximately seven acres of developed land served by the Cemetery Lift Station. The sanitary sewer district is located in the northeast portion of the City and is bordered by Excelsior Bay on Lake Minnetonka to the north, the City's east boundary, and Highway 7 to the south.

The district is zoned low-density residential and public/semi-public. This district also provides service to approximately 12 residential properties in Greenwood. The district is served by an 8-inch sanitary sewer and the Cemetery Lift Station located adjacent to Excelsior Boulevard. The lift station has a pumping capacity of 30 gallons per minute which is sufficient to serve the entire district. The sanitary sewer is then pumped to the Highway 7 District.

3rd Avenue

The 3rd Avenue Sanitary Sewer District consists of approximately 21 acres of developed land served by the 3rd Avenue Lift Station. The sanitary sewer district is located in the southeast portion of the City and is bordered by Highway 7 to the north, the City's east and south boundaries, and generally Division Street to the west.

The district is zoned churches and high-density residential. The district is served by an 8-inch sanitary sewer and the 3rd Avenue Lift Station located at 3rd Avenue and Division Street. The lift station has a pumping capacity of 100 gallons per minute which is sufficient to serve the entire district. The sanitary sewer is then pumped to the Highway 7 District.

Shorewood District

The Shorewood Sanitary Sewer District consists of approximately two acres of developed land within the City of Excelsior that is served directly by the City of Shorewood's sanitary sewer system. The sanitary sewer district is located in the south portion of the City and is bordered by the City's south boundary.

The entire district is zoned low-density residential. The district is served by an 8-inch gravity sanitary sewer that flows directly to the City of Shorewood.

Central Gravity Sewer District

The Central Gravity Sanitary Sewer District consists of approximately 169 acres of developed land that is directed by gravity sewer to the MCES Interceptor system. The sanitary sewer district is located in the southwest central portion of the City and is generally bordered by 2nd Street to the north, Mill Street to the east, and the City's south and west boundaries.

The district is zoned low-density residential, medium-density residential, high-density residential, commercial, business/warehousing, churches, industrial, parks, public/semi-public, and open space/wetland. This district also provides sanitary service to approximately 39 residential properties within the City of Shorewood. The district is served by an 8-inch to 12-inch gravity sanitary sewer that is extended directly to the MCES L19 Lift Station located at Beehrle Avenue and Oak Street. Prior to entering the MCES Interceptor forcemain, the sewer flows are metered by the MCES Meter 417.

2.6 GROWTH PROJECTIONS

Projected Growth

Historical growth data for the study area from the Minnesota State Demographer's office is included on **Table 2-3**. The City of Excelsior exhibited a decline in growth between 1970 and 2010 of approximately 15 percent.

Table 2-3. Historical Census Data

<i>Year</i>	<i>Population</i>	<i>Total Households</i>	<i>Employees</i>
1970	2,563	900	1,190
1980	2,523	1,149	1,947
1990	2,367	1,160	1,656
2000	2,393	1,199	1,823
2010	2,188	1,115	2,220

Table 2-4 below shows the assumed population growth and sewer population through the year 2040 by MCES Metershed. It is assumed this growth is due to the redevelopment of existing areas that are currently served by the City's sanitary sewer system. All of the population shown in **Table 2-4** is served by MCES Interceptor 7017.

Table 2-4. Population Projections

<i>Year</i>	<i>M415</i>			<i>M417</i>			<i>M417A</i>		
	<i>Popn.</i>	<i>Hhds.</i>	<i>Empl.</i>	<i>Popn.</i>	<i>Hhds.</i>	<i>Empl.</i>	<i>Popn.</i>	<i>Hhds.</i>	<i>Empl.</i>
2010*	18	8	0	1,603	818	1,640	567	289	580
2020	18	8	0	1,930	972	1,550	570	290	650
2030	18	8	0	1,980	1,002	1,325	570	290	675
2040	18	8	0	1,980	1,002	1,700	570	290	700

2.7 EXISTING WASTEWATER FLOWS

Wastewater flows, in conjunction with available slope, govern the capacity of sanitary sewers. To determine the existing and, in subsequent sections, the future sanitary flows, existing water demand and MCES recommendations were considered. A value of 180 gallons per day (gpd) per unit was assumed for residential developments, and a value of 600-800 gallons per acre per day (gpad) was assumed for non-residential developments. These assumptions were used to calculate both the existing and future wastewater flows.

Total existing City wastewater flows are not measured for individual users; the total flows are only measured by MCES based on the regional connections to the system. Wastewater flows, therefore, must be estimated for each sewer district based on land use types. Typically, the average wastewater flow is approximately 70 percent of the water demand, which accounts for losses occurring largely due to lawn watering.

Table 2-5 presents the assumptions utilized during the development of this report to calculate existing wastewater flows by actual developed units and future flows by number of units per acre and/or gallons per day per acre:

Table 2-5. Wastewater Flow Calculation Assumptions

<i>Land Use Description</i>	<i>Units/Acre</i>	<i>Gallons/Acre/Day</i>
Business/Warehousing	-	800
Commercial	-	800
Industrial	-	800
Low-Density Residential	3	540
Medium-Density Residential	6	1,080
High-Density Residential	9	1,620
Open Space/Wetland	-	0
Churches	-	600
Public/Semi-Public	-	600
Parks	-	0

Residential Flow Rates

To determine the residential flow generation rates in gallons per gross acre, several factors were reviewed and several assumptions made. MCES typically uses 75 gpcd or 274 gallons per connection per day, which is verified in **Table 2-6** based on population and service data from 2012-2016. The data from **Table 2-6** suggests that an allocation of 180 gpd per unit is more reasonable.

Table 2-6. Historical Residential Wastewater Flow Rates

<i>Year</i>	<i>Estimated Population Served</i>	<i>Residential Water Use (gal/day)</i>	<i>Assumed Percent of Wastewater to Water Usage</i>	<i>Estimated Residential Wastewater Flow (gal/day)</i>	<i>Average Residential Wastewater Flow per Person (gal/day)</i>
2012	2,151	134,247	70%	93,973	43.7
2013	2,300	163,014	70%	114,110	49.6
2014	2,180	174,795	70%	122,356	56.1
2015	2,180	143,836	70%	100,685	46.2
2016	2,180	152,570	70%	106,799	49.0
Average					48.9

Non-Residential Flow Rates

Non-residential wastewater generators consist of Business/Warehousing, Commercial, Industrial, Churches and Public/Semi-Public land uses. As discussed previously, it is not possible to relate historical water-use records by separated land use areas. Therefore, existing wastewater flows were developed based on the water-usage records and allocating the remaining water demand flows to each non-residential acre. Water demand was used because it can be separated by non-residential and residential use based on provided data. Verifying water usage records and applying the MCES assumption for non-residential users of 600-800 gpad is a reasonable assumption for overall planning.

It is possible that a large user could develop within the system; therefore, some laterals may need to be increased in size at the time of construction. The cost to install larger laterals has not been accounted for as a part of this plan. These developments would need to be reviewed on a case-by-case basis as the development occurs.

Peak Flow Factors

The sanitary sewer collection system must be capable of handling not only average flows but also the anticipated peak flows. These peak flows can be expressed as a variable ratio applied to average flow rates. This variable ratio, called the peak flow factor, has been found to decrease as the average flow increases. The peak flow factors applied in this study to existing wastewater flows were based on MCES meter data. The peak flow factors applied to future wastewater flows were based on typical, MCES-supplied peaking factors. The MCES peak flow factors are generally considered conservative and are widely used for planning in municipalities throughout the Twin Cities metropolitan area. **Appendix 2-B** lists the MCES peaking factors.

The following table presents the existing average and peak sanitary sewer flows for the City of Excelsior calculated based on the acreage of each land use type and typical flows for that land use type, for each sewer district.

Table 2-7. Existing Wastewater Flows per Sewer District

<i>Sanitary Sewer District</i>	<i>Existing Average Day Projected Flow (MGD)</i>	<i>Peaking Factor</i>	<i>Existing Peak-Hour Projected Flow (MGD)</i>
Lafayette	0.004	8.8	0.032
Park	0.004	7.6	0.030
Excelsior	0.059	7.6	0.448
Highway 7	0.032	8.8	0.278
Cemetery	0.004	8.8	0.039
3 rd Avenue	0.031	8.8	0.272
Shorewood	0.001	8.2	0.012
Central Gravity	0.107	8.8	0.945
Total System	0.242	7.8	1.903

Note:

- Existing average day flows by district were estimated based on MCES meter data and land use types within each district.
- The peaking factor was calculated from MCES meter data.
- The peaking factor applied to the total system flow was scaled to reflect the lower peaking effect with higher average flow rates; therefore, the sum of district peak-hour flows does not equal the total system peak-hour flow.

Infiltration and Inflow (I/I)

Infiltration is clear water that enters the sanitary sewer system through defects in the sewer pipes, joints, manholes, and service laterals. Water that enters the sewer system from cross connections with storm sewer, sump pumps, roof drains, or manhole covers is considered inflow.

The quantity of I/I entering a wastewater collection system can be estimated utilizing wastewater pumping records, daily rainfall data, and water usage characteristics. Water from inflow and infiltration can consume available capacity in the wastewater collection system and increase the hydraulic load on the treatment facility. In extreme cases, the added hydraulic load can cause bypasses or overflows of raw wastewater. This extra hydraulic load also necessitates larger capacity collection and treatment components, which results in increased capital, operation and maintenance, and replacement costs. As sewer systems age and deteriorate, I/I can become an increasing problem. Therefore, it is important that I/I be reduced whenever it is cost effective to do so.

The MCES has established wastewater flow goals for each community discharging wastewater into the Metropolitan Disposal System (MDS) based on average daily flows, adjustments for community growth, and I/I mitigation peaking factors. These enforced wastewater flow goals are aimed at reducing excessive I/I within the City's sanitary sewer system and also the MCES interceptor system. In February 2006, MCES began an Ongoing I/I Program which requires communities within the MCES service area to reduce or minimize excessive I/I.

The City of Excelsior developed a Sanitary Sewer I/I Study following the implementation of the MCES Ongoing I/I Program, dated April 23, 2007. The City provided this study to MCES for approval and committed to spending the imposed surcharge amount on I/I reducing efforts. The study outlines the City's programs targeted at I/I reduction, listed below. An analysis of existing I/I follows on the next page.

- Annual Sewer Rehabilitation Projects
- Manhole Inspections
- Sump Pump Inspections and Point-of-Sale Disconnections
- Smoke Testing
- Educational Programs

The City of Excelsior’s sanitary sewer system currently consists of approximately twelve (12) miles of gravity main, six (6) lift stations, and 1,200 feet of forcemain. Approximately 88 percent of the residential housing in the City was constructed before 1970, and all of the pre-1970 private services were evaluated for I/I as part of the Sanitary Sewer I/I Study completed in 2007.

The amount of clearwater flow generated within the City was estimated by calculating the average annual and peak month I/I rates, equal to the average wastewater flow minus the base wastewater flow, using data from 2012-2016. The average flow, both annual and monthly, was calculated from MCES meter data. The peak month flow was determined for each year from 2012-2016, and then those peak month flows were averaged to give the value listed in **Table 2-8**. The base flow was calculated as the difference between average dry weather flow and groundwater infiltration, based on hourly meter data from a period of seven (7) days of dry weather (three days since a rain event) and high groundwater level (spring) in April-May 2016. The groundwater infiltration rate was calculated as the average nighttime flow during the same period.

Table 2-8. Estimated I/I Rate

<i>Metershed</i>	<i>M417</i>	<i>M417A</i>
Average Flow (MGD)	0.178	0.064
Peak Month Flow (MGD)	0.246	0.088
Base Flow (MGD)	0.119	0.034
Average Annual I/I Rate (MGD (%))	0.059 (33%)	0.030 (47%)
Peak Month I/I Rate (MGD (%))	0.128 (52%)	0.054 (62%)

The City also prohibits the connection of sump pumps, rain leaders, and passive drain tile into the sanitary sewer system, per the City ordinance excerpted below.

Sec. 34-35. - Sanitary sewer.

(c) Prohibition on introduction of stormwater. No person shall discharge or cause to be discharged directly or indirectly into the sanitary sewer collection system, any stormwater, surface water, groundwater, roof runoff, or subsurface drainage. Any person having a roof drain, foundation drain, sump pump, unauthorized swimming pool discharge, cistern overflow pipe or surface drain connected and/or discharging into the sanitary sewer shall disconnect and remove any piping or system conveying the water to the sanitary sewer system by July 1, 2006.

The City of Excelsior has routine projects directed at recognizing and correcting I/I. During the City’s annual street and utility improvement projects, selected segments are cleaned and televised to locate leaks or service connections with continuous flows. Appropriate corrective measures are then initiated with the affected property owner. The I/I reduction projects completed in the last ten years are shown in **Table 2-9**.

Table 2-9. I/I Reduction Projects

<i>Year</i>	<i>Project</i>	<i>Cost (if known)</i>
2009	Sanitary Sewer Lining Project	\$79,600
2010	Street Reconstruction Project	\$36,439
2011	Sanitary Sewer Lining Project	\$131,950
2011	Street Reconstruction Project	\$98,150
2013	Sanitary Sewer Lining Project	\$93,072
2013	Street and Utility Improvements	\$85,432
2014	Sanitary Sewer Lining Project	\$110,431
2014	Street and Utility Improvements	\$120,575
2015	Sanitary Sewer Lining Project	\$84,477
2017	Street and Utility Improvements	\$116,764
2018	Utility Improvements	\$31,525

As shown in **Table 2-9**, the City's recent I/I reduction efforts have focused on public sources of I/I. Private sources of I/I were evaluated in the 2007 Sanitary Sewer I/I Study, and smoke testing, sump pump disconnection, and point-of-sale inspection programs were begun at that time. The City has approximately twelve (12) miles of public gravity sewers and approximately thirteen (13) miles of private services. Given the work completed over the last ten years to reduce I/I in the public system, it is assumed that a greater proportion of the remaining I/I is from private or other sources. Other sources may include flow received from neighboring communities such as Shorewood and Greenwood, or flow downstream within MCES regional collection facilities. The City plans to continue using the televising completed in conjunction with annual improvement projects to identify private services contributing I/I and will line services to the right-of-way boundary where feasible.

The City also has an ongoing review of flows and discussions with consulting engineers to develop the next stage of improvement plans. Now that the majority of the public gravity sewers have been lined, the City is beginning to retelevise and reevaluate the condition of its lined sewers. The City of Excelsior has invested approximately \$1,000,000 over the last ten years on I/I reduction and plans for continued investment in the coming years. The rehabilitation that has been completed to date has resulted in a reduction of I/I. However, the remaining I/I continues to be a concern and is being addressed by the City. The budget and schedule related to planned I/I reduction work is included in the Sewer CIP in **Appendix 2-D**.

2.8 FUTURE SANITARY SEWER SYSTEM

Wastewater Flow Projections

Wastewater flow projections were calculated for each sanitary sewer district based on the existing wastewater flow, anticipated development land uses, and wastewater flow generation rates. The wastewater flow generation rates for the various land uses found in **Table 2-5** of this report were used to project the future wastewater flows for developable areas.

The total district average and peak flows were calculated using the projected land use for ultimate flows. Estimated peak-hour flows are not totaled as the peaking factor is dependent upon the average day-flow rate. Summing the projected peak-hour flow rates would produce a flow rate higher than the peak-hour flow rate for the entire City. Therefore, the following 2040 peak-hour flows were calculated by multiplying the total average flows by the MCES peaking factor of 3.7. **Table 2-8** below presents the projected 2020, 2030, and 2040 Average Day flows for each sanitary sewer district.

Table 2-8. 2040 Wastewater Flows per Sewer District

<i>Sanitary Sewer District</i>	<i>2020 Average Day Projected Flow (MGD)</i>	<i>2030 Average Day Projected Flow (MGD)</i>	<i>2040 Average Day Projected Flow (MGD)</i>
Lafayette	0.004	0.004	0.004
Park	0.004	0.004	0.004
Excelsior	0.059	0.059	0.058
Highway 7	0.032	0.031	0.031
Cemetery	0.004	0.004	0.004
3 rd Avenue	0.031	0.030	0.030
Shorewood	0.001	0.001	0.001
Central Gravity	0.107	0.107	0.107
Total System	0.242	0.241	0.240

<i>Sanitary Sewer District</i>	<i>Peaking Factor</i>	<i>2020 Peak-Hour Projected Flow (MGD)</i>	<i>2030 Peak-Hour Projected Flow (MGD)</i>	<i>2040 Peak-Hour Projected Flow (MGD)</i>
Lafayette	4.0	0.015	0.015	0.015
Park	4.0	0.016	0.016	0.016
Excelsior	4.0	0.236	0.234	0.233
Highway 7	4.0	0.126	0.125	0.125
Cemetery	4.0	0.018	0.018	0.018
3 rd Avenue	4.0	0.123	0.122	0.120
Shorewood	4.0	0.006	0.006	0.006
Central Gravity	4	0.429	0.428	0.427
Total System	3.7	0.896	0.892	0.887

Note:

1. Future average day flows by district were estimated based on land use types of parcels expected to develop or redevelop.
2. The peaking factors were taken from MCES standard peaking factors included in **Appendix 2-B**.
3. The peaking factor applied to the total system flow is less to reflect the lower peaking effect with higher average flow rates; therefore, the sum of district peak-hour flows does not equal the total system peak-hour flow.

Future Trunk Sanitary Sewer System Analysis

Existing sanitary sewer overall maps for pipe diameter were utilized to determine the ability of the existing trunk sanitary system to convey future wastewater flows. As-builts were referenced for pipe slope, and minimum pipe slopes were assumed for sanitary sewer trunk pipes if as-builts were unavailable or incomplete.

The MCES interceptor was not analyzed with the development of this report as MCES is responsible for monitoring flows and determining deficiencies for this main.

As mentioned previously, all lift stations and trunk pipe sewers have sufficient capacity for 2040 sanitary sewer flows. **Table 2-10** below shows existing and proposed lift station pump capacity as compared to future peak inflow, and **Table 2-11** shows existing and proposed trunk gravity main capacity.

Table 2-10. Trunk Lift Station Analysis

<i>Lift Station Area</i>	<i>Pumping Capacity (gpm)</i>	<i>2040 Peak-Hour Inflow (gpm)</i>	<i>Remaining Pumping Capacity (gpm)</i>
Lafayette	90	10	80
Park	100	11	89
Excelsior	405	162	243
Highway 7	280	87	193
Cemetery	30	12	18
3 rd Avenue	100	84	16

Table 2-11. Trunk Gravity Main Analysis

<i>Sanitary Sewer District</i>	<i>Pipe Diameter</i>	<i>Pipe Capacity (gpm)</i>	<i>2040 Peak-Hour Flow (gpm)</i>	<i>Remaining Pipe Capacity (gpm)</i>
Lafayette	8"	240	10	230
Park	8"	340	11	329
Excelsior	8"	340	162	178
Highway 7	10"	480	87	393
Cemetery	8"	265	12	253
3 rd Avenue	8"	340	84	256
Shorewood	8"	340	4	336
Central Gravity	12"	715	297	418

2.9 CAPITAL IMPROVEMENTS PROGRAM

A Capital Improvement Plan based on estimated trunk sewer construction is presented in **Appendix 2-D**. This table includes system improvements, rehabilitation efforts, and estimated years for the improvements to ensure the City's sewer system is in working condition. The overall cost associated with these improvements over the next five years (2017-2022) is approximately \$811,000.

Collection System Improvements

The following collection system improvements are detailed in the City's sewer system capital improvements fund for the years 2017 through 2022:

- Lining of Trunk Mains
- Inspection and Repair of Sewer Mains
- Televised Inspection of Sewer Mains
- Manhole Rehabilitation

The collection system improvements listed above will reduce I/I in the public collection system. In order to reduce I/I from private sources, the City will conduct the following activities:

- Smoke Testing
- Point-of-Sale Inspection (Sump Pump Disconnection)
- Televised Inspection of Service Connections

Lift Station Improvements

The following lift station improvements are detailed in the City's sewer system capital improvements fund for the years 2017 through 2022:

- Replace 3rd Avenue Lift Station Grinder
- Redesign and Replace Excelsior Lift Station
- Replace Park Lift Station Control Panel
- Replace 3rd Avenue Lift Station Pumps and Grinder Control Panel
- Replace Highway 7 Lift Station

Funding

The City's current sewer fee structure is provided in **Appendix 2-C**. Fees consist of sewer-user fees.

Utility usage fees are charged to both residential and non-residential users based on the actual water usage metered during the billing period. The purpose of the user charges is to fund the operation, maintenance, and replacement costs of existing collection systems. User charges are primarily based on the actual costs of operations, maintenance, and replacement of all wastewater system facilities.

APPENDIX 2-A

Map 2.1

Map 2.1 Sanitary Sewer Districts



Sewer Districts

- 3rd Avenue
- Cemetery
- Central Gravity Sewer
- Excelsior
- Highway 7
- Lafayette
- Park
- Shorewood

Gravity Main

Diameter

- 8"
- 10"
- 12"

+ MCES Meter

LS Lift Station

Forcemain

Excelsior Boundary



APPENDIX 2-A

Map 2.2

Map 2.2 Existing Sanitary Sewer System



- Gravity Main
Diameter**
- 8"
 - 10"
 - 12"
- MCES Meter**
- Lift Station**
- Forcemain**
- Sewer District**
- Excelsior Boundary**



APPENDIX 2-B

MCES Design Peaking Factors

MCES Flow Variation Factors for Sewer Design

Average Flow (MGD)	Peak Hourly Flow Factor
0.00 to 0.11	4.0
0.12 to 0.18	3.9
0.19 to 0.23	3.8
0.24 to 0.29	3.7
0.30 to 0.39	3.6
0.40 to 0.49	3.5
0.50 to 0.64	3.4
0.65 to 0.79	3.3
0.80 to 0.99	3.2
1.00 to 1.19	3.1
1.20 to 1.49	3.0
1.50 to 1.89	2.9
1.90 to 2.29	2.8
2.30 to 2.89	2.7
2.90 to 3.49	2.6
3.50 to 4.19	2.5
4.20 to 5.09	2.4
5.10 to 6.39	2.3
6.40 to 7.99	2.2
8.00 to 10.39	2.1
10.40 to 13.49	2.0
13.50 to 17.99	1.9
18.00 to 29.99	1.8
Over 30.00	1.7

APPENDIX 2-C

City of Excelsior Sanitary Sewer Fee Structure

Type of Fee	Conditions or Terms	Amount	Renewal Amt. if Paid After 12/15
Utility Rates	Service	In City Rate – Per Quarter	Out of City Rate – Per Quarter
Recycling	1 – 65 Gallon Container	\$14.50	
Refuse	1 – 90 Gallon Container	\$52.50	
	1 – 30 Gallon Container	\$49.80	
Sewer - Commercial	Fixed Charge – Per Meter	\$25.22	\$30.27
	Per 1,000 Gallons - Based on Water Usage	\$5.28	\$5.64
Sewer - Residential	Fixed Charge – Per Meter	\$25.22	\$30.27
Sewer – Residential – (Continued)	Per 1,000 Gallons - Based on Water Usage (1 st & 4 th Quarters will be based on actual usage; 2 nd and 3 rd quarters will be based on the average of the 1 st and 4 th quarters.	\$5.28	\$5.64
Spring Clean Up		\$4.00	
Street Lighting	Commercial / Institutional (Per Acre)	\$39.61	
Street Lighting – (Continued)	Commercial – Undeveloped (Per Acre)	\$39.61	
	Residential – Single and Two Family (Per Unit)	\$9.90	
	Residential – Multi-Family (Per Unit)	\$7.41	
Surface Water Quality Management Fee (SWQM)	Port of Excelsior – Commercial Boats – Per Seating Capacity	\$5.61	
	Residential Equivalent Factor (REF)	\$114.29	
	Business/Warehousing/Industrial	2.4 REF's Multiplied By Acreage	
	Commercial	2.3 REF's Multiplied By Acreage	
	High Density Residential	1.7 REF's Multiplied By Acreage	
	Low Density Residential	.25 REF's Per Lot	
	Medium Density Residential	1.1 REF's Multiplied By Acreage	
	Public/Institutional	1.5 REF's Multiplied By Acreage	
Water – Commercial With Irrigation Meter	Fixed Charge – Per Meter	\$28.81	\$34.60
	Every 1,000 Gallons or Portion Thereof	\$4.18	\$4.47
	0–20,000 Gallons (Per 1,000 Gallons)	\$4.18	\$4.47
	20,000-40,000 Gallons (Per 1,000 Gallons)	\$5.23	\$5.59
Water – Commercial Without Irrigation Meter	Over 40,000 Gallons (Per 1,000 Gallons)	\$7.84	\$8.37
	Fixed Charge – Per Meter	\$28.81	\$34.60
	0-20,000 Gallons (Per 1,000 Gallons)	\$5.23	\$5.59
Water – Irrigation Meters	Over 20,000 Gallons (Per 1,000 Gallons)	\$7.84	\$8.37
	Fixed Charge – Per Meter	\$28.81	\$34.60
	0–20,000 Gallons (Per 1,000 Gallons)	\$4.18	\$4.47
Water - Residential	20,000-40,000 Gallons (Per 1,000 Gallons)	\$5.23	\$5.59
	Over 40,000 Gallons (Per 1,000 Gallons)	\$7.84	\$8.37
	Fixed Charge – Per Meter	\$28.81	\$34.60
	0–20,000 Gallons (Per 1,000 Gallons)	\$4.18	\$4.47
Yard Waste Fee	Fall Leaf Pickup	\$2.25	

APPENDIX 2-D

City of Excelsior Sanitary Sewer Capital Improvements Plan

SEWER CIP

YEAR	PROJECT/SERVICE/EQUIPMENT	NOTES	EST. COST
2017	Replace 2000 Sewer- Vac Truck.		\$175,000
2017	Televise sewer services.	Keep televising each year until city is done.	\$16,000
2017	Replace sewer grinder 3 rd ave. lift station.	5yr. replacement plan.	\$15,000
2017	Install natural gas stationary generator	Exc. Blvd lift station.	\$28,000
2018	Draw up plans for replacement of Exc. Blvd. lift station.		\$3,000
2018	Televise sewer services.		\$16,000
2018	Sewer main lining		\$30,000
2018	Replace 1978 lift station	Exc. Blvd.	\$175,000
2019	Televise sewer services.		\$16,000
2019	Replace 1974 sewer generator		\$25,000
2020	Televise sewer services.		\$16,000
2020	Sewer main lining.	Evaluate what is left to line.	\$30,000
2020	Replace control panel for park lift station.	(It was a quick cheap panel)	\$22,000
2021	Televise sewer services.		\$16,000
2021	Replace 3 rd ave. sewer lift pumps and grinder control panel.		\$28,000
2022	Evaluate sewer mains and services, setup plan for future televising maybe 10 yr. turn around for sewer mains and services when they are done before sale of a house or business.		

2022

REPLACE Hwy. 7 LIFT STATION

\$200,000

C

**APPENDIX: Comprehensive Water
Plan**

Appendix C: Comprehensive Water Supply Plan

1.1 INTRODUCTION

Purpose

The City of Excelsior, located in Hennepin County, is currently fully developed, and all the properties within the City limits are currently serviced by the City's water utility. To accommodate the existing and projected population, the City initiated an update to its Comprehensive Water Supply Plan in accordance with Minnesota Statute 473.513.

The Department of Natural Resources (DNR) Division of Waters and the Metropolitan Council have worked together to develop a set of guidelines in which all cities are to complete. The purpose of these guidelines is to provide the agencies with information regarding the water emergency and conservation procedures for that city. These guidelines are divided into four parts. The first three parts, Water Supply System Description and Evaluation, Emergency Response Procedures, and Water Conservation Planning apply statewide. Part IV relates to comprehensive plan requirements that apply only to communities in the Seven-County, Twin Cities Metropolitan Area. The information contained in this report follows the DNR Water Supply Plan template directly, and the DNR Water Supply Plan for the City of Excelsior is attached to this report for reference.

It is the policy of the City of Excelsior to provide the following to all customers receiving water from the City's water distribution system:

- Water Quality: Provide water to the community that meets the standards required by the State of Minnesota.
- Water Affordability: Provide water at utility rates so that current and future residents contribute to the maintenance of the water supply system.

The purpose of this study is to provide the City with an updated plan to serve the existing service area and to identify existing system facilities and deficiencies. In addition, a number of conservation and emergency response procedures will be identified as part of this comprehensive plan.

Scope

The scope of this study incorporates the population projections from the City's overall comprehensive plan to project water system demands for the City of Excelsior through the year 2040. The potential 2040 service area was defined as all areas within the City that are currently served by the City's water supply system and was based on the 2040 Comprehensive Land Use Plan. The 2040 service area for the City is considered to be the full build-out, generally defined as the entire community. Existing and future water demands were calculated for the City based on the historical data and population projections.

Data Available

In preparing this report, the following sources of information were utilized:

- Water Emergency and Conservation Plan for the City of Excelsior
- Water Emergency and Conservation Plan Template created by the Department of Natural Resources and the Metropolitan Council Environmental Services
- MCES System Statement for the City of Excelsior

General Contact Information

The City of Excelsior's water system has a DNR Water Appropriation Permit of 1975-6164. The water system is managed by the Public Works Superintendent at 339 Third Street and all contact can be made at (952) 474-3464.

1.2 WATER SUPPLY SYSTEM DESCRIPTION AND EVALUATION

The first step in any water supply analysis is to assess the current status of demand, supply, and the existing water system infrastructure. The information in this section, including the Water System Capital Improvement Plan, is used in the development of Emergency Response Procedures and Conservation Plans in the subsequent sections.

Water-Use Categories and Definitions

General water-use categories and definitions as defined by the Department of Natural Resources are as follows:

Residential uses consist of water being used for normal household purposes, such as drinking, food preparation, bathing, washing clothes and dishes, flushing toilets, and watering lawns and gardens.

Institutional uses consist of those for hospitals, nursing homes, day care centers, and other facilities that use water for essential domestic requirements. This includes public facilities and public metered uses. Institutional water-use records are typically maintained for emergency planning and allocation purposes.

Commercial uses consist of water used by motels, hotels, restaurants, office buildings, and commercial facilities.

Industrial uses consist of water used for thermoelectric power (electric utility generation) and other industrial uses such as steel, chemical and allied products, food processing, paper and allied products, mining, and petroleum refining.

Wholesale deliveries consist of bulk water sales to other public water suppliers.

Unaccounted water is the volume of water withdrawn from all sources minus the volume sold.

Non-essential water uses as defined by Minnesota Statutes 103G.291, include lawn sprinkling, vehicle washing, golf course and park irrigation, and other non-essential uses. Some of the above categories also include non-essential uses of water.

Analysis of Existing Water Demand

Table 1-1 and **Table 1-2** present the actual water demand for the past ten years. The City of Excelsior itemizes the water demand by customer category including residential, commercial, industrial, and institutional water sales. The City does sell water wholesale to Contractors upon request.

Table 1-1. Historic Water Demand

<i>Year</i>	<i>Total Population/ Population Served</i>	<i>Total Services</i>	<i>Residential Water Sold (MG)</i>	<i>C/I/I Water Sold (MG)</i>	<i>Wholesale Deliveries (MG)</i>	<i>Total Water Sold (MG)</i>
2005	2,383	739	53.7	27.7	8.4	89.8
2006	2,395	737	58.2	25.9	-	84.0
2007	2,395	736	58.6	24.2	-	82.8
2008	2,099	696	49.6	23.4	-	73.0
2009	2,105	698	47.7	20.1	-	67.8
2010	2,283	757	53.2	19.1	-	72.3
2011	2,217	-	-	-	-	-
2012	2,151	713	49.0	24.0	-	73.0
2013	2,300	736	59.5	24.6	-	84.1
2014	2,180	736	63.8	25.9	-	89.6
2015	2,180	736	52.5	25.0	-	77.6
2010-2015 Avg.	2,218	735.6	55.6	23.7	-	79.3

Table 1-2. Historic Water Demand

<i>Year</i>	<i>Total Water Pumped (MG)</i>	<i>Percent Unmetered/ Unaccounted</i>	<i>Average Demand (MGD)*</i>	<i>Maximum Demand (MGD)*</i>	<i>Residential gallons/ capita/day</i>	<i>Total gallons/ capita/day</i>
2005	104.4	14	0.29	0.61	62	120
2006	111.2	24	0.30	0.62	67	127
2007	103.3	16	0.28	0.61	67	118
2008	103.5	25	0.28	-	65	135
2009	97.3	23	0.27	0.67	62	127
2010	92.5	19	0.25	0.64	64	111
2011	95.3	-	0.26	0.50	-	118
2012	103.3	21	0.28	0.60	62	132
2013	102.0	13	0.28	0.47	71	122
2014	93.7	-1	0.26	0.65	80	118
2015	111.4	25	0.31	0.51	66	140
2010-2015 Avg.	99.7	15	0.27	0.56	69	123

*Average demand based on gallons sold per day. Maximum day demand is based on gallons pumped in a day. It is not possible to measure the gallons sold on the highest water pumped day.

MG – Million Gallons **MGD** – Million Gallons per Day **C/I/I**- Commercial, Industrial, Institutional

Factors that influence trends in water demand include growth, weather, industry, and conservation efforts. Since 2005, the population served by the City of Excelsior has generally stayed constant, with only minor decreases in the last ten years. Therefore, total water demand and water demand per capita has also remained generally constant. Total water sold has generally decreased since 2005 except for the years 2013 and 2014 which had totals greater than 80 million gallons. The water demand is shown to be primarily dependent upon weather conditions and conservation efforts as the City's population does not fluctuate considerably.

Currently, the City of Excelsior does have ten large water users; however, the water users individually do not utilize over 5 percent of the City's total water usage. Combined, the water users attribute to approximately 19 percent of the City's total water usage. **Table 1-3** that follows summarizes the City's top ten largest water utility users.

Table 1-3. Large Volume Users

<i>Customer</i>	<i>Amount Used* (Million Gallons per Year)</i>	<i>% of Total Annual</i>
Maynard's Restaurants	2.754	3.88
Ridgeview Medical Center	2.527	2.59
Youngsted's Bay Car Wash	2.465	2.52
Marathon Mgmt (818-820 3 rd Ave)	2.012	2.06
Marathon Mgmt (822-824 3 rd Ave)	1.893	1.94
Excelsior Healthcare Center	1.655	1.69
Pat Lienhan	1.252	1.28
Anderson Management Company	1.141	1.17
Bay Point Apartments	1.128	1.15
Wyer Hill Condominiums	1.113	1.14

*Average used for years 2009, 2010, and 2012.

Existing Treatment and Storage Capacity

The City of Excelsior currently treats all water at the City's municipal water treatment facility. The facility has a treatment capacity of approximately 1.15 million gallons per day. The raw (untreated) water that first enters the treatment plant is aerated with an in-line stone diffuser; a small amount of chlorine is added to assist in controlling the levels of iron reducing bacteria; and caustic soda is added to maintain acceptable pH levels. The water treatment plant consists of six pressure sand filters to remove iron and manganese. Following the filters, 60 percent of the water is then directed to ion exchange softeners while the other 40 percent bypasses the softening process. Prior to leaving the plant, the water is also treated with fluoride and chlorine to meet state regulations.

There is one elevated storage facility with a capacity of 250,000 gallons and one ground storage facility with a capacity of 300,000 gallons serving the City of Excelsior's water system with a total storage capacity of 550,000 gallons. As detailed in **Table 1-2**, the

City's average day demand is 270,000 gallons on average for the past five years. The current water storage standard according Ten State Standards is that a city is required to store approximately the city's current average day demand. The City's storage capacity currently meets this standard.

Existing Water Sources

The City of Excelsior currently has three wells in service. They are designated Well No. 1, Well No. 2, and Well No. 3. The City of Excelsior is all on one pressure zone; and therefore, all three wells serve the entire City.

Well No. 1 draws water from the Shakopee formation, and Wells No. 2 and 3 draw water from the Prairie du Chien - Jordon formation. Groundwater from the wells is treated at the water treatment facility as described in the previous section. Following treatment, water is pumped into the distribution system.

The rated capacity of the three existing wells is 2,000 gallons per minute. However, Ten State Standards require that maximum day demand be satisfied with the largest pump out of service (firm capacity). The firm capacity for the City's existing water system is 1,200 gallons per minute.

In the past five years, the maximum day demand for the City's water system was on average approximately 0.56 million gallons per day which equates to 389 gallons per minute. As stated previously with the current firm capacity of 1,200 gallons per minute, the City's current peak-day demand is less than the existing firm capacity. The City's firm capacity is sufficient for the City's current water system demands.

Table 1-4 summarizes the City's current groundwater sources. Copies of water well records and well maintenance information is included with the public water supplier's copy of the plan in the appendix.

Table 1-4. Ground Water Well Summary Information

<i>Well No.</i>	<i>Unique Well Number</i>	<i>Year Installed</i>	<i>Well & Casing Depth (ft)</i>	<i>Well Diameter (in)</i>	<i>Capacity (GPM)</i>	<i>Geologic Unit</i>	<i>Status</i>
1	205674	1957	465	12	600	Shakopee	Active Use
2	205675	1959	448	12	600	Jordan	Active Use
3	232336	1973	465	24	800	Jordan	Active Use

The City of Excelsior is exploring a possible interconnection with the City of Shorewood and has identified potential locations for that interconnection. The capacity of the emergency interconnection will be evaluated during the development of the interconnection agreement.

Existing Water Supply System



- Watermain Diameter**
- 6"
 - 8"
 - 10"
 - 12"
 - 14"
- Storage Facility**
- Water Treatment Plant**
- Well**
- Excelsior Boundary**



Demand Projections

The following table, **Table 1-5**, summarizes the City of Excelsior’s projected population served by the water system form 2016-2025, the average day demand, the maximum day demand, and the projected demand per year. The projections were made based on the following assumptions:

- Population projections are consistent with the Metropolitan Council’s System Statement for the City of Excelsior. The population served was then linearly extrapolated.
- Average day demands were calculated using the average total water demand per capita per day (GPCD) for the past five years. A demand of 123 GPCD was assumed for 2016 through 2040.
- The average peaking factor for average day demand to maximum day demand for the past five years is 2.5. This peaking factor was applied to the average day demands for the projected maximum day results.

Table 1-5. Ten Year Demand Projections

<i>Year</i>	<i>Population Served</i>	<i>Average Day Demand (MGD)*</i>	<i>Maximum Day Demand (MGD)*</i>	<i>Projected Demand (MGY)</i>
2016	2,180	0.27	0.68	97.9
2017	2,205	0.27	0.69	99.0
2018	2,230	0.27	0.69	100.1
2019	2,400	0.28	0.70	101.2
2020	2,500	0.28	0.71	102.4
2021	2,510	0.28	0.71	103.0
2022	2,520	0.28	0.72	103.7
2023	2,525	0.29	0.72	104.4
2024	2,530	0.29	0.73	105.1
2025	2,540	0.29	0.73	105.7
2030	2,550	0.300	0.760	109.1
2040	2,550	0.300	0.750	108.6

MGD – Million Gallons per Day

Resource Sustainability

Sustainable water use is defined as the use of water to provide for the needs of society, now and in the future, without unacceptable social, economic, or environmental consequences.

The City of Excelsior has kept well monitoring records in accordance with the resource sustainability requirements of the Department of Natural Resources. Records of water levels are maintained for the three production wells, and water-level readings are taken periodically for the production wells which are representative of the water levels in each water source formation.

The water levels of each well within the City of Excelsior have maintained a constant level given the monitoring information provided from the construction of each well. The data details the aquifer as a sustaining water supply. The static water-level data and drawdown data is included in the appendix and the following table, **Table 1-6**, summarizing the monitoring procedures.

Table 1-6. Monitoring Wells

Unique Well Number	Type of well (production, observation)	Frequency of Measurement (daily, monthly etc.)	Method of Measurement (steel tape, SCADA etc.)
205674	Production	Periodically	OHM Wire
205675	Production	Periodically	OHM Wire
232336	Production	Periodically	OHM Wire

Currently, there are no natural resource features in the City of Excelsior that could be affected by municipal production well withdrawals. There are protected and impaired surface waters within the City; however, the hydrogeology of the Prairie du Chien – Jordan Aquifer indicates that the Jordan portion of the aquifer is confined where it is capped by the Prairie du Chien (per Minnesota Geological Survey). Therefore, groundwater does not influence surface waters and surface waters do not influence the groundwater. Resource protection thresholds have not been established, as the groundwater and surficial natural resource features have been determined to not influence each other.

Historically, the Jordan Aquifer has maintained a constant static water level and, therefore, indicates there is ample water supply for the foreseeable future to meet projected demands.

Preventative Maintenance

Long-term preventative programs and measures for the City's existing water system will help reduce the risk of emergency situations. The City of Excelsior's staff has a number of programs to help reduce these risks.

The City of Excelsior performs daily maintenance on the existing water treatment plant, including testing the water quality, record meter readings on water pumping, softening, chemical feed pumps, and storage tank levels. The staff also checks motor drives for the existing vaults, chart recorders for unusual amounts of water being used, and proper well pump operations. The iron filters are backwashed regularly and oil levels on all motors are checked weekly. The well houses are checked weekly for leak detections and proper operation. Monthly maintenance includes greasing and preventative maintenance on pumps, multiports, electric motors, and auxiliary motors. Adjustments and repairs of equipment found as a result of the above-detailed maintenance are performed as necessary.

Water mains are inspected and replaced when appropriate as part of the City's annual street reconstruction projects. Older fire hydrants within the City are currently being replaced as part of a City-wide effort.

Future Water System Improvements

The City of Excelsior's water capital improvements plan includes a number of improvements and rehabilitation projects to ensure the water system is adequate and in working condition including the water storage, treatment, and supply operations. A detailed summary of the City's capital improvements plan is included in the appendix and includes the improvement description, the approximate cost, and the approximate year the improvement is to take place.

1.3 EMERGENCY RESPONSE PROCEDURES

Water emergencies can occur as a result of vandalism, sabotage, accidental contamination, mechanical problems, power failures, drought, flooding, and other natural disasters. The purpose of emergency planning is to develop emergency response procedures and to identify actions needed to improve emergency preparedness. In the case of a municipality, these procedures should be in support of, and part of, an all-hazard emergency operations plan.

Federal Emergency Response Plan

Section 1433(b) of the Safe Drinking Water Act as amended by the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (Public Law 107-188, Title IV – Drinking Water Security and Safety) requires community water suppliers serving over 3,300 people to prepare an Emergency Response Plan. As the City of Excelsior does not serve over 3,300 people, the City is not required to complete the Federal Emergency Response Plan.

In accordance with City policy, the emergency response lead personnel is the City's Public Works Superintendent and the alternate emergency response lead will be the designated Water Utility Operator.

Operational Contingency Plan

An operational contingency plan that describes measures to be taken for water supply mainline breaks and other common system failures as well as routine maintenance is recommended by the State Department for all utilities. A contact list for contractors and suppliers and a water emergency telephone list that serve as this Operational Contingency Plan are included in the appendix.

Allocation and Demand Reduction Procedures

Water Supply Plans as required by the Department of Natural Resources and the Metropolitan Council must include procedures to address gradual decreases in water supply as well as emergencies and the sudden loss of water due to line breaks, power failures, sabotage, etc. During periods of limited water supplies, public water suppliers are required to allocate water based on the priorities established in Minnesota Statutes 103G.261.

These allocations and demand reduction procedures must also be in accordance with the Minnesota State Statutes 103G.261, which identifies and defines the priorities in which water usage will be allocated in the event of an emergency. These priorities are defined as follows:

- The first priority water-use category includes domestic water supply only and excludes industrial and commercial uses of municipal water supply. The first priority also includes uses for power production that meets contingency requirements. Domestic use is defined by MN Rules 6115.0630, Subp. 9, as use for general household purposes for human needs such as cooking, cleaning, drinking, washing, and waste disposal, and uses for on-farm livestock watering excluding commercial livestock operations which use more than 10,000 gallons per day or one million gallons per year.
- The second priority water-use category includes uses involving consumption of less than 10,000 gallons per day.
- The third priority water-use category includes uses for agricultural irrigation and processing of agricultural products.
- The fourth priority water-use category includes uses for power production in excess of the use provided for in the contingency plan under first priority.
- The fifth priority water-use category includes uses, other than agricultural irrigation, processing of agricultural products and power production.
- The sixth priority water-use category includes non-essential uses. These uses are defined by Minnesota Statutes 103G.291 as lawn sprinkling, vehicle washing, golf course and park irrigation, and other non-essential uses.

Table 1-7 presents the statutory water-use priorities along with any local priorities for the City of Excelsior. Water used for human needs at hospitals, nursing homes, and similar types of facilities should be designated as a high priority to be maintained in an emergency. Local allocation priorities will need to address water used for human needs at other types of facilities such as hotels, office buildings, and manufacturing plants. The volume of water and other types of water uses at these facilities must be carefully considered. After reviewing the data, common sense should dictate local allocation priorities to protect domestic requirements over certain types of economic needs. **Table 1-7** lists the priority ranking, average day demand, and demand reduction potential for each customer category in the City.

Table 1-7. Water-Use Priorities

Customer Category	Allocation Priority	Average Day Demand (GPD)*	Demand Reduction Potential (GPD)
Residential	1	152,362	76,853*
Commercial/ Institutional	2	65,011	-
Non-essential**	3	15,375	15,375
	TOTALS	232,748	92,228

GPD – Gallons per Day

*Demand reduction potential for the residential customer category was calculated as the net estimated reduction in water use by (1) eliminating irrigation; (2) reducing unmetered water use to 5%; (3) installing low flow toilets City-wide; and (4) installing water efficient washing machines City-wide.

**Non-essential use consists of water supplier services.

Triggers for Allocation and Demand Reduction

Triggers for allocation and demand reduction actions are defined by the City of Excelsior for implementing emergency responses, including supply augmentation, demand reduction, and water allocation. Examples of triggers can include the water demand in excess of 100 percent of storage capacity, the water level in the City’s wells below a certain elevation, etc. Each trigger should have a quantifiable indicator and actions can have multiple stages such as mild, moderate, and severe responses. The following are triggers that the City of Excelsior has identified and are used for implementing emergency responses:

- Hot Weather Conditions (prior, existing, and forecast)
- Decreased Precipitation (including drought conditions)
- Excessive Water Demand
- Storage Capacity (demand exceeding capacity)
- Decreased Normal Well Pumping Levels, or Wells Out of Service
- Loss of Production or Decreased Well Water-Level Recovery Rate
- Governor’s Executive Order – Critical Water Deficiency (required by Statute)

Table 1-8 presents main quantitative triggers for implementing water emergency procedures and the actions to be taken. System failures are not included in the outlined triggers. Triggers may be adjusted if equipment failures occur. In addition, the potential for water availability problems during the onset of a drought are almost impossible to predict. Significant increases in demand should be balanced with preventative measures to conserve supplies in the event of prolonged drought conditions.

Notification procedures, as designated by the City of Excelsior, include methods that will be used to inform customers regarding conservation requests, water-use restrictions, and suspensions. Customers should be aware of emergency procedures and responses that the City may need to implement. The City's Public Works Superintendent or his designee shall be responsible for media notification and distribution of public notices for a Public Works emergency. Other emergencies that involve multiple agencies will be handled per the City's Emergency Operations Plan. The City has billing inserts that notify consumers of conservation measures such as water reuse.

Table 1-8. Demand Reduction Procedures

Response Level	Trigger(s)	Demand Reduction Procedures
0	Water demand per firm capacity is less than 50%	No demand reduction procedures necessary
1	Water demand per firm capacity is 50% to 60%	Request a 10% voluntary reduction from residential, industrial, and commercial customers
2	Water demand per firm capacity is 60% to 70%	Even/Odd lawn irrigation ban and eliminate hydrant sales
3	Water demand per firm capacity is 70% to 80%	Limited lawn irrigation to new sod only and no irrigation between 10:00 a.m. and 6:00 p.m.
4	Water demand per firm capacity is 80% to 90%	Lawn irrigation ban, eliminate all other outside use, and request 25% reduction from residential, commercial, and industrial customers
5	Water demand per firm capacity is 90% to 100%	Total irrigation and outside water ban, institute meter reading to reduce residential, commercial, and industrial usage by 50%
6	Water demand per firm capacity exceeds 100%	Eliminate customers as necessary to maintain firefighting storage reserve and sanitary conditions in distribution systems
Critical Water Deficiency (M.S. 103G.291)	Executive Order by Governor & as provided in above triggers	Stage 1: Restrict lawn watering, vehicle washing, golf course and park irrigation and other nonessential uses Stage 2: Suspend lawn watering, vehicle washing, golf course and park irrigation and other nonessential uses

Enforcement

Minnesota Statutes require public water supply authorities to adopt and enforce water conservation restrictions during periods of critical water shortages. As stated in Minnesota Statutes 103G.291, Subdivision 1, regarding public water supply appropriation during deficiency, if the governor determines and declares by executive order that there is a critical water deficiency, public water supply authorities appropriating water must adopt and enforce water conservation restrictions within their jurisdiction that are consistent with rules adopted by the commissioner. The restrictions must limit lawn sprinkling, vehicle washing, golf course and park irrigation, and other nonessential uses, and have appropriate penalties for failure to comply with the restrictions.

The City of Excelsior has authorized the City Manager to have standing authority to implement water restrictions which improves response times for dealing with water emergencies. The Mayor or City Manager, in conjunction with the Public Works Superintendent, is responsible for providing overall direction and control of City Government resources involved in the response to a disaster. Typically, the Public Works Superintendent will implement seasonal watering restrictions. The following table, **Table 1-9**, summarizes the water restriction penalties enforced by the City.

Table 1-9. Water Restriction Penalties

Response Level	Description of Non-compliance	Penalty
1	Violation of Voluntary Reduction	None
2-3	First violation of even/odd and limited lawn irrigation ban	Written Warning
2-3	Second and subsequent violation of even/odd and limited lawn irrigation ban	\$25 Fine
4-6	First violation of year, during moderate and high priority conditions	Written Warning
4-6	Second violation in same moderate and/or high priority conditions	\$50 Fine
4-6	Third violation in same moderate and/or high priority conditions	Termination of water service until restriction is lifted

1.4 WATER CONSERVATION PLAN

Water conservation programs are intended to reduce demand for water, improve the efficiency in use, and reduce losses and waste of water. Long-term conservation measures that improve overall water-use efficiencies can help reduce the need for short-term conservation measures. Water conservation is an important part of water resource management and can also help utility managers satisfy the ever-increasing demands being placed on water resources.

Minnesota Statute 103G.291 requires public water suppliers to implement demand reduction measures before seeking approvals to construct new wells or increases in authorized volumes of water. Minnesota Rules 6115.0770 requires water users to employ the best available means and practices to promote the efficient use of water. Conservation programs can be cost effective when compared to the generally higher costs of developing new sources of supply or expanding water and/or wastewater treatment plant capacities.

Conservation Goals

The following section establishes goals for various measures of water demand. The programs necessary to achieve the goals will be described in the following section.

The American Water Works Association (AWWA) recommends that unaccounted water not exceed 10 percent of the City's total average annual volume of water consumed. In the last five years, the City of Excelsior's unaccounted water totals averaged 16 million gallons which is approximately 15 percent of the City's average annual volume of water consumed. This is above the recommended 10 percent; therefore, the City is implementing a number of conservation methods in response to unaccounted water. The amount of unaccounted water should be monitored regularly as it is a good indication of pipe breaks or system failures. The City implemented a City-wide meter replacement program in 2008 in an effort to decrease the unaccounted water amount.

In 2002, average residential gallons per capita per day (GPCD) use in the Twin Cities Metropolitan Area were 75. In the last five years, the City of Excelsior's residential gallons' per capita demand averaged 69 GPCD which is approximately 6 GPCD under the Twin Cities average. Overall per capita demand has also remained consistent over the past ten years, fluctuating only during periods of hot, dry weather.

In the last five years, the City of Excelsior's average maximum day-to-average-day ratio was 2.5. Typically, the Department of Natural Resources sets a peak-demands ratio of 2.6. The City has implemented, and strictly enforces, an odd/even watering ban during response level 2 and above as described in the previous sections. The goal of the watering ban is to maintain a lower maximum day-to-average-day demand ratio.

Water Conservation Programs

The City of Excelsior has a number of short-term conservation measures that are available for use in an emergency. The City also has long-term measures to improve water-use efficiencies for each of the five conservation program elements listed below. Short-term demand reduction measures are included in the emergency response procedures and must be in support of, and part of, a community all-hazard emergency operation plan.

1. Metering: The American Water Works Association (AWWA) recommends that every water utility system meter all water taken into its system and all water distributed from its system at its customer's point of service. An effective metering program relies upon periodic performance testing, repair, and maintenance of all meters. AWWA also recommends that utilities conduct regular water audits to ensure accountability. **Table 1-10** presents a summary of the number and maintenance schedule for customer meters. **Table 1-11** presents a summary of the number and maintenance schedule for water source meters.

Table 1-10. Customer Meters

	<i>Number of Connections</i>	<i>Number of Metered Connections</i>	<i>Meter testing schedule (years)</i>	<i>Average age/meter replacement schedule</i>
Residential	541	541	Owner request	New in 2008 / 20 yrs
Institutional	12	12	Owner request	New in 2008 / 20 yrs
Commercial	141	141	Owner request	New in 2008 / 20 yrs
Public Facilities	6	6	Owner request	New in 2008 / 20 yrs
TOTALS	700	700		

Table 1-11. Water Source Meters

	<i>Number of Meters</i>	<i>Meter testing schedule (years)</i>	<i>Average age/meter replacement schedule (years)</i>
Water Source (Wells)	3	10 yrs	New in 2008 / 20 yrs
Treatment Plant	1	When Required	21 yrs / 20 yrs

2. Unaccounted Water: Water audits are intended to identify, quantify, and verify water and revenue losses. It is recommended by the AWWA that the volume of unaccounted water should be evaluated each billing cycle. The City of Excelsior currently evaluates the unaccounted water on an annual basis. In addition, the City performs leak detection and surveys periodically as needed. The City is also implementing a meter replacement program to replace all water meters within the City in the next three years.

3. Conservation Water Rates: The City currently has implemented a water utility rate structure for all customer categories on a quarterly basis, and the overall rate structure is included in Appendix 1-D. The City charges based on the actual usage by the customer. The charge assessed, based on the actual water usage, is a conservation neutral rate structure, meaning that the rate per unit stays the same as water use increases. In addition, the water rates are evaluated on a yearly basis.

4. Regulation: The City of Excelsior also has a number of regulations for short-term reductions in demand and long-term improvements in water efficiencies. The City has adopted an odd/even water ban to help reduce peak demand during summer months and in emergency situations. A copy of the adopted regulation is included in Appendix 1-E. In addition to the City regulations, there are a number of mandated State and Federal Regulations that the City enforces. These regulations include the Minnesota Statute 103G.298 requiring all automatically operated landscape irrigation systems to have furnished and installed technology that inhibits or interrupts operation of the landscape irrigation system during periods of sufficient moisture. The technology must also be adjustable either by the end user or the professional practitioner of landscape irrigation services. The 1992 Federal Energy Policy Act established manufacturing standards for water efficient plumbing fixtures, including toilets, urinals, faucets, and aerators and is also enforced with the City’s building permit and inspections department.

5. Education and Information Programs: The City of Excelsior provides information on how to improve water-use efficiencies by a number of educational methods throughout the year. Information is, in general, provided at appropriate times to address peak demands. Emergency notices and educational materials on how to reduce water use is available for quick distribution during an emergency. **Table 1-12** summarizes the City’s educational programs and the number of times per year the City performs the tasks.

Table 1-12. Current Education Programs

<i>Current Education Programs</i>	<i>Frequency/Year</i>
Billing inserts or tips printed on the actual bill	1
Consumer Confidence Reports	1
City of Excelsior Newsletter	4
Information at utility and public buildings	On-Going

1.5 CAPITAL IMPROVEMENTS PROGRAM

A Capital Improvement Plan based on estimated water system improvements is presented in Appendix 1-F. This table includes system improvements and rehabilitation efforts and estimated years for the improvements to ensure the City's water system is in working condition. The overall cost associated with these improvements over the next ten years is approximately \$912,000.

Water Treatment Plant Improvements

The following water treatment plant improvements are detailed in the City's water system capital improvements fund for the years 2017 through 2026:

- Water Treatment Plant Building Upgrades
- Rehab Softeners
- Filter Media Replacement
- Water Treatment Plant Floor Resurfacing
- Rehabilitation of Sand Filters

Water Storage Improvements

The following water storage improvements are detailed in the City's water system capital improvements fund for the years 2017 through 2026:

- Ground Storage Tank Inspection and Painting
- Elevated Storage Tank Inspection and Painting

Water Supply and Distribution Improvements

The following water supply and distribution improvements are detailed in the City's water system capital improvements fund for the years 2017 through 2026:

- High Service Pump
- Rehabilitate Well No. 2
- Hydrant Replacement
- Emergency Water Interconnection
- Rehabilitate Well No. 3
- Rehabilitate Well No. 1

Funding

The City's current water fee structure is provided in the appendix. Fees consist of water user fees only.

Utility usage fees are charged to both residential and non-residential users based on the actual water usage metered during the billing period. The purpose of the user charges is to fund the operation, maintenance, and replacement costs of existing distribution systems. User charges are primarily based on the actual costs of operations, maintenance, and replacement of all water system facilities.

Local Water Supply Plan Template Third Generation for 2016-2018

Revised April 10, 2017

Formerly called Water Emergency & Water Conservation Plan



Cover photo by Molly Shodeen



For more information on this Water Supply Plan Template, please contact the DNR Division of Ecological and Water Resources at (651) 259-5034 or (651) 259-5100.

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This information is available in an alternative format upon request.

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DEPARTMENT OF NATURAL RESOURCES – DIVISION OF ECOLOGICAL AND WATER RESOURCES AND METROPOLITAN COUNCIL

INTRODUCTION TO WATER SUPPLY PLANS (WSP)

Who needs to complete a Water Supply Plan

Public water suppliers serving more than 1,000 people, large private water suppliers in designated Groundwater Management Areas, and all water suppliers in the Twin Cities metropolitan area are required to prepare and submit a water supply plan.

The goal of the WSP is to help water suppliers: 1) implement long term water sustainability and conservation measures; and 2) develop critical emergency preparedness measures. Your community needs to know what measures will be implemented in case of a water crisis. A lot of emergencies can be avoided or mitigated if long term sustainability measures are implemented.

Groundwater Management Areas (GWMA)

The DNR has designated three areas of the state as Groundwater Management Areas (GWMAs) to focus groundwater management efforts in specific geographies where there is an added risk of overuse or water quality degradation. A plan directing the DNR's actions within each GWMA has been prepared. Although there are no specific additional requirements with respect to the water supply planning for communities within designated GWMAs, communities should be aware of the issues and actions planned if they are within the boundary of one of the GWMAs. The three GWMAs are the North and East Metro GWMA (Twin Cities Metro), the Bonanza Valley GWMA and the Straight River GWMA (near Park Rapids). Additional information and maps are included in the [DNR Groundwater Management Areas webpage](#).

Benefits of completing a WSP

Completing a WSP using this template, fulfills a water supplier's statutory obligations under M.S. [M.S.103G.291](#) to complete a water supply plan. For water suppliers in the metropolitan area, the WSP will help local governmental units to fulfill their requirements under M.S. 473.859 to complete a local comprehensive plan. Additional benefits of completing WSP template:

- The standardized format allows for quicker and easier review and approval
- Help water suppliers prepare for droughts and water emergencies.
- Create eligibility for funding requests to the Minnesota Department of Health (MDH) for the Drinking Water Revolving Fund.
- Allow water suppliers to submit requests for new wells or expanded capacity of existing wells.
- Simplify the development of county comprehensive water plans and watershed plans.
- Fulfill the contingency plan provisions required in the MDH wellhead protection and surface water protection plans.
- Fulfill the demand reduction requirements of Minnesota Statutes, section 103G.291 subd 3 and 4.

- Upon implementation, contribute to maintaining aquifer levels, reducing potential well interference and water use conflicts, and reducing the need to drill new wells or expand system capacity.
- Enable DNR to compile and analyze water use and conservation data to help guide decisions.
- Conserve Minnesota's water resources

If your community needs assistance completing the Water Supply Plan, assistance is available from your area hydrologist or groundwater specialist, the MN Rural Waters Association circuit rider program, or in the metropolitan area from Metropolitan Council staff. Many private consultants are also available.

WSP Approval Process

10 Basic Steps for completing a 10-Year Water Supply Plan

1. Download the DNR/Metropolitan Council Water Supply Plan Template from the [DNR Water Supply Plan webpage](#).
2. Save the document with a file name with this naming convention:
WSP_cityname_permitnumber_date.doc.
3. The template is a form that should be completed electronically.
4. Compile the required water use data (Part 1) and emergency procedures information (Part 2)
5. The Water Conservation section (Part 3) may need discussion with the water department, council, or planning commission, if your community does not already have an active water conservation program.
6. Communities in the seven-county Twin Cities metropolitan area should complete all the information discussed in Part 4. The Metropolitan Council has additional guidance information on their [Water Supply webpage](#). All out-state water suppliers **do not** need to complete the content addressed in Part 4.
7. Use the Plan instructions and Checklist document from the [DNR Water Supply Plan webpage](#) to insure all data is complete and attachments are included. This will allow for a quicker approval process.
8. Plans should be submitted electronically using the [MPARS website](#) – no paper documents are required.
9. DNR hydrologist will review plans (in cooperation with Metropolitan Council in Metro area) and approve the plan or make recommendations.
10. Once approved, communities should complete a Certification of Adoption form, and send a copy to the DNR.

Complete Table 1 with information about the public water supply system covered by this WSP.

Table 1. General information regarding this WSP

Requested Information	Description
DNR Water Appropriation Permit Number(s)	1975-6164
Ownership	Public
Metropolitan Council Area	Yes, Hennepin County
Street Address	339 Third Street
City, State, Zip	Excelsior, MN 55331
Contact Person Name	Tim Amundsen
Title	Public Works Superintendent
Phone Number	(952) 474-3464
MDH Supplier Classification	Municipal

PART 1. WATER SUPPLY SYSTEM DESCRIPTION AND EVALUATION

The first step in any water supply analysis is to assess the current status of demand and availability. Information summarized in Part 1 can be used to develop Emergency Preparedness Procedures (Part 2) and the Water Conservation Plan (Part 3). This data is also needed to track progress for water efficiency measures.

A. Analysis of Water Demand

Complete Table 2 showing the past 10 years of water demand data.

- Some of this information may be in your Wellhead Protection Plan.
- If you do not have this information, do your best, call your engineer for assistance or if necessary leave blank.

If your customer categories are different than the ones listed in Table 2, please describe the differences below:

The City of Excelsior delivers water to residential and commercial connections outside of the City limits. The water use for these connections was added into the City's residential and commercial volumes in Table 2. Water use data was not available for the year 2011.

Table 2. Historic water demand (see definitions in the [glossary](#) after Part 4 of this template)

Year	Pop. Served	Total Connections	Residential Water Delivered (MG)	C/I/I Water Delivered (MG)	Water used for Non-essential	Wholesale Deliveries (MG)	Total Water Delivered (MG)	Total Water Pumped (MG)	Water Supplier Services	Percent Unmetered/Unaccounted	Average Daily Demand (MGD)	Max. Daily Demand (MGD)	Date of Max. Demand	Residential Per Capita Demand (GPCD)	Total per capita Demand (GPCD)
2005	2,383	739	53.7	27.7	-	8.4	89.8	104.4	-	14%	0.29	0.61	-	62	120
2006	2,395	737	58.2	25.9	-	-	84.0	111.2	-	24%	0.30	0.62	-	67	127
2007	2,395	736	58.6	24.2	-	-	82.8	103.3	4.00	16%	0.28	0.61	7/21/2007	67	118
2008	2,099	696	49.6	23.4	-	-	73.0	103.5	4.76	25%	0.28	-	-	65	135
2009	2,105	698	47.7	20.1	-	-	67.8	97.3	6.69	23%	0.27	0.67	6/10/2009	62	127
2010	2,283	757	53.2	19.1	-	-	72.3	92.5	2.31	19%	0.25	0.64	5/27/2010	64	111
2011	2,217	-	-	-	-	-	-	95.3	7.15	-	0.26	0.50	9/8/2011	-	118
2012	2,151	713	49.0	24.0	-	-	73.0	103.3	8.95	21%	0.28	0.60	7/7/2012	62	132
2013	2,300	736	59.5	24.6	-	-	84.1	102.0	4.38	13%	0.28	0.47	9/4/2013	71	122
2014	2,180	736	63.8	25.9	-	-	89.6	93.7	5.28	-1%	0.26	0.65	6/18/2014	80	118
2015	2,180	736	52.5	25.0	-	-	77.6	111.4	5.61	25%	0.31	0.51	7/22/2015	66	140
Avg. 2010-2015	2,218	735.6	55.6	23.7	-	-	79.3	99.7	5.61	15%	0.27	0.56	-	69	123

MG – Million Gallons **MGD** – Million Gallons per Day **GPCD** – Gallons per Capita per Day

See [Glossary](#) for definitions. A list of [Acronyms and Initialisms](#) can be found after the Glossary.

Complete Table 3 by listing the top 10 water users by volume, from largest to smallest. For each user, include information about the category of use (residential, commercial, industrial, institutional, or wholesale), the amount of water used in gallons per year, the percent of total water delivered, and the status of water conservation measures.

Table 3. Large volume users

Customer	Use Category	Amount Used* (Gallons per Year)	Percent of Total Annual Water Delivered	Implementing Water Conservation Measures? (Yes/No/Unknown)
Maynard's Restaurant	Commercial	2,754,000	3.88%	Unknown
Ridgeview Medical Center	Institutional	2,527,000	2.59%	Unknown
Youngsted's Bay Car Wash	Commercial	2,465,000	2.52%	Unknown
Marathon Mgmt (818-820 3rd Ave)	Residential	2,012,000	2.06%	Unknown
Marathon Mgmt (822-824 3rd Ave)	Residential	1,893,000	1.94%	Unknown
Excelsior Healthcare Center	Institutional	1,655,000	1.69%	Unknown
Pat Lienhan	Residential	1,252,000	1.28%	Unknown
Anderson Management Company	Residential	1,141,000	1.17%	Unknown
Bay Pointe Apartments	Residential	1,128,000	1.15%	Unknown
Wyer Hill Condominiums	Residential	1,113,000	1.14%	Unknown

*Amount used is the average used over 2009, 2010, and 2012.

B. Treatment and Storage Capacity

Complete Table 4 with a description of where water is treated, the year treatment facilities were constructed, water treatment capacity, the treatment methods (i.e. chemical addition, reverse osmosis, coagulation, sedimentation, etc.) and treatment types used (i.e. fluoridation, softening, chlorination, Fe/MN removal, coagulation, etc.). Also describe the annual amount and method of disposal of treatment residuals. Add rows to the table as needed.

Table 4. Water treatment capacity and treatment processes

Treatment Site ID (Plant Name or Well ID)	Year Constructed	Treatment Capacity (GPD)	Treatment Method	Treatment Type	Annual Volume of Residuals	Disposal Process for Residuals	Do You Reclaim Filter Backwash Water?
Excelsior Water Treatment Facility	1958	1,150,000	Aeration, Filtration, Ion Exchange	Fe/Mn Removal, Softening, Fluoridation, Chlorination	1.8 MG	Backwash holding tank with recycle. Sludge sent to sanitary sewer.	Yes
Total	N/A	1,150,000	N/A	N/A		N/A	

Complete Table 5 with information about storage structures. Describe the type (i.e. elevated, ground, etc.), the storage capacity of each type of structure, the year each structure was constructed, and the primary material for each structure. Add rows to the table as needed.

Table 5. Storage capacity, as of the end of the last calendar year

Structure Name	Type of Storage Structure	Year Constructed	Primary Material	Storage Capacity (Gallons)
Excelsior Water Tower	Elevated storage	1976	Steel	250,000
Excelsior Ground Storage	Ground storage	1957	Steel	300,000
Total	NA	NA	NA	550,000

Treatment and storage capacity versus demand

It is recommended that total storage equal or exceed the average daily demand.

Discuss the difference between current storage and treatment capacity versus the water supplier’s projected average water demand over the next 10 years (see Table 7 for projected water demand):

It is generally recommended that a system’s production and treatment capacity be equal to or greater than that system’s maximum day water demand. The City of Excelsior’s maximum day water demand is projected to reach 0.75 MGD by the year 2040. This is satisfied by the system’s existing firm capacity of 1.73 MGD. It is generally recommended that a system’s storage capacity be equal to or greater than that system’s average day water demand. The City of Excelsior’s average day water demand is projected to reach 0.30 MGD by the year 2040. This is easily satisfied by the system’s existing storage capacity of 0.55 million gallons.

C. Water Sources

Complete Table 6 by listing all types of water sources that supply water to the system, including groundwater, surface water, interconnections with other water suppliers, or others. Provide the name of each source (aquifer name, river or lake name, name of interconnecting water supplier) and the Minnesota unique well number or intake ID, as appropriate. Report the year the source was installed or established and the current capacity. Provide information about the depth of all wells. Describe the status of the source (active, inactive, emergency only, retail/wholesale interconnection) and if the source facilities have a dedicated emergency power source. Add rows to the table as needed for each installation.

Include copies of well records and maintenance summary for each well that has occurred since your last approved plan in **Appendix C**.

Table 6. Water sources and status

Resource Type (Groundwater, Surface water, Interconnection)	Resource Name	MN Unique Well # or Intake ID	Year Installed	Capacity (Gallons per Minute)	Well Depth (Feet)	Status of Normal and Emergency Operations (active, inactive, emergency only, retail/wholesale interconnection))	Does this Source have a Dedicated Emergency Power Source? (Yes or No)
Groundwater	Well No. 1	205674	1957	600	465	Active	Yes
Groundwater	Well No. 2	205675	1957	600	448	Active	Yes

Resource Type (Groundwater, Surface water, Interconnection)	Resource Name	MN Unique Well # or Intake ID	Year Installed	Capacity (Gallons per Minute)	Well Depth (Feet)	Status of Normal and Emergency Operations (active, inactive, emergency only, retail/wholesale interconnection))	Does this Source have a Dedicated Emergency Power Source? (Yes or No)
Groundwater	Well No. 3	232336	1973	800	460	Active	No*

*A portable generator is available to supply emergency power to Well No. 3.

Limits on Emergency Interconnections

Discuss any limitations on the use of the water sources (e.g. not to be operated simultaneously, limitations due to blending, aquifer recovery issues etc.) and the use of interconnections, including capacity limits or timing constraints (i.e. only 200 gallons per minute are available from the City of Prior Lake, and it is estimated to take 6 hours to establish the emergency connection). If there are no limitations, list none.

The City of Excelsior has explored a possible interconnection with the City of Shorewood and has identified potential locations for that interconnection.

D. Future Demand Projections – Key Metropolitan Council Benchmark

Water Use Trends

Use the data in Table 2 to describe trends in 1) population served; 2) total per capita water demand; 3) average daily demand; 4) maximum daily demand. Then explain the causes for upward or downward trends. For example, over the ten years has the average daily demand trended up or down? Why is this occurring?

The population served by the City of Excelsior’s water system decreased in 2008 and has remained relatively constant since that time. The total per capita water demand, average day demand, and maximum day demand have all fluctuated over the last ten years but do not show a notable increasing or decreasing trend. There have not been significant changes to the City’s population, water system, or conservation policies over the past ten years, so it is not surprising that all of these values have remained relatively constant.

Use the water use trend information discussed above to complete Table 7 with projected annual demand for the next ten years. Communities in the seven-county Twin Cities metropolitan area must also include projections for 2030 and 2040 as part of their local comprehensive planning.

Projected demand should be consistent with trends evident in the historical data in Table 2, as discussed above. Projected demand should also reflect state demographer population projections and/or other planning projections.

Table 7. Projected annual water demand

Year	Projected Total Population	Projected Population Served	Projected Total Per Capita Water Demand (GPCD)	Projected Average Daily Demand (MGD)	Projected Maximum Daily Demand (MGD)
2016	2,180	2,180	123	0.27	0.68
2017	2,205	2,205	123	0.28	0.69
2018	2,230	2,230	123	0.28	0.69
2019	2,400	2,400	123	0.31	0.75
2020	2,500	2,500	123	0.31	0.78
2021	2,510	2,510	123	0.31	0.78
2022	2,520	2,520	123	0.32	0.79
2023	2,525	2,525	123	0.32	0.79
2024	2,530	2,530	123	0.32	0.79
2025	2,540	2,540	123	0.32	0.79
2030	2,550	2,550	123	0.32	0.80
2040	2,550	2,550	123	0.32	0.80

GPCD – Gallons per Capita per Day

MGD – Million Gallons per Day

Projection Method

Describe the method used to project water demand, including assumptions for population and business growth and how water conservation and efficiency programs affect projected water demand:

The projected population was linearly extrapolated from the Metropolitan Council (MCES) projections for 2020, 2030, and 2040. As of 2016, any new population growth will be served by the City’s municipal water system. The total per capita water demands were found in the City’s MCES Water Supply Profile. The max day peaking factor used to calculate maximum daily demand was determined from the City’s annual water use data.

E. Resource Sustainability

Monitoring – Key DNR Benchmark

Complete Table 8 by inserting information about source water quality and quantity monitoring efforts. The list should include all production wells, observation wells, and source water intakes or reservoirs. Groundwater level data for DNR’s statewide network of observation wells are available online through the [DNR’s Cooperative Groundwater Monitoring \(CGM\) webpage](#).

Table 8. Information about source water quality and quantity monitoring

MN Unique Well # or Surface Water ID	Type of monitoring point	Monitoring program	Frequency of monitoring	Monitoring Method
Well No. 1 #205674	<input checked="" type="checkbox"/> production well <input type="checkbox"/> observation well <input type="checkbox"/> source water intake <input type="checkbox"/> source water reservoir	<input type="checkbox"/> routine MDH sampling <input checked="" type="checkbox"/> routine water utility sampling* <input type="checkbox"/> other	<input type="checkbox"/> continuous <input type="checkbox"/> hourly <input type="checkbox"/> daily <input checked="" type="checkbox"/> monthly <input type="checkbox"/> quarterly <input type="checkbox"/> annually	<input type="checkbox"/> SCADA <input type="checkbox"/> grab sampling <input checked="" type="checkbox"/> steel tape <input type="checkbox"/> stream gauge

MN Unique Well # or Surface Water ID	Type of monitoring point	Monitoring program	Frequency of monitoring	Monitoring Method
Well No. 2 #205675	<input checked="" type="checkbox"/> production well <input type="checkbox"/> observation well <input type="checkbox"/> source water intake <input type="checkbox"/> source water reservoir	<input type="checkbox"/> routine MDH sampling <input checked="" type="checkbox"/> routine water utility sampling* <input type="checkbox"/> other	<input type="checkbox"/> continuous <input type="checkbox"/> hourly <input type="checkbox"/> daily <input checked="" type="checkbox"/> monthly <input type="checkbox"/> quarterly <input type="checkbox"/> annually	<input type="checkbox"/> SCADA <input type="checkbox"/> grab sampling <input checked="" type="checkbox"/> steel tape <input type="checkbox"/> stream gauge
Well No. 3 #232336	<input checked="" type="checkbox"/> production well <input type="checkbox"/> observation well <input type="checkbox"/> source water intake <input type="checkbox"/> source water reservoir	<input type="checkbox"/> routine MDH sampling <input checked="" type="checkbox"/> routine water utility sampling* <input type="checkbox"/> other	<input type="checkbox"/> continuous <input type="checkbox"/> hourly <input type="checkbox"/> daily <input checked="" type="checkbox"/> monthly <input type="checkbox"/> quarterly <input type="checkbox"/> annually	<input type="checkbox"/> SCADA <input type="checkbox"/> grab sampling <input checked="" type="checkbox"/> steel tape <input type="checkbox"/> stream gauge
DNR Observation Well 27045 #242150	<input type="checkbox"/> production well <input checked="" type="checkbox"/> observation well <input type="checkbox"/> source water intake <input type="checkbox"/> source water reservoir	<input checked="" type="checkbox"/> routine MDH sampling <input type="checkbox"/> routine water utility sampling <input type="checkbox"/> other	<input type="checkbox"/> continuous <input checked="" type="checkbox"/> hourly <input type="checkbox"/> daily <input type="checkbox"/> monthly <input type="checkbox"/> quarterly <input type="checkbox"/> annually	<input checked="" type="checkbox"/> SCADA <input type="checkbox"/> grab sampling <input type="checkbox"/> steel tape <input type="checkbox"/> stream gauge

**In 2017, the City of Excelsior will begin monitoring the water level in its public supply wells monthly. The City is also considering integrating this water level monitoring into its SCADA system.*

Water Level Data

A water level monitoring plan that includes monitoring locations and a schedule for water level readings must be submitted as **Appendix 2**. If one does not already exist, it needs to be prepared and submitted with the WSP. Ideally, all production and observation wells are monitored at least monthly.

Complete Table 9 to summarize water level data for each well being monitored. Provide the name of the aquifer and a brief description of how much water levels vary over the season (the difference between the highest and lowest water levels measured during the year) and the long-term trends for each well. If water levels are not measured and recorded on a routine basis, then provide the static water level when each well was constructed and the most recent water level measured during the same season the well was constructed. Also include all water level data taken during any well and pump maintenance. Add rows to the table as needed.

Groundwater hydrographs illustrate the historical record of aquifer water levels measured within a well and can indicate water level trends over time. For each well in your system, provide a hydrograph for the life of the well, or for as many years as water levels have been measured. Include the hydrographs in **Appendix 3**. An example of a hydrograph can be found on the [DNR's Groundwater Hydrograph webpage](#). Hydrographs for DNR Observation wells can be found in the [CGM](#) discussed above.

Table 9. Water level data

Unique Well Number or Well ID	Aquifer Name	Seasonal Variation (Feet)	Long-term Trend in water level data	Water level measured during well/pumping maintenance
Well No. 1 #205674	Shakopee	Pending Monitoring	<input type="checkbox"/> Falling <input type="checkbox"/> Stable <input type="checkbox"/> Rising	MM/DD/YY: ____ MM/DD/YY: ____ MM/DD/YY: ____
Well No. 2 #205675	Prairie du Chien - Jordan	Pending Monitoring	<input type="checkbox"/> Falling <input type="checkbox"/> Stable <input type="checkbox"/> Rising	MM/DD/YY: ____ MM/DD/YY: ____ MM/DD/YY: ____
Well No. 3 #232336	Prairie du Chien - Jordan	Pending Monitoring	<input type="checkbox"/> Falling <input type="checkbox"/> Stable <input type="checkbox"/> Rising	MM/DD/YY: ____ MM/DD/YY: ____ MM/DD/YY: ____
DNR Observation Well 27045 #242150	Prairie du Chien - Jordan	5 ft	<input type="checkbox"/> Falling <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Rising	N/A

Potential Water Supply Issues & Natural Resource Impacts – Key DNR & Metropolitan Council Benchmark

Complete Table 10 by listing the types of natural resources that are or could potentially be impacted by permitted water withdrawals in the future. You do not need to identify every single water resource in your entire community. The goal is to help you triage the most important water resources and/or the water resources that may be impacted by your water supply system – perhaps during a drought or when the population has grown significantly in ten years. This is emerging science, so do the best you can with available data. For identified resources, provide the name of specific resources that may be impacted. Identify what the greatest risks to the resource are and how the risks are being assessed. Identify any resource protection thresholds – formal or informal – that have been established to identify when actions should be taken to mitigate impacts. Provide information about the potential mitigation actions that may be taken, if a resource protection threshold is crossed. Add additional rows to the table as needed. See the glossary at the end of the template for definitions.

Some of this baseline data should have been in your earlier water supply plans or county comprehensive water plans. When filling out this table, think of what are the water supply risks, identify the resources, determine the threshold and then determine what your community will do to mitigate the impacts.

Your DNR area hydrologist is available to assist with this table.

For communities in the seven-county Twin Cities metropolitan area, the [Master Water Supply Plan Appendix C \(Water Supply Profiles\)](#), provides information about potential water supply issues and natural resource impacts for your community.

Steps for completing Table 10

1. Identify the potential for natural resource impacts/issues within the community

First, review available information to identify resources that may be impacted by the operation of your water supply system (such as pumping).

Potential Sources of Information:

- County Geologic Atlas
- Local studies
- Metropolitan Council System Statement (for metro communities)
- Metropolitan Council Master Water Supply Plan (for metro communities)

ACTION: Check the resource type(s) that may be impacted in the column “Resource Type”

2. *Identify where your water supply system is most likely to impact those resources (and vice versa).*

Potential Sources of Information:

- Drinking Water Supply Management Areas
- Geologic Atlas - Sensitivity
- If no WHPA or other information exists, consider rivers, lakes, wetlands and significant within 1.5 miles of wells; and calcareous fens and trout streams within 5 miles of wells

ACTION: Focus the rest of your work in these areas.

3. *Within focus areas, identify specific features of value to the community*

You know your community best. What resources are important to pay attention to? It may be useful to check in with your community’s planning and zoning staff and others.

Potential Sources of Information:

- Park plans
- Local studies
- Natural resource inventories
- Tourist attractions/recreational areas/valued community resource

ACTION: Identify specific features that the community prioritizes in the “Resource Name” column (for example: North Lake, Long River, Brook Trout Stream, or Green Fen). If, based on a review of available information, no features are likely to be at risk, note “None”.

4. *Identify what impact(s) the resource is at risk for*

Potential Sources of Information:

- Wellhead Protection Plan
- Water Appropriation Permit
- County Geologic Atlas
- MDH or PCA reports of the area
- Metropolitan Council System Statement (for metro communities)
- Metropolitan Council Master Water Supply Plan (for metro communities)

ACTION: Check the risk type in the column “Risk”. If, based on a review of available information, no risk is identified, note “None anticipated”.

5. *Describe how the risk was assessed*

Potential Sources of Information:

- Local studies

- Monitoring data (community, WMO, DNR, etc.)
- Aquifer testing
- County Geologic Atlas or other hydrogeologic studies
- Regional or state studies, such as DNR’s report ‘Definitions and Thresholds for Negative Impacts to Surface Waters’
- Well boring logs

ACTION: Identify the method(s) used to identify the risk to the resource in the “Risk Assessed Through” column

6. Describe protection threshold/goals

What is the goal, if any, for protecting these resources? For example, is there a lower limit on acceptable flow in a river or stream? Water quality outside of an accepted range? A lower limit on acceptable aquifer level decline at one or more monitoring wells? Withdrawals that exceed some percent of the total amount available from a source? Or a lower limit on acceptable changes to a protected habitat?

Potential Sources of Information:

- County Comprehensive Water Plans
- Watershed Plans or One Watershed/One Plan
- Groundwater or Aquifer Plans
- Metropolitan Master Plans
- DNR Thresholds study
- Community parks, open space, and natural resource plans

ACTION: Describe resource protection goals in the “Describe Resource Protection Threshold” column or reference an existing plan/document/webpage

7. If a goal/threshold should trigger action, describe the plan that will be implemented.

Identify specific action, mitigation measures or management plan that the water supplier will implement, or refer to a partner’s plan that includes actions to be taken.

Potential Sources of Information:

- County Comprehensive Water Plans
- Watershed Plans or One Watershed/One Plan
- Groundwater or Aquifer Plans
- Metropolitan Master Plans
- Studies such as DNR Thresholds study

ACTION: Describe the mitigation measure or management plan in the “Mitigation Measure or Management Plan” column.

8. Describe work to evaluate these risks going forward.

For example, what is the plan to regularly check in to stay current on plans or new data?

Identify specific action that the water supplier will take to identify the creation of or change to goals/thresholds, or refer to a partner’s plan that includes actions to be taken.

Potential Sources of Information:

- County Comprehensive Water Plans
- Watershed Plans or One Watershed/One Plan
- Groundwater or Aquifer Plans
- Metropolitan Master Plans
- Studies such as DNR Thresholds study

ACTION: Describe what will be done to evaluate risks going forward, including any changes to goals or protection thresholds in the “Describe how Changes to Goals are monitored” column.

Table 10. Natural resource impacts (*List specific resources in Appendix 12)

Resource Type	Resource Name	Risk	Risk Assessed Through *	Describe Resource Protection Threshold or Goal *	Mitigation Measures or Management Plan	Describe How Thresholds or Goals are Monitored
<input type="checkbox"/> River or stream	N/A	<input type="checkbox"/> None anticipated <input type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality trends <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat <input type="checkbox"/> Other: _____	<input type="checkbox"/> Geologic atlas or other mapping <input type="checkbox"/> Modeling <input type="checkbox"/> Modeling <input type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> WRAPS or other watershed report <input type="checkbox"/> Proximity (<1.5 miles) <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Additional data is needed to establish <input type="checkbox"/> See report: _____ <input type="checkbox"/> No data available <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Newly collected data will be analyzed <input type="checkbox"/> Regular check-in with these partners: _____ <input type="checkbox"/> Other: _____
<input type="checkbox"/> Calcareous fen	N/A	<input type="checkbox"/> None anticipated <input type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality trends <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat <input type="checkbox"/> Other: _____	<input type="checkbox"/> Geologic atlas or other mapping <input type="checkbox"/> Modeling <input type="checkbox"/> Modeling <input type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> WRAPS or other watershed Report <input type="checkbox"/> Proximity (<5 miles) <input type="checkbox"/> Other: _____ <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Additional data is needed to establish <input type="checkbox"/> See report: _____ <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Newly collected data will be analyzed <input type="checkbox"/> Regular check-in with these partners: _____ <input type="checkbox"/> Other: _____

Resource Type	Resource Name	Risk	Risk Assessed Through *	Describe Resource Protection Threshold or Goal *	Mitigation Measures or Management Plan	Describe How Thresholds or Goals are Monitored
<input checked="" type="checkbox"/> Lake	Lake Minnetonka	<input checked="" type="checkbox"/> Other: <u>Unknown</u> There is no evidence suggesting an impact on lake water levels due to groundwater withdrawals.	<input type="checkbox"/> Geologic atlas or other mapping <input type="checkbox"/> Modeling <input type="checkbox"/> Modeling <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> WRAPS or other watershed report <input type="checkbox"/> Proximity (<1.5 miles) <input type="checkbox"/> Other: _____ <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Not applicable <input type="checkbox"/> Additional data is needed to establish <input type="checkbox"/> See report: _____ <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Not applicable <input type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Not applicable <input type="checkbox"/> Newly collected data will be analyzed <input type="checkbox"/> Regular check-in with these partners: _____ <input type="checkbox"/> Other: _____
<input type="checkbox"/> Wetland	N/A	<input type="checkbox"/> None anticipated <input type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality trends <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat <input type="checkbox"/> Other: _____	<input type="checkbox"/> Geologic atlas or other mapping <input type="checkbox"/> Modeling <input type="checkbox"/> Modeling <input type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> WRAPS or other watershed report <input type="checkbox"/> Proximity (<1.5 miles) <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Additional data is needed to establish <input type="checkbox"/> See report: _____ <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Newly collected data will be analyzed <input type="checkbox"/> Regular check-in with these partners: _____ <input type="checkbox"/> Other: _____

Resource Type	Resource Name	Risk	Risk Assessed Through *	Describe Resource Protection Threshold or Goal *	Mitigation Measures or Management Plan	Describe How Thresholds or Goals are Monitored
<input type="checkbox"/> Trout stream	N/A	<input type="checkbox"/> None anticipated <input type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality trends <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat <input type="checkbox"/> Other: _____	<input type="checkbox"/> Geologic atlas or other mapping <input type="checkbox"/> Modeling <input type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> WRAPS or other watershed report <input type="checkbox"/> Proximity (< 5 miles) <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Additional data is needed to establish <input type="checkbox"/> See report: _____ <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Newly collected data will be analyzed <input type="checkbox"/> Regular check-in with these partners: _____ <input type="checkbox"/> Other: _____
<input checked="" type="checkbox"/> Aquifer	Prairie du Chien - Jordan	<input type="checkbox"/> None anticipated <input checked="" type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality trends <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat <input type="checkbox"/> Other: _____	<input type="checkbox"/> Geologic atlas or other mapping <input type="checkbox"/> Modeling <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> Proximity (obwell < 5 miles) <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input checked="" type="checkbox"/> Additional data is needed to establish <input type="checkbox"/> See report: _____ <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Change groundwater pumping <input checked="" type="checkbox"/> Increase conservation <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input checked="" type="checkbox"/> Newly collected data will be analyzed <input type="checkbox"/> Regular check-in with these partners: _____ <input type="checkbox"/> Other: _____

Wellhead Protection (WHP) and Source Water Protection (SWP) Plans

Complete Table 11 to provide status information about WHP and SWP plans.

The emergency procedures in this plan are intended to comply with the contingency plan provisions required in the Minnesota Department of Health’s (MDH) Wellhead Protection (WHP) Plan and Surface Water Protection (SWP) Plan.

Table 11. Status of Wellhead Protection and Source Water Protection Plans

Plan Type	Status	Date Adopted	Date for Update
WHP	<input type="checkbox"/> In Process <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Not Applicable	December 2015	December 2025
SWP	<input type="checkbox"/> In Process <input type="checkbox"/> Completed <input checked="" type="checkbox"/> Not Applicable	N/A	N/A

WHP – Wellhead Protection Plan **SWP** – Source Water Protection Plan

F. Capital Improvement Plan (CIP)

Please note that any wells that received approval under a ten-year permit, but that were not built, are now expired and must submit a water appropriations permit.

Adequacy of Water Supply System

Complete Table 12 with information about the adequacy of wells and/or intakes, storage facilities, treatment facilities, and distribution systems to sustain current and projected demands. List planned capital improvements for any system components, in chronological order. Communities in the seven-county Twin Cities metropolitan area should also include information about plans through 2040.

The assessment can be the general status by category; it is not necessary to identify every single well, storage facility, treatment facility, lift station, and mile of pipe.

Please attach your latest Capital Improvement Plan as **Appendix 4**.

Table 12. Adequacy of Water Supply System

System Component	Planned action	Anticipated Construction Year	Notes
Wells/Intakes	<input type="checkbox"/> No action planned - adequate <input checked="" type="checkbox"/> Repair/replacement <input type="checkbox"/> Expansion/addition	2017, 2019	Well Rehabilitation
Water Storage Facilities	<input type="checkbox"/> No action planned - adequate <input checked="" type="checkbox"/> Repair/replacement <input type="checkbox"/> Expansion/addition	2019, 2021, 2023	Tank Inspection & Painting
Water Treatment Facilities	<input type="checkbox"/> No action planned - adequate <input checked="" type="checkbox"/> Repair/replacement <input type="checkbox"/> Expansion/addition	2018, 2019, 2024, 2025, 2026	Filter Upgrades, Building Maintenance
Distribution Systems (Pipes, valves, etc.)	<input type="checkbox"/> No action planned - adequate <input checked="" type="checkbox"/> Repair/replacement <input type="checkbox"/> Expansion/addition	Ongoing	Hydrant & Valve Replacement
Pressure Zones	<input checked="" type="checkbox"/> No action planned - adequate <input type="checkbox"/> Repair/replacement <input type="checkbox"/> Expansion/addition	N/A	

System Component	Planned action	Anticipated Construction Year	Notes
Other:	<input type="checkbox"/> No action planned - adequate <input type="checkbox"/> Repair/replacement <input type="checkbox"/> Expansion/addition		

Proposed Future Water Sources

Complete Table 13 to identify new water source installation planned over the next ten years. Add rows to the table as needed.

Table 13. Proposed future installations/sources

Source	Installation Location (approximate)	Resource Name	Proposed Pumping Capacity (gpm)	Planned Installation Year	Planned Partnerships
Groundwater	N/A				
Surface Water	N/A				
Interconnection to another supplier	Beehrle Ave & Oak St, Excelsior Blvd & Christmas Lake Rd	Shorewood Interconnection	TBD	TBD	City of Shorewood

Water Source Alternatives - Key Metropolitan Council Benchmark

Do you anticipate the need for alternative water sources in the next 10 years? Yes No

For metro communities, will you need alternative water sources by the year 2040? Yes No

If you answered yes for either question, then complete table 14. If no, insert NA.

Complete Table 14 by checking the box next to alternative approaches that your community is considering, including approximate locations (if known), the estimated amount of future demand that could be met through the approach, the estimated timeframe to implement the approach, potential partnerships, and the major benefits and challenges of the approach. Add rows to the table as needed.

For communities in the seven-county Twin Cities metropolitan area, these alternatives should include approaches the community is considering to meet projected 2040 water demand.

Table 14. Alternative water sources

Alternative Source Considered	Source and/or Installation Location (approximate)	Estimated Amount of Future Demand (%)	Timeframe to Implement (YYYY)	Potential Partners	Benefits	Challenges
<input type="checkbox"/> Groundwater	N/A					
<input type="checkbox"/> Surface Water	N/A					
<input type="checkbox"/> Reclaimed stormwater	N/A					
<input type="checkbox"/> Reclaimed wastewater	N/A					

Alternative Source Considered	Source and/or Installation Location (approximate)	Estimated Amount of Future Demand (%)	Timeframe to Implement (YYYY)	Potential Partners	Benefits	Challenges
<input type="checkbox"/> Interconnection to another supplier	N/A					

PART 2. EMERGENCY PREPAREDNESS PROCEDURES

The emergency preparedness procedures outlined in this plan are intended to comply with the contingency plan provisions required by MDH in the WHP and SWP. Water emergencies can occur as a result of vandalism, sabotage, accidental contamination, mechanical problems, power failings, drought, flooding, and other natural disasters. The purpose of emergency planning is to develop emergency response procedures and to identify actions needed to improve emergency preparedness. In the case of a municipality, these procedures should be in support of, and part of, an all-hazard emergency operations plan. Municipalities that already have written procedures dealing with water emergencies should review the following information and update existing procedures to address these water supply protection measures.

A. Emergency Response Plan

Section 1433(b) of the Safe Drinking Water Act, (Public Law 107-188, Title IV- Drinking Water Security and Safety) requires community water suppliers serving over 3,300 people to prepare an Emergency Response Plan. MDH recommends that Emergency Response Plans are updated annually.

Do you have an Emergency Response Plan? Yes No

The City of Excelsior participates in MnWARN, a formal emergency response program consisting of a mutual aid agreement between water utilities.

Have you updated the Emergency Response Plan in the last year? Yes No

When did you last update your Emergency Response Plan? N/A

Complete Table 15 by inserting the noted information regarding your completed Emergency Response Plan.

Table 15. Emergency Response Plan contact information

Emergency Response Plan Role	Contact Person	Contact Phone Number	Contact Email
Emergency Response Lead	Tim Amundsen Public Works Superintendent	(952) 474-3464	tamundsen@excelsiormn.org
Alternate Emergency Response Lead	Kristi Luger City Manager	(952) 653-3672	kluger@excelsiormn.org

B. Operational Contingency Plan

All utilities should have a written operational contingency plan that describes measures to be taken for water supply mainline breaks and other common system failures as well as routine maintenance.

Do you have a written operational contingency plan? Yes No

At a minimum, a water supplier should prepare and maintain an emergency contact list of contractors and suppliers.

C. Emergency Response Procedures

Water suppliers must meet the requirements of MN Rules 4720.5280. Accordingly, the Minnesota Department of Natural Resources (DNR) requires public water suppliers serving more than 1,000 people to submit Emergency and Conservation Plans. Water emergency and conservation plans that have been approved by the DNR, under provisions of Minnesota Statute 186 and Minnesota Rules, part 6115.0770, will be considered equivalent to an approved WHP contingency plan.

Emergency Telephone List

Prepare and attach a list of emergency contacts, including the MN Duty Officer (1-800-422-0798), as **Appendix 5**. An [Emergency Contact List template](#) is available at the [MnDNR Water Supply Plans webpage](#).

The list should include key utility and community personnel, contacts in adjacent water suppliers, and appropriate local, state and federal emergency contacts. Please be sure to verify and update the contacts on the emergency telephone list and date it. Thereafter, update on a regular basis (once a year is recommended). In the case of a municipality, this information should be contained in a notification and warning standard operating procedure maintained by the Emergency Manager for that community. Responsibilities and services for each contact should be defined.

Current Water Sources and Service Area

Quick access to concise and detailed information on water sources, water treatment, and the distribution system may be needed in an emergency. System operation and maintenance records should be maintained in secured central and back-up locations so that the records are accessible for emergency purposes. A detailed map of the system showing the treatment plants, water sources, storage facilities, supply lines, interconnections, and other information that would be useful in an emergency should also be readily available. It is critical that public water supplier representatives and emergency response personnel communicate about the response procedures and be able to easily obtain this kind of information both in electronic and hard copy formats (in case of a power outage).

Do records and maps exist? Yes No

Can staff access records and maps from a central secured location in the event of an emergency?

Yes No

Does the appropriate staff know where the materials are located?

Yes No

Procedure for Augmenting Water Supplies

Complete Tables 16 – 17 by listing all available sources of water that can be used to augment or replace existing sources in an emergency. Add rows to the tables as needed.

In the case of a municipality, this information should be contained in a notification and warning standard operating procedure maintained by the warning point for that community. Municipalities are encouraged to execute cooperative agreements for potential emergency water services and copies should be included in **Appendix 6**. Outstate Communities may consider using nearby high capacity wells (industry, golf course) as emergency water sources.

WSP should include information on any physical or chemical problems that may limit interconnections to other sources of water. Approvals from the MDH are required for interconnections or the reuse of water.

Table 16. Interconnections with other water supply systems to supply water in an emergency

Other Water Supply System Owner	Capacity (GPM & MGD)	Note Any Limitations On Use	List of services, equipment, supplies available to respond
N/A			

GPM – Gallons per minute MGD – million gallons per day

Table 17. Utilizing surface water as an alternative source

Surface Water Source Name	Capacity (GPM)	Capacity (MGD)	Treatment Needs	Note Any Limitations On Use
N/A				

If not covered above, describe additional emergency measures for providing water (obtaining bottled water, or steps to obtain National Guard services, etc.)

In the case of a short-term emergency, the City would obtain and distribute bottled water. For a long-term emergency, bulk water distribution would be set up at public facilities or an interconnection would be established with the City of Shorewood.

Allocation and Demand Reduction Procedures

Complete Table 18 by adding information about how decisions will be made to allocate water and reduce demand during an emergency. Provide information for each customer category, including its priority ranking, average day demand, and demand reduction potential for each customer category. Modify the customer categories as needed, and add additional lines if necessary.

Water use categories should be prioritized in a way that is consistent with Minnesota Statutes 103G.261 (#1 is highest priority) as follows:

1. Water use for human needs such as cooking, cleaning, drinking, washing and waste disposal; use for on-farm livestock watering; and use for power production that meets contingency requirements.
2. Water use involving consumption of less than 10,000 gallons per day (usually from private wells or surface water intakes)
3. Water use for agricultural irrigation and processing of agricultural products involving consumption of more than 10,000 gallons per day (usually from private high-capacity wells or surface water intakes)
4. Water use for power production above the use provided for in the contingency plan.
5. All other water use involving consumption of more than 10,000 gallons per day.
6. Nonessential uses – car washes, golf courses, etc.

Water used for human needs at hospitals, nursing homes and similar types of facilities should be designated as a high priority to be maintained in an emergency. Lower priority uses will need to address water used for human needs at other types of facilities such as hotels, office buildings, and manufacturing plants. The volume of water and other types of water uses at these facilities must be carefully considered. After reviewing the data, common sense should dictate local allocation priorities to protect domestic requirements over certain types of economic needs. Water use for lawn sprinkling, vehicle washing, golf courses, and recreation are legislatively considered non-essential.

Table 18. Water use priorities

Customer Category	Allocation Priority	Average Daily Demand (GPD)	Short-Term Emergency Demand Reduction Potential (GPD)
Residential	1	152,362	76,853*
Commercial/Institutional	2	65,011	-
Non-Essential**	3	15,375	15,375
TOTAL	N/A	232,748	92,228

GPD – Gallons per Day

**Demand reduction potential for the residential customer category was calculated as the net estimated reduction in water use by (1) eliminating irrigation; (2) reducing unmetered water use to 5%; (3) installing low flow toilets City-wide; and (4) installing water efficient washing machines City-wide.*

***Non-essential use consists of water supplier services.*

Tip: Calculating Emergency Demand Reduction Potential

The emergency demand reduction potential for all uses will typically equal the difference between maximum use (summer demand) and base use (winter demand). In extreme emergency situations, lower priority water uses must be restricted or eliminated to protect priority domestic water requirements. Emergency demand reduction potential should be based on average day demands for customer categories within each priority class. Use the tables in Part 3 on water conservation to help you determine strategies.

Complete Table 19 by selecting the triggers and actions during water supply disruption conditions.

Table 19. Emergency demand reduction conditions, triggers and actions (Select all that may apply and describe)

Emergency Triggers	Short-term Actions	Long-term Actions
<input checked="" type="checkbox"/> Contamination <input checked="" type="checkbox"/> Loss of production <input checked="" type="checkbox"/> Infrastructure failure <input checked="" type="checkbox"/> Executive order by Governor <input type="checkbox"/> Other: _____	<input type="checkbox"/> Supply augmentation through interconnection <input checked="" type="checkbox"/> Adopt (if not already) and enforce a critical water deficiency ordinance to penalize lawn watering, vehicle washing, golf course and park irrigation & other nonessential uses. <input checked="" type="checkbox"/> Water allocation through emergency action of City Council <input type="checkbox"/> Meet with large water users to discuss their contingency plan. <input checked="" type="checkbox"/> Voluntary reduction measures encouraged through public service announcements	<input checked="" type="checkbox"/> Establish and supply augmentation through interconnection <input checked="" type="checkbox"/> Adopt (if not already) and enforce a critical water deficiency ordinance to penalize lawn watering, vehicle washing, golf course and park irrigation & other nonessential uses. <input checked="" type="checkbox"/> Water allocation through emergency action of City Council <input checked="" type="checkbox"/> Meet with large water users to discuss their contingency plan.

Notification Procedures

Complete Table 20 by selecting trigger for informing customers regarding conservation requests, water use restrictions, and suspensions; notification frequencies; and partners that may assist in the notification process. Add rows to the table as needed.

Table 20. Plan to inform customers regarding conservation requests, water use restrictions, and suspensions

Notification Trigger(s)	Methods (select all that apply)	Update Frequency	Partners
<input checked="" type="checkbox"/> Short-term demand reduction declared (< 1 year)	<input checked="" type="checkbox"/> Website <input type="checkbox"/> Email list serve <input checked="" type="checkbox"/> Social media (e.g. Twitter, Facebook) <input checked="" type="checkbox"/> Direct customer mailing, <input checked="" type="checkbox"/> Press release (TV, radio, newspaper), <input checked="" type="checkbox"/> Email and text alerts <input type="checkbox"/> Meeting with large water users (> 10% of total city use) <input type="checkbox"/> Other: _____	<input type="checkbox"/> Daily <input type="checkbox"/> Weekly <input checked="" type="checkbox"/> Monthly <input type="checkbox"/> Annually	<ul style="list-style-type: none"> • City Staff • Neighboring communities • Local news outlets
<input checked="" type="checkbox"/> Long-term Ongoing demand reduction declared	<input checked="" type="checkbox"/> Website <input type="checkbox"/> Email list serve <input checked="" type="checkbox"/> Social media (e.g. Twitter, Facebook) <input checked="" type="checkbox"/> Direct customer mailing, <input checked="" type="checkbox"/> Press release (TV, radio, newspaper), <input checked="" type="checkbox"/> Email and text alerts <input type="checkbox"/> Meeting with large water users (> 10% of total city use) <input type="checkbox"/> Other: _____	<input type="checkbox"/> Daily <input type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input checked="" type="checkbox"/> Annually	<ul style="list-style-type: none"> • City Staff • Neighboring communities • Local news outlets

Notification Trigger(s)	Methods (select all that apply)	Update Frequency	Partners
<input checked="" type="checkbox"/> Governor's critical water deficiency declared	<input checked="" type="checkbox"/> Website <input type="checkbox"/> Email list serve <input checked="" type="checkbox"/> Social media (e.g. Twitter, Facebook) <input checked="" type="checkbox"/> Direct customer mailing, <input checked="" type="checkbox"/> Press release (TV, radio, newspaper), <input checked="" type="checkbox"/> Email and text alerts <input type="checkbox"/> Meeting with large water users (> 10% of total city use) <input type="checkbox"/> Other: _____	<input type="checkbox"/> Daily <input type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input type="checkbox"/> Annually <input checked="" type="checkbox"/> As Needed	<ul style="list-style-type: none"> • City Staff • Neighboring communities • Local news outlets

Enforcement

Prior to a water emergency, municipal water suppliers must adopt regulations that restrict water use and outline the enforcement response plan. The enforcement response plan must outline how conditions will be monitored to know when enforcement actions are triggered, what enforcement tools will be used, who will be responsible for enforcement, and what timelines for corrective actions will be expected.

Affected operations, communications, and enforcement staff must then be trained to rapidly implement those provisions during emergency conditions.

Important Note:

Disregard of critical water deficiency orders, even though total appropriation remains less than permitted, is adequate grounds for immediate modification of a public water supply authority's water use permit (2013 MN Statutes 103G.291)

Does the city have a critical water deficiency restriction/official control in place that includes provisions to restrict water use and enforce the restrictions? (This restriction may be an ordinance, rule, regulation, policy under a council directive, or other official control) Yes No

If yes, attach the official control document to this WSP as **Appendix 7**.

If no, the municipality must adopt such an official control within 6 months of submitting this WSP and submit it to the DNR as an amendment to this WSP.

Irrespective of whether a critical water deficiency control is in place, does the public water supply utility, city manager, mayor, or emergency manager have standing authority to implement water restrictions? Yes No

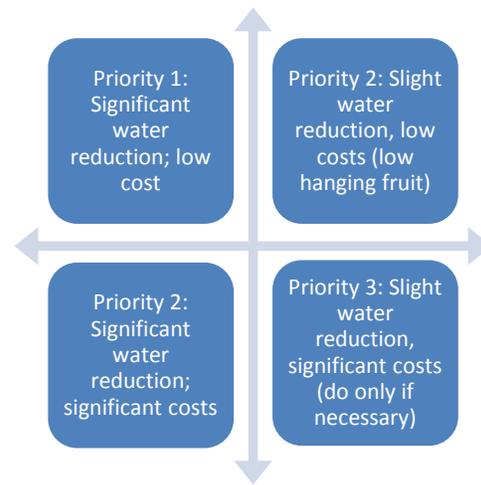
If yes, cite the regulatory authority reference: City Code, Chapter 14 – Emergency Management.

If no, who has authority to implement water use restrictions in an emergency?

The City of Excelsior has authorized the City Manager to have standing authority to implement water restrictions which improves response times for dealing with water emergencies. The Mayor or City Manager, in conjunction with the Public Works Superintendent, is responsible for providing overall direction and control of City Government resources involved in the response to a disaster. Typically, the Public Works Superintendent will implement seasonal watering restrictions.

PART 3. WATER CONSERVATION PLAN

Minnesotans have historically benefited from the state’s abundant water supplies, reducing the need for conservation. There are however, limits to the available supplies of water and increasing threats to the quality of our drinking water. Causes of water supply limitation may include: population increases, economic trends, uneven statewide availability of groundwater, climatic changes, and degraded water quality. Examples of threats to drinking water quality include: the presence of contaminant plumes from past land use activities, exceedances of water quality standards from natural and human sources, contaminants of emerging concern, and increasing pollutant trends from nonpoint sources.



There are many incentives for conserving water; conservation:

- reduces the potential for pumping-induced transfer of contaminants into the deeper aquifers, which can add treatment costs
- reduces the need for capital projects to expand system capacity
- reduces the likelihood of water use conflicts, like well interference, aquatic habitat loss, and declining lake levels
- conserves energy, because less energy is needed to extract, treat and distribute water (and less energy production also conserves water since water is used to produce energy)
- maintains water supplies that can then be available during times of drought

It is therefore imperative that water suppliers implement water conservation plans. The first step in water conservation is identifying opportunities for behavioral or engineering changes that could be made to reduce water use by conducting a thorough analysis of:

- Water use by customer
- Extraction, treatment, distribution and irrigation system efficiencies
- Industrial processing system efficiencies
- Regulatory and barriers to conservation
- Cultural barriers to conservation
- Water reuse opportunities

Once accurate data is compiled, water suppliers can set achievable goals for reducing water use. A successful water conservation plan follows a logical sequence of events. The plan should address both conservation on the supply side (leak detection and repairs, metering), as well as on the demand side (reductions in usage). Implementation should be conducted in phases, starting with the most obvious

and lowest-cost options. In some cases, one of the early steps will be reviewing regulatory constraints to water conservation, such as lawn irrigation requirements. Outside funding and grants may be available for implementation of projects. Engage water system operators and maintenance staff and customers in brainstorming opportunities to reduce water use. Ask the question: “How can I help save water?”

Progress since 2006

Is this your community’s first Water Supply Plan? Yes No

If yes, describe conservation practices that you are already implementing, such as: pricing, system improvements, education, regulation, appliance retrofitting, enforcement, etc.

If no, complete Table 21 to summarize conservation actions taken since the adoption of the 2006 water supply plan.

Table 21. Implementation of previous ten-year Conservation Plan

2006 Plan Commitments	Action Taken?
Change water rates structure to provide conservation pricing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water supply system improvements (e.g. leak repairs, valve replacements, etc.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Educational efforts	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
New water conservation ordinances	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Rebate or retrofitting Program (e.g. for toilet, faucets, appliances, showerheads, dish washers, washing machines, irrigation systems, rain barrels, water softeners, etc.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Enforcement	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Describe other	<input type="checkbox"/> Yes <input type="checkbox"/> No

What are the results you have seen from the actions in Table 21 and how were results measured?

The City has not seen a clear trend in per capita water use in the last ten years but is coordinating with MnTAP to perform a water audit. The hope is that this water audit will help the City target areas for improved conservation.

A. Triggers for Allocation and Demand Reduction Actions

Complete table 22 by checking each trigger below, as appropriate, and the actions to be taken at various levels or stages of severity. Add in additional rows to the table as needed.

Table 22. Short and long-term demand reduction conditions, triggers and actions

Objective	Triggers	Actions
Protect surface water flows	<input type="checkbox"/> Low stream flow conditions <input checked="" type="checkbox"/> Reports of declining wetland and lake levels	<input checked="" type="checkbox"/> Increase promotion of conservation measures <input checked="" type="checkbox"/> Consider water reuse and stormwater irrigation projects
Short-term demand reduction (less than 1 year)	<input checked="" type="checkbox"/> Extremely high seasonal water demand (more than double winter demand) <input checked="" type="checkbox"/> Loss of treatment capacity <input checked="" type="checkbox"/> Lack of water in storage <input checked="" type="checkbox"/> State drought plan <input checked="" type="checkbox"/> Well interference <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Adopt (if not already) and enforce the critical water deficiency ordinance to restrict or prohibit lawn watering, vehicle washing, golf course and park irrigation & other nonessential uses. <input checked="" type="checkbox"/> Supply augmentation through emergency interconnection <input type="checkbox"/> Water allocation through _____ <input type="checkbox"/> Meet with large water users to discuss user's contingency plan.
Long-term demand reduction (>1 year)	<input checked="" type="checkbox"/> Per capita demand increasing <input type="checkbox"/> Total demand increase (higher population or more industry). Water level in well(s) below elevation of _____ <input checked="" type="checkbox"/> Declared emergency	<input checked="" type="checkbox"/> Develop a critical water deficiency ordinance that is or can be quickly adopted to penalize lawn watering, vehicle washing, golf course and park irrigation & other nonessential uses. <input checked="" type="checkbox"/> Enact a water waste ordinance that targets overwatering (causing water to flow off the landscape into streets, parking lots, or similar), watering impervious surfaces (streets, driveways or other hardscape areas), and negligence of known leaks, breaks, or malfunctions. <input type="checkbox"/> Meet with large water users to discuss user's contingency plan. <input checked="" type="checkbox"/> Enhanced monitoring and reporting: audits, meters, billing, etc.
Governor's "Critical Water Deficiency Order" declared	<input checked="" type="checkbox"/> Governor's Declaration	<input checked="" type="checkbox"/> Take action as directed by the Governor

B. Conservation Objectives and Strategies – Key benchmark for DNR

This section establishes water conservation objectives and strategies for eight major areas of water use.

Objective 1: Reduce Unaccounted (Non-Revenue) Water loss to Less than 10%

The Minnesota Rural Water Association, the Metropolitan Council and the Department of Natural Resources recommend that all water uses be metered. Metering can help identify high use locations and times, along with leaks within buildings that have multiple meters.

It is difficult to quantify specific unmetered water use such as that associated with firefighting and system flushing or system leaks. Typically, water suppliers subtract metered water use from total water pumped to calculate unaccounted or non-revenue water loss.

Is your five-year average (2005-2014) unaccounted Water Use in Table 2 higher than 10%?

Yes No

What is your leak detection monitoring schedule? (e.g. Monitor 1/3rd of the city lines per year)

A full-system leak survey was completed in April 2012. Since that time, leaks have been monitored periodically in conjunction with the City's street and utility improvement projects. These projects occur every 2-3 years and leak detection is performed for about half of the system with each project.

Water Audits – are designed to help quantify and track water losses associated with water distribution systems and identify areas for improved efficiency and cost recovery. The American Water Works Association (AWWA) has a recommended water audit methodology which is presented in [AWWA's M36 Manual of Water Supply Practices: Water Audits and Loss Control Programs](#). AWWA also provides a free spreadsheet-based water audit tool that water suppliers can use to conduct their own water audits. This free water audit tool can be found on AWWA's [Water Loss Control webpage](#). Another resource for water audit and water loss control information is [Minnesota Rural Water Association](#).

What is the date of your most recent water audit? ___N/A___

Frequency of water audits: yearly other (specify frequency) _____

Leak detection and survey: every year every other year periodic as needed

Year last leak detection survey completed: ___2015___

If Table 2 shows annual water losses over 10% or an increasing trend over time, describe what actions will be taken to reach the <10% loss objective and within what timeframe

The City is coordinating with MnTAP to perform a water audit in the summer of 2017.

Metering -AWWA recommends that every water supplier install meters to account for all water taken into its system, along with all water distributed from its system at each customer's point of service. An effective metering program relies upon periodic performance testing, repair, maintenance or replacement of all meters. Drinking Water Revolving Loan Funds are available for purchase of new meters when new plants are built. AWWA also recommends that water suppliers conduct regular water audits to account for unmetered unbilled consumption, metered unbilled consumption and source water and customer metering inaccuracies. Some cities install separate meters for interior and exterior water use, but some research suggests that this may not result in water conservation.

Complete Table 23 by adding the requested information regarding the number, types, testing and maintenance of customer meters.

Table 23. Information about customer meters

Customer Category	Number of Customers	Number of Metered Connections	Number of Automated Meter Readers	Meter testing intervals (years)	Average age/meter replacement schedule (years)
Residential	541	541	541	Owner request	9 years / 20 years
Institutional	12	12	12	Owner request	9 years / 20 years
Commercial	141	141	141	Owner request	9 years / 20 years
Public facilities	6	6	6	Owner request	9 years / 20 years
TOTALS	700	700	700	NA	NA

For unmetered systems, describe any plans to install meters or replace current meters with advanced technology meters. Provide an estimate of the cost to implement the plan and the projected water savings from implementing the plan.

There are currently no known unmetered systems in the City's water distribution system.

Table 24. Water source meters

	Number of Meters	Meter testing schedule (years)	Number of Automated Meter Readers	Average age/meter replacement schedule (years)
Water source (wells/intakes)	3	10 years	3	9 years / 20 years
Treatment plant	1	As needed	1	21 years / 20 years

Objective 2: Achieve Less than 75 Residential Gallons per Capita Demand (GPCD)

The 2002 average residential per capita demand in the Twin Cities Metropolitan area was 75 gallons per capita per day.

Is your average 2010-2015 residential per capita water demand in Table 2 more than 75? Yes No

What was your 2010-2015 five-year average residential per capita water demand? 68.7 g/person/day

Describe the water use trend over that timeframe:

There has been no clear trend in the City's residential per capita water demand from 2010-2015, it has fluctuated randomly over that time.

Complete Table 25 by checking which strategies you will use to continue reducing residential per capita demand and project a likely timeframe for completing each checked strategy (Select all that apply and add rows for additional strategies):

Table 25. Strategies and timeframe to reduce residential per capita demand

Strategy to reduce residential per capita demand	Timeframe for completing work
<input checked="" type="checkbox"/> Revise city ordinances/codes to encourage or require water efficient landscaping.	Ongoing
<input checked="" type="checkbox"/> Revise city ordinance/codes to permit water reuse options, especially for non-potable purposes like irrigation, groundwater recharge, and industrial use. Check with plumbing authority to see if internal buildings reuse is permitted	Annually
<input checked="" type="checkbox"/> Revise ordinances to limit irrigation. Describe the restricted irrigation plan:	3-6 years following adoption of this plan
<input type="checkbox"/> Revise outdoor irrigation installations codes to require high efficiency systems (e.g. those with soil moisture sensors or programmable watering areas) in new installations or system replacements.	
<input checked="" type="checkbox"/> Make water system infrastructure improvements	Ongoing
<input type="checkbox"/> Offer free or reduced cost water use audits) for residential customers.	
<input type="checkbox"/> Implement a notification system to inform customers when water availability conditions change.	
<input checked="" type="checkbox"/> Provide rebates or incentives for installing water efficient appliances and/or fixtures indoors (e.g., low flow toilets, high efficiency dish washers and washing machines, showerhead and faucet aerators, water softeners, etc.)	3-6 years following adoption of this plan
<input checked="" type="checkbox"/> Provide rebates or incentives to reduce outdoor water use (e.g., turf replacement/reduction, rain gardens, rain barrels, smart irrigation, outdoor water use meters, etc.)	3-6 years following adoption of this plan
<input type="checkbox"/> Identify supplemental Water Resources	
<input checked="" type="checkbox"/> Conduct audience-appropriate water conservation education and outreach.	Ongoing
<input type="checkbox"/> Describe other plans	

Objective 3: Achieve at least 1.5% annual reduction in non-residential per capita water use

(For each of the next ten years, or a 15% total reduction over ten years.) This includes commercial, institutional, industrial and agricultural water users.

Complete Table 26 by checking which strategies you will used to continue reducing non-residential customer use demand and project a likely timeframe for completing each checked strategy (add rows for additional strategies).

Where possible, substitute recycled water used in one process for reuse in another. (For example, spent rinse water can often be reused in a cooling tower.) Keep in mind the true cost of water is the amount on the water bill PLUS the expenses to heat, cool, treat, pump, and dispose of/discharge the water. Don't just calculate the initial investment. Many conservation retrofits that appear to be prohibitively expensive are actually very cost-effective when amortized over the life of the equipment. Often reducing water use also saves electrical and other utility costs. Note: as of 2015, water reuse, and is not allowed by the state plumbing code, M.R. 4715 (a variance is needed). However, several state agencies are addressing this issue.

Table 26. Strategies and timeframe to reduce institutional, commercial industrial, and agricultural and non-revenue use demand

Strategy to reduce total business, industry, agricultural demand	Timeframe for completing work
<input checked="" type="checkbox"/> Conduct a facility water use audit for both indoor and outdoor use, including system components	Annually
<input checked="" type="checkbox"/> Install enhanced meters capable of automated readings to detect spikes in consumption	Ongoing
<input type="checkbox"/> Compare facility water use to related industry benchmarks, if available (e.g., meat processing, dairy, fruit and vegetable, beverage, textiles, paper/pulp, metals, technology, petroleum refining etc.)	
<input checked="" type="checkbox"/> Install water conservation fixtures and appliances or change processes to conserve water	Ongoing
<input checked="" type="checkbox"/> Repair leaking system components (e.g., pipes, valves)	Ongoing
<input checked="" type="checkbox"/> Investigate the reuse of reclaimed water (e.g., stormwater, wastewater effluent, process wastewater, etc.)	Annually
<input checked="" type="checkbox"/> Reduce outdoor water use (e.g., turf replacement/reduction, rain gardens, rain barrels, smart irrigation, outdoor water use meters, etc.)	Ongoing
<input checked="" type="checkbox"/> Train employees how to conserve water	Ongoing
<input type="checkbox"/> Implement a notification system to inform non-residential customers when water availability conditions change.	
<input type="checkbox"/> Nonpotable rainwater catchment systems intended to supply uses such as water closets, urinals, trap primers for floor drains and floor sinks, industrial processes, water features, vehicle washing facilities, cooling tower makeup, and similar uses shall be approved by the commissioner. Plumbing code 4714.1702, Published October 31, 2016	
<input type="checkbox"/> Describe other plans:	

Objective 4: Achieve a Decreasing Trend in Total Per Capita Demand

Include as **Appendix 8** one graph showing total per capita water demand for each customer category (i.e., residential, institutional, commercial, industrial) from 2005-2014 and add the calculated/estimated linear trend for the next 10 years.

Describe the trend for each customer category; explain the reason(s) for the trends, and where trends are increasing.

There is no clear trend in per capita water demand over the last ten years for the residential or commercial customer categories. Residential per capita demand, in particular, has been more sporadic over the last five years, with an outlier in 2014. Linear trendlines fit to the data indicate slight increasing trends, but yearly climate patterns likely have a greater effect on water use than long-term trends.

Objective 5: Reduce Ratio of Maximum day (peak day) to the Average Day Demand to Less Than 2.6

Is the ratio of average 2005-2014 maximum day demand to average 2005-2014 average day demand reported in Table 2 more than 2.6? Yes No

Calculate a ten-year average (2005 – 2014) of the ratio of maximum day demand to average day demand: 2.13

The position of the DNR has been that a peak day/average day ratio that is above 2.6 for in summer indicates that the water being used for irrigation by the residents in a community is too large and that efforts should be made to reduce the peak day use by the community.

It should be noted that by reducing the peak day use, communities can also reduce the amount of infrastructure that is required to meet the peak day use. This infrastructure includes new wells, new water towers which can be costly items.

Objective 6: Implement Demand Reduction Measures

Water Conservation Program

Municipal water suppliers serving over 1,000 people are required to adopt demand reduction measures that include a conservation rate structure, or a uniform rate structure with a conservation program that achieves demand reduction. These measures must achieve demand reduction in ways that reduce water demand, water losses, peak water demands, and nonessential water uses. These measures must be approved before a community may request well construction approval from the Department of Health or before requesting an increase in water appropriations permit volume ([Minnesota Statutes, section 103G.291, subd. 3 and 4](#)). Rates should be adjusted on a regular basis to ensure that revenue of the system is adequate under reduced demand scenarios. If a municipal water supplier intends to use a Uniform Rate Structure, a community-wide Water Conservation Program that will achieve demand reduction must be provided.

Current Water Rates

Include a copy of the actual rate structure in **Appendix 9** or list current water rates including base/service fees and volume charges below.

Volume included in base rate or service charge: 1,000 gallons

Frequency of billing: Monthly Bimonthly Quarterly Other: _____

Water Rate Evaluation Frequency: every year every ___ years no schedule

Date of last rate change: January 2016

Table 27. Rate structures for each customer category (Select all that apply and add additional rows as needed)

Customer Category	Conservation Billing Strategies in Use *	Conservation Neutral Billing Strategies in Use **	Non-Conserving Billing Strategies in Use ***
Residential	<input type="checkbox"/> Monthly billing <input checked="" type="checkbox"/> Increasing block rates (volume tiered rates)	<input type="checkbox"/> Uniform <input type="checkbox"/> Odd/even day watering	<input type="checkbox"/> Service charge based on water volume <input type="checkbox"/> Declining block

Customer Category	Conservation Billing Strategies in Use *	Conservation Neutral Billing Strategies in Use **	Non-Conserving Billing Strategies in Use ***
	<input type="checkbox"/> Seasonal rates <input type="checkbox"/> Time of use rates <input type="checkbox"/> Water bills reported in gallons <input type="checkbox"/> Individualized goal rates <input type="checkbox"/> Excess use rates <input type="checkbox"/> Drought surcharge <input type="checkbox"/> Use water bill to provide comparisons <input type="checkbox"/> Service charge not based on water volume <input type="checkbox"/> Other (describe)		<input type="checkbox"/> Flat <input type="checkbox"/> Other (describe)
Commercial/ Industrial/ Institutional	<input type="checkbox"/> Monthly billing <input checked="" type="checkbox"/> Increasing block rates (volume tiered rates) <input type="checkbox"/> Seasonal rates <input type="checkbox"/> Time of use rates <input type="checkbox"/> Water bills reported in gallons <input type="checkbox"/> Individualized goal rates <input type="checkbox"/> Excess use rates <input type="checkbox"/> Drought surcharge <input type="checkbox"/> Use water bill to provide comparisons <input type="checkbox"/> Service charge not based on water volume <input type="checkbox"/> Other (describe)	<input type="checkbox"/> Uniform	<input type="checkbox"/> Service charge based on water volume <input type="checkbox"/> Declining block <input type="checkbox"/> Flat <input type="checkbox"/> Other (describe)
<input type="checkbox"/> Other			

*** Rate Structures components that may promote water conservation:**

- **Monthly billing:** is encouraged to help people see their water usage so they can consider changing behavior.
- **Increasing block rates (also known as a tiered residential rate structure):** Typically, these have at least three tiers: should have at least three tiers.
 - The first tier is for the winter average water use.
 - The second tier is the year-round average use, which is lower than typical summer use. This rate should be set to cover the full cost of service.
 - The third tier should be above the average annual use and should be priced high enough to encourage conservation, as should any higher tiers. For this to be effective, the difference in block rates should be significant.
- **Seasonal rate:** higher rates in summer to reduce peak demands
- **Time of Use rates:** lower rates for off peak water use
- **Bill water use in gallons:** this allows customers to compare their use to average rates
- **Individualized goal rates:** typically used for industry, business or other large water users to promote water conservation if they keep within agreed upon goals. **Excess Use rates:** if water use goes above an agreed upon amount this higher rate is charged
- **Drought surcharge:** an extra fee is charged for guaranteed water use during drought
- **Use water bill to provide comparisons:** simple graphics comparing individual use over time or compare individual use to others.

- **Service charge or base fee that does not include a water volume** – a base charge or fee to cover universal city expenses that are not customer dependent and/or to provide minimal water at a lower rate (e.g., an amount less than the average residential per capita demand for the water supplier for the last 5 years)
- **Emergency rates** -A community may have a separate conservation rate that only goes into effect when the community or governor declares a drought emergency. These higher rates can help to protect the city budgets during times of significantly less water usage.

****Conservation Neutral****

- **Uniform rate:** rate per unit used is the same regardless of the volume used
- **Odd/even day watering** –This approach reduces peak demand on a daily basis for system operation, but it does not reduce overall water use.

***** Non-Conserving *****

- **Service charge or base fee with water volume:** an amount of water larger than the average residential per capita demand for the water supplier for the last 5 years
- **Declining block rate:** the rate per unit used decreases as water use increases.
- **Flat rate:** one fee regardless of how much water is used (usually unmetered).

Provide justification for any conservation neutral or non-conserving rate structures. If intending to adopt a conservation rate structure, include the timeframe to do so:

N/A

Objective 7: Additional strategies to Reduce Water Use and Support Wellhead Protection Planning

Development and redevelopment projects can provide additional water conservation opportunities, such as the actions listed below. If a Uniform Rate Structure is in place, the water supplier must provide a Water Conservation Program that includes at least two of the actions listed below. Check those actions that you intent to implement within the next 10 years.

Table 28. Additional strategies to Reduce Water Use & Support Wellhead Protection

<input checked="" type="checkbox"/>	Consider participating in the GreenStep Cities Program, including implementation of at least one of the 20 “Best Practices” for water
<input type="checkbox"/>	Prepare a master plan for smart growth (compact urban growth that avoids sprawl)
<input type="checkbox"/>	Prepare a comprehensive open space plan (areas for parks, green spaces, natural areas)
<input type="checkbox"/>	Adopt a water use restriction ordinance (lawn irrigation, car washing, pools, etc.)
<input checked="" type="checkbox"/>	Adopt an outdoor lawn irrigation ordinance
<input type="checkbox"/>	Adopt a private well ordinance (private wells in a city must comply with water restrictions)
<input type="checkbox"/>	Implement a stormwater management program
<input type="checkbox"/>	Adopt non-zoning wetlands ordinance (can further protect wetlands beyond state/federal laws- for vernal pools, buffer areas, restrictions on filling or alterations)
<input type="checkbox"/>	Adopt a water offset program (primarily for new development or expansion)
<input checked="" type="checkbox"/>	Implement a water conservation outreach program
<input type="checkbox"/>	Hire a water conservation coordinator (part-time)
<input checked="" type="checkbox"/>	Implement a rebate program for water efficient appliances, fixtures, or outdoor water management
<input type="checkbox"/>	Other

Objective 8: Tracking Success: How will you track or measure success through the next ten years?

The City will continue to monitor water usage by customer category to determine the efficacy of conservation efforts. The City will also continue to monitor and document the water levels in their active production wells.

Tip: The process to monitor demand reduction and/or a rate structure includes:

- a) The DNR Hydrologist will call or visit the community the first 1-3 years after the water supply plan is completed.
- b) They will discuss what activities the community is doing to conserve water and if they feel their actions are successful. The Water Supply Plan, Part 3 tables and responses will guide the discussion. For example, they will discuss efforts to reduce unaccounted for water loss if that is a problem, or go through Tables 33, 34 and 35 to discuss new initiatives.
- c) The city representative and the hydrologist will discuss total per capita water use, residential per capita water use, and business/industry use. They will note trends.
- d) They will also discuss options for improvement and/or collect case studies of success stories to share with other communities. One option may be to change the rate structure, but there are many other paths to successful water conservation.
- e) If appropriate, they will cooperatively develop a simple work plan for the next few years, targeting a couple areas where the city might focus efforts.

C. Regulation

Complete Table 29 by selecting which regulations are used to reduce demand and improve water efficiencies. Add additional rows as needed.

Copies of adopted regulations or proposed restrictions or should be included in **Appendix 10** (a list with hyperlinks is acceptable).

Table 29. Regulations for short-term reductions in demand and long-term improvements in water efficiencies

Regulations Utilized	When is it applied (in effect)?
<input checked="" type="checkbox"/> Rainfall sensors required on landscape irrigation systems	<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
<input checked="" type="checkbox"/> Water efficient plumbing fixtures required	<input type="checkbox"/> New development <input type="checkbox"/> Replacement <input checked="" type="checkbox"/> Rebate Programs
<input type="checkbox"/> Critical/Emergency Water Deficiency ordinance	<input type="checkbox"/> Only during declared Emergencies
<input checked="" type="checkbox"/> Watering recommendation (no watering 11:00am-4:30pm)	<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Odd/even <input type="checkbox"/> 2 days/week <input type="checkbox"/> Only during declared Emergencies
<input type="checkbox"/> Water waste prohibited (for example, having a fine for irrigators spraying on the street)	<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
<input type="checkbox"/> Limitations on turf areas (requiring lots to have 10% - 25% of the space in natural areas)	<input type="checkbox"/> New development <input type="checkbox"/> Shoreland/zoning

Regulations Utilized	When is it applied (in effect)?
	<input type="checkbox"/> Other
<input type="checkbox"/> Soil preparation requirements (after construction, requiring topsoil to be applied to promote good root growth)	<input type="checkbox"/> New Development <input type="checkbox"/> Construction Projects <input type="checkbox"/> Other
<input type="checkbox"/> Tree ratios (requiring a certain number of trees per square foot of lawn)	<input type="checkbox"/> New development <input type="checkbox"/> Shoreland/zoning <input type="checkbox"/> Other
<input type="checkbox"/> Permit to fill swimming pool and/or requiring pools to be covered (to prevent evaporation)	<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
<input type="checkbox"/> Ordinances that permit stormwater irrigation, reuse of water, or other alternative water use (Note: be sure to check current plumbing codes for updates)	<input type="checkbox"/> Describe

D. Retrofitting Programs

Education and incentive programs aimed at replacing inefficient plumbing fixtures and appliances can help reduce per capita water use, as well as energy costs. It is recommended that municipal water suppliers develop a long-term plan to retrofit public buildings with water efficient plumbing fixtures and appliances. Some water suppliers have developed partnerships with organizations having similar conservation goals, such as electric or gas suppliers, to develop cooperative rebate and retrofit programs.

A study by the AWWA Research Foundation (Residential End Uses of Water, 1999) found that the average indoor water use for a non-conserving home is 69.3 gallons per capita per day (gpcd). The average indoor water use in a conserving home is 45.2 gpcd and most of the decrease in water use is related to water efficient plumbing fixtures and appliances that can reduce water, sewer and energy costs. In Minnesota, certain electric and gas providers are required (Minnesota Statute 216B.241) to fund programs that will conserve energy resources and some utilities have distributed water efficient showerheads to customers to help reduce energy demands required to supply hot water.

Retrofitting Programs

Complete Table 30 by checking which water uses are targeted, the outreach methods used, the measures used to identify success, and any participating partners.

Table 30. Retrofitting programs (Select all that apply)

Water Use Targets	Outreach Methods	Partners
<input type="checkbox"/> Low flush toilets, <input type="checkbox"/> Toilet leak tablets, <input checked="" type="checkbox"/> Low flow showerheads, <input checked="" type="checkbox"/> Faucet aerators;	<input type="checkbox"/> Education about <input type="checkbox"/> Free distribution of <input checked="" type="checkbox"/> Rebate for <input type="checkbox"/> Other	<input checked="" type="checkbox"/> Gas company <input type="checkbox"/> Electric company <input type="checkbox"/> Watershed organization
<input type="checkbox"/> Water conserving washing machines, <input type="checkbox"/> Dish washers, <input type="checkbox"/> Water softeners;	<input type="checkbox"/> Education about <input type="checkbox"/> Free distribution of <input type="checkbox"/> Rebate for <input type="checkbox"/> Other	<input type="checkbox"/> Gas company <input type="checkbox"/> Electric company <input type="checkbox"/> Watershed organization

Water Use Targets	Outreach Methods	Partners
<input type="checkbox"/> Rain gardens, <input checked="" type="checkbox"/> Rain barrels, <input checked="" type="checkbox"/> Native/drought tolerant landscaping, etc.	<input checked="" type="checkbox"/> Education about <input type="checkbox"/> Free distribution of <input checked="" type="checkbox"/> Cost sharing <input type="checkbox"/> Other	<input type="checkbox"/> Gas company <input type="checkbox"/> Electric company <input checked="" type="checkbox"/> Watershed organization

Briefly discuss measures of success from the above table (e.g. number of items distributed, dollar value of rebates, gallons of water conserved, etc.):

The Minnehaha Creek Watershed District hosts workshops and provides cost sharing on rain barrels and resilient landscaping.

E. Education and Information Programs

Customer education should take place in three different circumstances. First, customers should be provided information on how to conserve water and improve water use efficiencies. Second, information should be provided at appropriate times to address peak demands. Third, emergency notices and educational materials about how to reduce water use should be available for quick distribution during an emergency.

Proposed Education Programs

Complete Table 31 by selecting which methods are used to provide water conservation and information, including the frequency of program components. Select all that apply and add additional lines as needed.

Table 31. Current and Proposed Education Programs

Education Methods	General summary of topics	#/Year	Frequency
Billing inserts or tips printed on the actual bill	Yearly inserts included with billing materials	1	<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Consumer Confidence Reports	Yearly Consumer Confidence Reports prepared	1	<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Press releases to traditional local news outlets (e.g., newspapers, radio and TV)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Social media distribution (e.g., emails, Facebook, Twitter)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies

Education Methods	General summary of topics	#/Year	Frequency
Paid advertisements (e.g., billboards, print media, TV, radio, web sites, etc.)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Presentations to community groups			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Staff training			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Facility tours			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Displays and exhibits			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Marketing rebate programs (e.g., indoor fixtures & appliances and outdoor practices)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Community news letters	City of Excelsior Newsletter	4	<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Direct mailings (water audit/retrofit kits, showerheads, brochures)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Information kiosk at utility and public buildings	Information available at Public Works	N/A	<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Public service announcements			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Cable TV Programs			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Demonstration projects (landscaping or plumbing)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies

Education Methods	General summary of topics	#/Year	Frequency
K-12 education programs (Project Wet, Drinking Water Institute, presentations)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Community events (children’s water festivals, environmental fairs)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Community education classes			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Water week promotions			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Website (include address: http://www.ci.excelsior.mn.us)	Water system, water conservation, and wellhead protection information available on City website	N/A	<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Targeted efforts (large volume users, users with large increases)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Notices of ordinances			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Emergency conservation notices			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Other:			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies

Briefly discuss what future education and information activities your community is considering in the future:

The City will investigate and consider recommending Water Smart curriculum for K-12 education.

PART 4. ITEMS FOR METROPOLITAN AREA COMMUNITIES

Minnesota Statute 473.859 requires WSPs to be completed for all local units of government in the seven-county Metropolitan Area as part of the local comprehensive planning process.



Much of the information in Parts 1-3 addresses water demand for the next 10 years. However, additional information is needed to address water demand through 2040, which will make the WSP consistent with the Metropolitan Land Use Planning Act, upon which the local comprehensive plans are based.

This Part 4 provides guidance to complete the WSP in a way that addresses plans for water supply through 2040.

A. Water Demand Projections through 2040

Complete Table 7 in Part 1D by filling in information about long-term water demand projections through 2040. Total Community Population projections should be consistent with the community's system statement, which can be found on the Metropolitan Council's website and which was sent to the community in September 2015.

Projected Average Day, Maximum Day, and Annual Water Demands may either be calculated using the method outlined in *Appendix 2* of the *2015 Master Water Supply Plan* or by a method developed by the individual water supplier.

B. Potential Water Supply Issues

Complete Table 10 in Part 1E by providing information about the potential water supply issues in your community, including those that might occur due to 2040 projected water use.

The [Master Water Supply Plan](#) provides information about potential issues for your community in *Appendix C (Water Supply Profiles)*. This resource may be useful in completing Table 10.

You may document results of local work done to evaluate impact of planned uses by attaching a feasibility assessment or providing a citation and link to where the plan is available electronically.

C. Proposed Alternative Approaches to Meet Extended Water Demand Projections

Complete Table 12 in Part 1F with information about potential water supply infrastructure impacts (such as replacements, expansions or additions to wells/intakes, water storage and treatment capacity, distribution systems, and emergency interconnections) of extended plans for development and redevelopment, in 10-year increments through 2040. It may be useful to refer to information in the community's local Land Use Plan, if available.

Complete Table 14 in Part 1F by checking each approach your community is considering to meet future demand. For each approach your community is considering, provide information about the amount of

future water demand to be met using that approach, the timeframe to implement the approach, potential partners, and current understanding of the key benefits and challenges of the approach.

As challenges are being discussed, consider the need for: evaluation of geologic conditions (mapping, aquifer tests, modeling), identification of areas where domestic wells could be impacted, measurement and analysis of water levels & pumping rates, triggers & associated actions to protect water levels, etc.

D. Value-Added Water Supply Planning Efforts (Optional)

The following information is not required to be completed as part of the local water supply plan, but completing this can help strengthen source water protection throughout the region and help Metropolitan Council and partners in the region to better support local efforts.

Source Water Protection Strategies

Does a Drinking Water Supply Management Area for a neighboring public water supplier overlap your community? Yes No

If you answered no, skip this section. If you answered yes, please complete Table 32 with information about new water demand or land use planning-related local controls that are being considered to provide additional protection in this area.

Table 32. Local controls and schedule to protect Drinking Water Supply Management Areas

Local Control	Schedule to Implement	Potential Partners
<input type="checkbox"/> None at this time		
<input checked="" type="checkbox"/> Comprehensive planning that guides development in vulnerable drinking water supply management areas	Wellhead Protection Plan, Comprehensive Plan Update	Cities of Shorewood and Tonka Bay
<input type="checkbox"/> Zoning overlay		
<input type="checkbox"/> Other:		

Technical assistance

From your community’s perspective, what are the most important topics for the Metropolitan Council to address, guided by the region’s Metropolitan Area Water Supply Advisory Committee and Technical Advisory Committee, as part of its ongoing water supply planning role?

- Coordination of state, regional and local water supply planning roles
- Regional water use goals
- Water use reporting standards
- Regional and sub-regional partnership opportunities
- Identifying and prioritizing data gaps and input for regional and sub-regional analyses
- Others: _____

GLOSSARY

Agricultural/Irrigation Water Use - Water used for crop and non-crop irrigation, livestock watering, chemigation, golf course irrigation, landscape and athletic field irrigation.

Average Daily Demand - The total water pumped during the year divided by 365 days.

Calcareous Fen - Calcareous fens are rare and distinctive wetlands dependent on a constant supply of cold groundwater. Because they are dependent on groundwater and are one of the rarest natural communities in the United States, they are a protected resource in MN. Approximately 200 have been located in Minnesota. They may not be filled, drained or otherwise degraded.

Commercial/Institutional Water Use - Water used by motels, hotels, restaurants, office buildings, commercial facilities and institutions (both civilian and military). Consider maintaining separate institutional water use records for emergency planning and allocation purposes. Water used by multi-family dwellings, apartment buildings, senior housing complexes, and mobile home parks should be reported as Residential Water Use.

Commercial/Institutional/Industrial (C/I/I) Water Sold - The sum of water delivered for commercial/institutional or industrial purposes.

Conservation Rate Structure - A rate structure that encourages conservation and may include increasing block rates, seasonal rates, time of use rates, individualized goal rates, or excess use rates. If a conservation rate is applied to multifamily dwellings, the rate structure must consider each residential unit as an individual user. A community may have a separate conservation rate that only goes into effect when the community or governor declares a drought emergency. These higher rates can help to protect the city budgets during times of significantly less water usage.

Date of Maximum Daily Demand - The date of the maximum (highest) water demand. Typically this is a day in July or August.

Declining Rate Structure - Under a declining block rate structure, a consumer pays less per additional unit of water as usage increases. This rate structure does not promote water conservation.

Distribution System - Water distribution systems consist of an interconnected series of pipes, valves, storage facilities (water tanks, water towers, reservoirs), water purification facilities, pumping stations, flushing hydrants, and components that convey drinking water and meeting fire protection needs for cities, homes, schools, hospitals, businesses, industries and other facilities.

Flat Rate Structure - Flat fee rates do not vary by customer characteristics or water usage. This rate structure does not promote water conservation.

Industrial Water Use - Water used for thermonuclear power (electric utility generation) and other industrial use such as steel, chemical and allied products, paper and allied products, mining, and petroleum refining.

Low Flow Fixtures/Appliances - Plumbing fixtures and appliances that significantly reduce the amount of water released per use are labeled "low flow". These fixtures and appliances use just enough water to be effective, saving excess, clean drinking water that usually goes down the drain.

Maximum Daily Demand - The maximum (highest) amount of water used in one day.

Metered Residential Connections - The number of residential connections to the water system that have meters. For multifamily dwellings, report each residential unit as an individual user.

Percent Unmetered/Unaccounted For - Unaccounted for water use is the volume of water withdrawn from all sources minus the volume of water delivered. This value represents water "lost" by miscalculated water use due to inaccurate meters, water lost through leaks, or water that is used but unmetered or otherwise undocumented. Water used for public services such as hydrant flushing, ice skating rinks, and public swimming pools should be reported under the category "Water Supplier Services".

Population Served - The number of people who are served by the community's public water supply system. This includes the number of people in the community who are connected to the public water supply system, as well as people in neighboring communities who use water supplied by the community's public water supply system. It should not include residents in the community who have private wells or get their water from neighboring water supply.

Residential Connections - The total number of residential connections to the water system. For multifamily dwellings, report each residential unit as an individual user.

Residential Per Capita Demand - The total residential water delivered during the year divided by the population served divided by 365 days.

Residential Water Use - Water used for normal household purposes such as drinking, food preparation, bathing, washing clothes and dishes, flushing toilets, and watering lawns and gardens. Should include all water delivered to single family private residences, multi-family dwellings, apartment buildings, senior housing complexes, mobile home parks, etc.

Smart Meter - Smart meters can be used by municipalities or by individual homeowners. Smart metering generally indicates the presence of one or more of the following:

- Smart irrigation water meters are controllers that look at factors such as weather, soil, slope, etc. and adjust watering time up or down based on data. Smart controllers in a typical summer will reduce water use by 30%-50%. Just changing the spray nozzle to new efficient models can reduce water use by 40%.
- Smart Meters on customer premises that measure consumption during specific time periods and communicate it to the utility, often on a daily basis.
- A communication channel that permits the utility, at a minimum, to obtain meter reads on demand, to ascertain whether water has recently been flowing through the meter and onto the premises, and to issue commands to the meter to perform specific tasks such as disconnecting or restricting water flow.

Total Connections - The number of connections to the public water supply system.

Total Per Capita Demand - The total amount of water withdrawn from all water supply sources during the year divided by the population served divided by 365 days.

Total Water Pumped - The cumulative amount of water withdrawn from all water supply sources during the year.

Total Water Delivered - The sum of residential, commercial, industrial, institutional, water supplier services, wholesale and other water delivered.

Ultimate (Full Build-Out) - Time period representing the community's estimated total amount and location of potential development, or when the community is fully built out at the final planned density.

Unaccounted (Non-revenue) Loss - See definitions for "percent unmetered/unaccounted for loss".

Uniform Rate Structure - A uniform rate structure charges the same price-per-unit for water usage beyond the fixed customer charge, which covers some fixed costs. The rate sends a price signal to the customer because the water bill will vary by usage. Uniform rates by class charge the same price-per-unit for all customers within a customer class (e.g. residential or non-residential). This price structure is generally considered less effective in encouraging water conservation.

Water Supplier Services - Water used for public services such as hydrant flushing, ice skating rinks, public swimming pools, city park irrigation, back-flushing at water treatment facilities, and/or other uses.

Water Used for Nonessential Purposes - Water used for lawn irrigation, golf course and park irrigation, car washes, ornamental fountains, and other non-essential uses.

Wholesale Deliveries - The amount of water delivered in bulk to other public water suppliers.

Acronyms and Initialisms

AWWA – American Water Works Association
C/I/I – Commercial/Institutional/Industrial
CIP – Capital Improvement Plan
GIS – Geographic Information System
GPCD – Gallons per capita per day
GWMA – Groundwater Management Area – North and East Metro, Straight River, Bonanza,
MDH – Minnesota Department of Health
MGD – Million gallons per day

MG – Million gallons
MGL – Maximum Contaminant Level
MnTAP – Minnesota Technical Assistance Program (University of Minnesota)
MPARS – MN/DNR Permitting and Reporting System (new electronic permitting system)
MRWA – Minnesota Rural Waters Association
SWP – Source Water Protection
WHP – Wellhead Protection

APPENDICES TO BE SUBMITTED BY THE WATER SUPPLIER

Appendix 1: Well records and maintenance

summaries Go to [Part 1C](#) for information on what to include in

Appendix 2: Water level monitoring plan

Go to [Part 1E](#) for information on what to include in appendix

Appendix 3: Water level graphs for each water supply well

Go to [Part 1E](#) for information on what to include in appendix

Appendix 4: Capital Improvement Plan

Go to [Part 1E](#) for information on what to include in appendix

Appendix 5: Emergency Telephone List

Go to [Part 2C](#) for information on what to include in appendix

Appendix 6: Cooperative Agreements for Emergency Services

Go to [Part 2C](#) for information on what to include in appendix

Appendix 7: Municipal Critical Water Deficiency Ordinance

Go to [Part 2C](#) for information on what to include in appendix

Appendix 8: Graph of Ten Years of Annual Per Capita Water Demand for Each Customer Category

Go to [Objective 4 in Part 3B](#) for information on what to include in appendix

Appendix 9: Water Rate Structure

Go to [Objective 6 in Part 3B](#) for information on what to include in appendix

Appendix 10: Ordinances or Regulations Related to Water Use

Go to [Objective 7 in Part 3B](#) for information on what to include in appendix

Appendix 11: Implementation Checklist

Provide a table that summarizes all the actions that the public water supplier is doing, or proposes to do, with estimated implementation dates.

Appendix 12: Sources of Information for Table 10

Provide links or references to the information used to complete Table 10. If the file size is reasonable, provide source information as attachments to the plan.

Appendix C

Well Records and Maintenance Reports

205674

County Hennepin
 Quad Excelsior
 Quad ID 105A

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
 Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
 Update Date 06/19/2015
 Received Date

Well Name EXCELSIOR 1	Township 117	Range 23	Dir Section W 34	Subsection ABCCCD	Well Depth 465 ft.	Depth Completed 465 ft.	Date Well Completed 08/00/1957
Elevation 950 ft.	Elev. Method 7.5 minute topographic map (+/- 5 feet)				Drill Method Cable Tool	Drill Fluid	
Address					Use community supply(municipal)	Status Active	
Contact EXCELSIOR MN 55331					Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/> From To		
Well EXCELSIOR MN 55331					Casing Type Single casing Joint		
Stratigraphy Information					Drive Shoe? Yes <input type="checkbox"/> No <input type="checkbox"/> Above/Below		
Geological Material	From	To (ft.)	Color	Hardness	Casing Diameter	Weight	Hole Diameter
CLAY	0	15			12 in. To	303 ft. lbs./ft.	12 in. To 465 ft.
SAND	15	25					
SAND-CLAY	25	75					
SAND	75	86					
SAND-CLAY	86	95					
CLAY AND GRAVEL	95	120					
CLAY	120	155					
SAND CLAY	155	175					
CLAY	175	199					
HARDPAN	199	212					
CLAY	212	240					
SAND	240	250					
CLAY	250	260					
SAND, GRAVEL AND	260	302					
SHAKOPEE ROCK	302	350					
JORDAN SANDROCK	350	454					
SHALE AND	454	463					
SHALE	463	465					
					Open Hole	From 303 ft.	To 465 ft.
					Screen? <input type="checkbox"/>	Type	Make
					Static Water Level		
					58.5 ft.	land surface	Measure 08/00/1957
					Pumping Level (below land surface)		
					75.5 ft.	hrs. Pumping at	326 g.p.m.
					Wellhead Completion		
					Pitless adapter manufacturer		Model
					<input type="checkbox"/> Casing Protection	<input checked="" type="checkbox"/> 12 in. above grade	
					<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)		
					Grouting Information Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified		
					Nearest Known Source of Contamination		
					feet	Direction	Type
					Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No		
					Pump <input type="checkbox"/> Not Installed	Date Installed	
					Manufacturer's name		
					Model Number	HP	Volt
					Length of drop pipe	ft Capacity	g.p. Typ
					Abandoned		
					Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No		
					Variance		
					Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No		
					Miscellaneous		
					First Bedrock	Prairie Du Chien Group	Aquifer Prairie Du Chien-
					Last Strat	St.Lawrence Formation	Depth to Bedrock 302 ft
					Located by Minnesota Department of Health		
					Locate Method GPS SA On (averaged)		
					System	UTM - NAD83, Zone 15, Meters	X 454718 Y 4972271
					Unique Number Verification	Information from	Input Date 10/01/1999
					Angled Drill Hole		
					Well Contractor		
					Keys Well Co.	62012	
					Licensee Business	Lic. or Reg. No.	Name of Driller
Remarks							
EXCELSIOR MUNI #1 MP=2.25.							

242150

County Hennepin
 Quad Excelsior
 Quad ID 105A

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
 Minnesota Statutes Chapter 1031

Entry Date 03/25/1992
 Update Date 11/03/2015
 Received Date

Well Name	Township	Range	Dir Section	Subsection	Well Depth	Depth Completed	Date Well Completed				
GALPINS LAKE	117	23	W 34	DAABDA	468 ft.	362 ft.	12/03/1938				
Elevation	945 ft.	Elev. Method	7.5 minute topographic map (+/- 5 feet)								
Address					Drill Method	Cable Tool	Drill Fluid				
					Use	observation well	Status	Active			
					Well Hydrofractured?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	From	To		
Stratigraphy Information					Casing Type	Single casing	Joint				
					Drive Shoe?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Above/Below			
Geological Material	From	To (ft.)	Color	Hardness	Casing Diameter			Weight			
LOAM	0	1			6 in.	To 199 ft.	lbs./ft.				
SANDY CLAY	1	20	YELLOW								
SANDY CLAY	20	30	BLUE								
BLUE CLAY MIXED	30	35									
SANDY CLAY	35	55	BLUE								
SAND AND COARSE	55	115									
FINE SAND AND	115	120									
FINE SAND SOME	120	130									
VERY FINE SAND	130	180									
FINE SAND	180	190									
SAND AND GRAVEL	190	195									
LIMESTONE	195	204									
SANDSTONE AND	204	261									
LIMESTONE	261	264									
LIMESTONE AND SAND	264	270									
LIMESTONE	270	350									
JORDAN SANDSTONE	350	455									
SANDY SHALE	455	468									
					Open Hole	From 199 ft.	To 362 ft.				
					Screen?	<input type="checkbox"/>	Type	Make			
					Static Water Level						
					65 ft.	land surface	Measure	01/09/1939			
					Pumping Level (below land surface)						
					Wellhead Completion						
					Pitless adapter manufacturer		Model				
					<input type="checkbox"/>	Casing Protection	<input type="checkbox"/>	12 in. above grade			
					<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)						
					Grouting Information						
					Well Grouted?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Not Specified
					Nearest Known Source of Contamination						
					feet	Direction		Type			
					Well disinfected upon completion?			<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
					Pump	<input type="checkbox"/>	Not Installed	Date Installed			
					Manufacturer's name						
					Model Number	HP	Q	Volt			
					Length of drop pipe	ft	Capacity	g.p.	Typ		
					Abandoned						
					Does property have any not in use and not sealed well(s)?			<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
					Variance						
					Was a variance granted from the MDH for this well?			<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
					Miscellaneous						
					First Bedrock	Prairie Du Chien Group		Aquifer	Prairie Du Chien-		
					Last Strat	St.Lawrence Formation		Depth to Bedrock	195	ft	
					Located by Minnesota Geological Survey						
					Locate Method	Digitized - scale 1:24,000 or larger (Digitizing Table)					
					System	UTM - NAD83, Zone 15, Meters		X	455369	Y	4971760
					Unique Number Verification	Information from		Input Date	01/01/1990		
					Angled Drill Hole						
					Well Contractor						
					Layne Well Co.	27010					
					Licensee Business	Lic. or Reg. No.		Name of Driller			

Remarks
 CASING DEPTH/OPEN HOLE LENGTH FROM DNR COOPERATIVE
 GROUNDWATER MONITORING SITE

E.H. Renner & Sons

Incorporated

WELL DRILLING FOR FIVE GENERATIONS

15688 Jarvis Street NW * Elk River, Minnesota 55330

Phone (763) 427-6100 * Fax (763) 427-0533 * Toll Free (800) - 409-WELL

Owner: City of Excelsior
 Contact: Dave Wisdorf
 Phone: 952-474-3464
 Mobile: 952-474-6300
 110 Ft. Setting

Date: 6-30-2015
 Well # Well Pump #1
 Job #

New	Reuse	Pulled
		1

Motor

8	In Diam.	1.187	In. Shaft	14.1875	In. Stickup
x	Inspect	x	Repair		Replace
US	Motor Mfg	30	RPM	1800	Model
RUE	Type	In. CD	In. BX		In. BD
40	FL Amps	460	Phase	3	
	Upper Bearing		Lower Bearing		Cat No.
	Serial No.				Location

1	1	Head Nut
1	1	Motor Shaft
1	1	Motor Shaft Coupling
1	1	Head Shaft
1	1	Head Shaft Coupl
1	1	Pump Head

	In. I.D.		In. Height		TPI - Mat.
1.184	In. O.D.	10'	In. Lgth.		Keyway
	In. I.D.		In. Lgth.		TPI - Mat.
1.184	In. O.D.		In. Lgth.		TPI - Mat.
	In. I.D.		In. Lgth.		TPI - Mat.
X	Sandblast	X	Paint		TPI - Mat.
			In. Height		In. Thrd Depth
	In. Cente to face of flange				In.
	In. Lgth.		Model		
	In. Diam.		Type		

1	1	Flange Gasket
1	1	Sub Base
1	1	Pump Packing Size
1	1	Packing Box Bush
1	1	Top Column Pipe
4	10	Int. Column Pipe
1	1	Bot. Column Pipe
4	11	Column Couplings
1	1	Suction Pipe w/ check
4	11	Bear. Retainers
15	11	Rubber Bearings
13	10	Int. Shaft
2	2	Bot. Shaft
15	12	Shaft Coupl
	11	Sleeve
	1	Bowl Assembly

	In. Well OD		In. Sub base ID		Material	Steel
	In.		Inches lenght		Material	Graphite
	In. I.D.		In. O.D.		In. Lgth.	
8"	In. Diam.	59.25"	In. Lgth.	40	Sch Mat	Steel
8"	In. Diam.	9'11.25"	In. Lgth.	40	Sch Mat	Steel
8"	In. Diam.	59.25"	In. Lgth.	40	Sch Mat	Steel
	Style				Material	Steel
8"	In. Diam.	10'	In. Lgth.	40	Sch Mat	Steel
8"	In. Diam.	3/4"	In. Ring Tickness		Material	
1.187"	In. I.D.	2"	In. O.D.	XXX	In. Lgth.	Rubber
1.187"	In. O.D.	10'	In. Lgth.	12	TPI - Mat.	Changing to
1.187"	In. O.D.	60"	In. Lgth.	12	TPI - Mat.	.416 SS
1.187"	In. I.D.		In. Lgth.	12	TPI - Mat.	.416 SS
	In. I.D.	1.45"	In. O.D.	1.4375"	In. Lgth.	
	Mfg.	American	Model	H60	Stages	5
	GPM	500	Ft. Head	175	RPM	1800
	In. Stickup	14.1875"	Line Shaft		TPI	12
	Discharge		Suction			
	Serial No.		Imp Diam		Imp Mat.	

Replace

1	1	Bowl Shaft
1	1	Disch. Brg.
4	4	Seris Brg.
1	1	Suction Brg
5	5	Collets
5	5	Impellers
5	5	Wear Rings
1	1	Disch. Case
4	4	Serie Case
1	1	Suct. Case
		Bowl Bolts
		Strainer
		Pipe 1" Sch 80 T&C
		Coupling 1" PVC Sch 80
		PVC Cap 1" Sch 80 FIP
		PVC 1" Plug FIP

1.187	In. O.D.		In. Lgth.		TPI - Mat.	.416 SS
	In. I.D.		In. O.D.		In. Lgth.	
	In. I.D.		In. O.D.		In. Lgth.	
	In. I.D.		In. O.D.		In. Lgth.	
	Fit	X	Worn		Material	.416 SS
	In Diamete	x	Worn		Material	
	In. I.D.		In. O.D.		In. Lgth.	None
	Soft		Worn		Material	CI
	Soft		Worn		Material	CI
	Soft		Worn		Material	CI
					Material	.416 SS
	In. I.D.		In. O.D.		In. Lgth.	

Other

E.H. Renner & Sons

INVOICE

Incorporated

WELL DRILLING FOR FIVE GENERATIONS

15688 Jarvis Street NW - Elk River, Minnesota 55330

Phone (763) 427-6100 - Fax (763) 427-0533

www.ehrenner.com

INVOICE NO.:000119780000

CUSTOMER NO.:02937

DATE: 09/23/11

SOLD TO:

City of Excelsior
Attn: Dave Wisdorf
339 3rd Street
Excelsior, MN 55331

SHIP TO:

CITY OF EXCELSIOR
Attn: Dave Wisdorf
339 3RD STREET
EXCELSIOR, MN 55331

SHIP DATE SHIPPED VIA F.O.B. TERMS SALES- ORDER PERSON DATE P.O. NUMBER

/ /

NET 30

02

QUANTITY

DESCRIPTION

UNIT
PRICE

AMOUNT

1

Balance Pump and Motor

450.00

450.00

P.O. _____

* T H A N K Y O U * SUB-TOTAL 450.00 SHIPPING CHARGES 0.00
SALES TAX 0.00 TOTAL 450.00

E.H. Renner & Sons

Incorporated

WELL DRILLING FOR FIVE GENERATIONS

15688 Jarvis Street NW * Elk River, Minnesota 55330

Phone (763) 427-6100 * Fax (763) 427-0533 * Toll Free (800) - 409-WELL

May 11, 2010

City of Excelsior

Dave Wisdorf
339 Third Street
Excelsior, MN 55331

Subject: Invoice Deep Well #2
Invoice No. 10893

	<u>Description</u>	<u>Qty</u>	<u>Units</u>	<u>Unit Price</u>	<u>Total</u>
Labor					
1.	Disconnect and remove drop pipe, vertical turbine submersible pump, check valve and cable Include all loading, unloading, set up tear down and disassemble bowl assembly and motor.	1	LS	\$ 1,800.00	\$ 1,800.00
2.	Clean up of existing equipment.				
a.	Pressure wash bowl assembly and motor.	1	LS	\$ 140.00	\$ 140.00
b.	Sandblast and repaint drop pipe.	126	Ft	\$ 5.00	\$ 630.00
d.	Provide written report on condition of Pump #2. No Charge				
4.	Load pump equipment, haul to site, set up, reinstall vertical submersible turbine pump, connect to system, tear down and return to shop.	1	LS	\$ 1,800.00	\$ 1,800.00
Material					
7.	Submersible cable #6/3 w/ground	143	Ft	\$3.00	\$ 429.00
11.	Misc. (banding, tape, pipe dope, etc.)	1	Ea	\$120.00	\$ 120.00
Total This Invoice					\$ 4,919.00

If you need additional information or have questions, I can be contacted at my office 763-427-6100 or on my cell phone at 651-755-3200.

Sincerely

Jerry Aljets

Jerry Aljets Project Manager
E.H. Renner & Sons, Inc.

E. H. Renner & Sons

INVOICE

INCORPORATED

WELL DRILLING FOR FIVE GENERATIONS

15688 JARVIS STREET N.W. • ELK RIVER, MN 55330

PHONE: (763) 427-6100 • FAX: (763) 427-0533

www.ehrenner.com

INVOICE NO.: 000100070000

CUSTOMER NO.: 02937

DATE: 02/10/09

SOLD TO:

City of Excelsior
Attn: Dave Wisdorf
339 3rd Street
Excelsior, MN 55331

SHIP TO:

Well No. 03

SHIP DATE	SHIPPED VIA	F.O.B.	TERMS	SALES- PERSON	ORDER DATE	P.O. NUMBER
/ /			NET 30	02	10/21/08	Verbal

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1	Final Pay Request		
8	Remove Pump No 03		
8	OPERATOR	/HR. 106.00	848.00
8	HELPER	/HR. 90.00	720.00
8	PUMP RIG	135.00	1,080.00
1	FLAT BED TRUCK	/DAY 250.00	250.00
1	Material as required		
1	Motor Repairs	1,406.00	1,406.00
1	Packing Box and Packing	160.00	160.00
6	10" Column x 10' Sch 40 T&C	755.00	4,530.00
16	Bearings Rubber	20.00	320.00
1	Misc	60.00	60.00
1	Balance Motor	500.00	500.00
1	Airline & Guage	400.00	400.00
1	Bowl Shaft	300.00	300.00
1	Set Bowl Bearings	280.00	280.00
6	Reinstall Pump No 3		
6	SHOP LABOR	98.00	588.00
8	OPERATOR	/HR. 106.00	848.00
8	HELPER	/HR. 90.00	720.00
8	PUMP RIG	135.00	1,080.00
1	FLAT BED TRUCK	/DAY 250.00	250.00

P.O. _____

CIP

* T H A N K	Y O U *	SUB-TOTAL	14,340.00	SHIPPING CHARGES	0.00
		SALES TAX	0.00	TOTAL	14,340.00

E.H. Renner & Sons

Incorporated

WELL DRILLING FOR FIVE GENERATIONS

15688 Jarvis Street NW * Elk River, Minnesota 55330

Phone (763) 427-6100 * Fax (763) 427-0533 * Toll Free (800) - 409-WELL

Well Pump #01

October 31, 2006

Owner

City of Excelsior

339 Third Street
Excelsior, MN 55331

City of Excelsior

Water Department
151 Oak Street
Excelsior, MN 55331

Dave Wisdorf
952-474-3464
952-474-6300

Contact
Phone
Fax
Mobile
E-mail

Charlie Vickstrom
952-474-3464
952-474-6300
612-751-0850

Project: Below base inspection of pump and necessary repairs
Location: 151 Oak street

Unq. No. 205674

Customer # 2937

File # 3383

Motor: US 30 RUE 460 Volt

Pump Mfg.: American 10H60-5

Replace



Design	Total Head (Ft.)	RPM	Bowl Effic	Head Loss (Ft.)	Bowl HP
500	175	1760	80.0%	2	28
110 Ft. Setting		8 In Diam.		1.1875 In. Shaft	
Well Depth (Ft.)	Well Diameter (In.)	Liner Length (Ft.)	Outer Casing (In.)	Depth (Ft.)	Open Hole Diameter (In.)
465	12	303			11.5
Screen	Diameter (In.)	Length (Ft.)	Slot	Elevation	Open Hole
None					
Static Level (Ft.)	Test Rate	Pumping Level (Ft.)	Draw Down (Ft.)	Specific Yield Gals/ft of DD	Date
58	732.0	89.0	31	23.6	
Static Level (Ft.)	Design Rate	Pumping Level (Ft.)	Draw Down (Ft.)	Specific Yield Gals/ft of DD	
58	500	79.2	21.2	23.6	
Date Well Drilled	Driller	Date Pump Installed	Pump Installer		
1957	Keys Well Drilling	2006	E.H. Renner & Sons, Inc.		

SWL 97' when other pump is on

Static water level 97' + 21 = 118' - we should set @ 130' at least
right now SWL 97' + 118'

110' of pipe in well pump 6' long and tail pipe 126'

Pump is shot from sucking air.

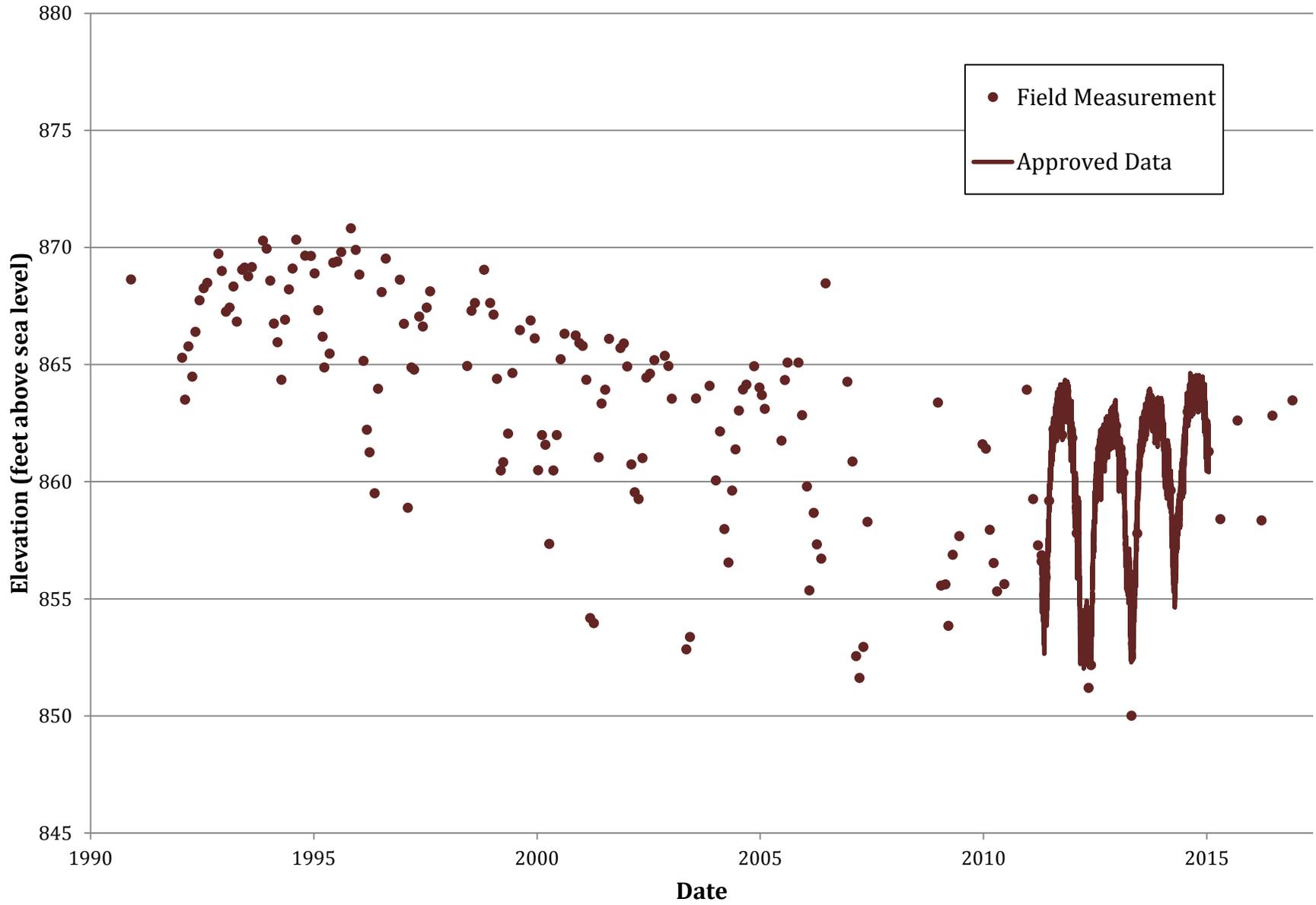
Appendix 2

Water Level Monitoring Plan

Appendix 3

Well Water Levels

Well Water Level - DNR Observation Well (242150)



Appendix 4

Capital Improvement Plan

2016 WATER CIP LIST

2016	High service pump	\$9,000
2017	Rehab. Well #2	\$27,000
2017	Hydrant Replacement	\$15,000
2017	Install new main valve at George st. & W. lake st.	\$3,000
2018	Automate iron filters	\$150,000
2018	Hydrant Replacement	\$15,000
2019	Rehab. Well #3	\$30,000
2019	Replace 1959 windows water plant.	\$20,000
2019	Resurface floor in water plant.	\$18,000
2019	Inspection of tower & ground storage tanks.	\$2,500
2019	Hydrant Replacement	\$15,000
2020	Hydrant Replacement	\$15,000
2021	Paint Water Tower.	\$250,000
2021	Hydrant Replacement	\$15,000
2022	Hydrant Replacement	\$15,000
2023	Paint Ground Storage Tank	\$150,000
2023	Hydrant Replacement	\$15,000
2024	Test iron & softner media in tanks	\$2,500
2024	Hydrant Rplacement	\$15,000
2025	Replace tank media Iron Filters	\$60,000
2025	Hrydrant Replacement	\$15,000
2026	Replace Softner filter media	\$40,000
2026	Hydrant Replacement	\$15,000

Appendix 5

Emergency Telephone List

City of Excelsior Emergency Telephone List

Emergency Response Team	Name	Work Telephone	Alternate Telephone
Emergency Response Lead	Public Works Superintendent Tim Amundsen	952-653-3676	952-237-2989
Alternate Emergency Response Lead	City Manager Kristi Luger	952-653-3672	
Water Operator	Miles Camarata	763-744-6198	
Alternate Water Operator	Shannon Crowell	952-649-0720	
Public Communications			

State and Local Emergency Response Contacts	Name	Work Telephone	Alternate Telephone
State Incident Duty Officer	Minnesota Duty Officer	800-422-0798 Out State	651-649-5451 Metro
County Emergency Director	Hennepin County	612-596-0250	
National Guard	Minnesota Duty Officer	800-422-0798 Out State	651-649-5451 Metro
Mayor/Board Chair	Mark Gaylord		
Fire Chief	Scott Gerber	952-401-8801	
Sheriff	Richard Stanek	612-348-3744	
Police Chief	Mike Meehan	952-474-3261	
Ambulance	Hennepin County EMS	911	612-873-5678
Ambulance	Ridgeview Ambulance Service	911	
Hospital	Ridgeview	911	800-967-4620
Doctor or Medical Facility	Ridgeview Excelsior Clinic	952-906-7855	

State and Local Agencies	Name	Work Telephone	Alternate Telephone
MDH District Engineer	James Loveland	651-201-3710	
MDH	Drinking Water Protection	651-201-4700	
State Testing Laboratory	Minnesota Duty Officer	800-422-0798 Out State	651-649-5451 Metro
MPCA	Chuck Regan	651-757-2866	
DNR Area Hydrologist	Kate Drewry	651-259-5753	
County Water Planner	Joel Settles	612-348-6157	

Utilities	Name	Work Telephone	Alternate Telephone
Electric Company	Xcel Energy – Outage Dispatch	1-800-895-1999	
Gas Company	CenterPoint Energy – Leak Dispatch	612-372-5050	
Telephone Company	CenturyLink	888-638-6771	
Gopher State One Call	ID No. 1142	811	651-454-0002
Highway Department	Main Office	763-745-7500	

Mutual Aid Agreements	Name	Work Telephone	Alternate Telephone
Neighboring Water System	City of Shorewood	952-292-2970	612-828-5916 952-292-7023
Neighboring Water System	City of Tonka Bay	612-590-1828	612-750-3600
Neighboring Water System	City of Deephaven	952-474-4755	952-901-8939

Technical/Contracted Services/Supplies	Name	Work Telephone	Alternate Telephone
MRWA Technical Services	MN Rural Water Association	800-367-6792	
Well Driller/Repair	Renner & Sons – Jerry	651-755-3200	
Sewer Pump Repair	MN Pump	952-807-2732	
Sewer Pump Repair	Electric Pump	612-325-9980	
Electrician	A-1 Electric – Ted	952-200-5641	
Electrician	Frontier / General Electrical – Chuck	952-888-4720	
Backhoe	Valley Rich	612-839-8510	
Chemical & Pumps	Vessco	952-941-2678	
Chemical & Pumps	DPC	651-437-1820	
Meter Repair	Mid America Meter	763-478-8041	
Generator	Interstate Power	952-854-5511	
Valves, Pipe & Fittings	MN Pipe	507-420-9292	
Laboratory	Hach		
Engineering firm	WSB & Associates, Inc. Morgan Dawley	763-287-7173	612-670-3132

Communications	Name	Work Telephone	Alternate Telephone
Newspaper	Sun Sailor – Paige Kieffer	763-424-7364	
Newspaper	Lakeshore Weekly News	952-843-4609	
Radio Station	MPR	800-228-7123	
School Superintendent	Minnetonka Public Schools – Dr. Dennis Peterson	952-401-5004	

Critical Water Users	Name	Work Telephone	Alternate Telephone
Hospital Critical Use:	N/A		
Nursing Home Critical Use:	N/A		
Public Shelter Critical Use:	N/A		

Appendix 6

Cooperative Agreements for Emergency Services

(The City of Excelsior does not have any interconnections at this time.)

Appendix 7

Municipal Critical Water Deficiency Ordinance

Chapter 14 - EMERGENCY MANAGEMENT¹¹

Footnotes:

--- (1) ---

Cross reference— Fire prevention and protection, ch. 18.

State Law reference— Local organizations for emergency management, Minn. Stats. § 12.25 et seq.

Sec. 14-1. - Policy and purpose of chapter.

Because of the existing possibility of the occurrence of disasters of unprecedented size and destruction resulting from fire, flood, tornado, blizzard, destructive winds, or other natural causes, or from sabotage, hostile action, or from hazardous material mishaps of catastrophic measure or other major incidents, and in order to ensure that preparations of the city will be adequate to deal with such disasters, and generally, to provide for the common defense and to protect the public peace, health, and safety, and to preserve the lives and property of the people of this city, it is hereby found and declared to be necessary to:

- (1) Establish a city emergency management organization responsible for city planning and preparation for emergency government operations in time of disasters.
- (2) Provide for the exercise of necessary powers during emergencies and disasters.
- (3) Provide for the rendering of mutual aid between the city and other political subdivisions with respect to the carrying out of emergency preparedness functions.
- (4) Comply with the provisions of Minn. Stats. ch. 12, known as the Minnesota Emergency Management Act of 1996.
- (5) Participate as a member of the Lake Minnetonka Regional Emergency Management, Preparedness Planning and Review Committee, review and accept its emergency plan as the city's basic plan for responses to emergencies, disasters, major incidents, mutual aid, and other projects consistent with this chapter and Minn. Stats. ch. 12.

(Code 1982, § 210:00)

Sec. 14-2. - Definitions.

The following words, terms, and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Disaster means a situation which creates an immediate and serious impairment to the health and safety of any person, or a situation which has resulted in or is likely to result in major loss to property, and for which traditional sources of relief and assistance within the affected area are unable to repair or prevent the injury or loss.

Emergency means an unforeseen combination of circumstances which calls for immediate action to respond, or prevent from developing or occurring.

Emergency management means the preparation for and the carrying out of all emergency functions, to prevent, minimize, and repair injury and damage resulting from disasters caused by fire, flood, tornado, and other acts of nature, or from sabotage, hostile action, or from industrial hazardous material mishaps or other major incidents. These functions include, without limitation, firefighting services, police services, emergency medical services, engineering, warning services, communications, radiological and chemical

evacuation, congregate care, emergency transportation, existing or properly assigned functions of plant protection, temporary restoration of public utility services, and other functions related to civil protection, together with all other activities necessary or incidental for carrying out of the foregoing functions. Emergency management includes those activities sometimes referred to as "civil defense" or "emergency preparedness" functions.

Emergency management forces means the total personnel resources engaged in city-level emergency management functions in accordance with the provision of this resolution or any rule or order thereunder. This includes personnel from a city department, authorized volunteers, and private organizations and agencies.

Emergency management mutual aid means any disaster or major incident which requires the dispatching of city personnel, equipment, or other necessary resources within or without the city limits.

Emergency management organization means the staff element responsible for coordinating city-level planning and preparation for disaster response. This organization provides city liaison and coordination with federal, state, and local jurisdictions relative to disaster preparedness activities, major incidents, mutual aid, and other projects consistent with this chapter and ensures implementation of federal, state, county, and other program requirements.

Lake Minnetonka Regional Emergency Management, Preparedness Planning, and Review Committee means a committee made up of the Lake Minnetonka area emergency management directors which develops, renews, and establishes a basic emergency plan, and identifies and coordinates training for member communities and, reviews local plans, exercises, major incidents, and disaster responses which are consistent with this chapter.

Major incident means any incident which exhausts local resources.

(Code 1982, § 210:05)

Cross reference— Definitions generally, § 1-2.

Sec. 14-3. - Establishment of an emergency management organization.

There is hereby created with the city government an emergency management organization which shall be under the supervision and control of the emergency management director, hereafter called the "director." The director shall be appointed by the city council. The director shall have direct responsibility for the organization, administration, and operation of the emergency preparedness organization.

(Code 1982, § 210:10)

Sec. 14-4. - Powers and duties of the director.

- (a) The director shall represent the city on any regional or state conference for emergency management. The director may develop additional mutual aid agreements with other political subdivisions of the state for reciprocal emergency management aid and assistance in an emergency too great to be dealt with unassisted, and shall present such agreements to the city for its action. Such arrangements shall be consistent with the emergency plan. The director shall also be the city's representative on the Lake Minnetonka Regional Emergency Management, Preparedness Planning, and Review Committees.
- (b) The director shall make assessments of personnel, businesses and industries, resources, and facilities of the city as deemed necessary to determine their adequacy for emergency management and to plan for their most efficient use in time of an emergency, major incident or disaster.
- (c) The director shall work with the city manager and department heads in preparing comprehensive emergency plan for the emergency preparedness of the city and shall present such plan to the city for its approval. When the council has approved the plan by resolution, it shall be the duty of all city

agencies and all emergency preparedness forces of the city to perform the duties and functions assigned by the plan as approved. The plan may be modified in like manner from time to time. The director shall coordinate the basic emergency management activities of the city to the end that they shall be consistent and fully integrated with the basic emergency plan of the Lake Minnetonka Regional Emergency Management, Preparedness Planning, and Review Committee, and federal and state governments. The director shall coordinate efforts with the city manager and train and work with city staff to maximize efficiency of emergency operations.

- (d) In accordance with the emergency plan, the director shall institute such training programs and public information programs and conduct practice warning alerts and emergency exercises as may be necessary to ensure prompt and effective operation of the emergency plan when a disaster, major incident, or mutual aid occurs.
- (e) The director, during an emergency, major incident, or mutual aid, shall utilize the personnel, services, equipment, supplies, and facilities of existing departments and agencies of the city to the maximum extent practicable. The officers and personnel of all such departments and agencies shall be, to the maximum extent practicable, cooperative with and extend such services and facilities to the emergency management organization. The head of each department or agency in cooperation with the director shall be responsible for the planning and programming of such emergency activities as will involve the utilization of the facilities of the department or agency.
- (f) The director shall, in cooperation with the existing departments and agencies affected, assist in the organizing, recruiting, and training of such emergency management personnel, that may be required on a volunteer basis to carry out the emergency plans. To the extent that such emergency personnel are recruited to augment a regular department or agency for emergencies, they shall be assigned to such departments or agencies and shall be under the administration and control of such department or agency.
- (g) The director shall carry out all orders, rules, and regulations issued by the governing authority with reference to emergency management.
- (h) The director shall prepare and submit such reports on emergency preparedness activities as may be requested by the governing authority.

(Code 1982, § 210:15)

Sec. 14-5. - Local emergencies.

- (a) A local emergency, including a disaster, major incident, or mutual aid response, may be declared by the mayor, or their legal successors. It shall not be continued for a period in excess of three days except by or with the consent of the governing board of the political subdivision. Any order or proclamation declaring, continuing, or terminating a local emergency shall be given prompt and general publicity and shall be filed promptly by the clerk of the local recordkeeping agency of the subdivision. An emergency meeting of the city council shall be called as soon as practical to confirm the local emergency declaration.
- (b) A declaration of local emergency shall invoke necessary portions of the response and recovery aspects of applicable plans including fiscal expenditures which are consistent with this chapter.
- (c) No other jurisdictional agency or official may declare a local emergency unless expressly authorized by the agreement under which the agency functions.

(Code 1982, § 210:20)

Sec. 14-6. - Emergency regulations.

- (a) Whenever necessary to meet a declared emergency or to prepare for such an emergency for which adequate regulations have not been adopted by the governor or the city council, the council may by

resolution promulgate regulations, consistent with the applicable federal or state law or regulation, respecting: the conduct of persons and the use of property during emergencies; the repair, maintenance, and safeguarding of essential public services, emergency health, fire, and safety regulation, drills, or practice periods required for preliminary training; and all other matters which are required to protect public safety, health, and welfare in declared emergencies.

- (b) Every resolution of emergency regulations shall be in writing; shall be dated; shall refer to the particular emergency to which it pertains, if so limited; and shall be filed in the office of the city manager, which copy shall be kept posted and available for public inspection during business hours. Notice of the existence of such regulation and its availability for inspection at the city manager's office shall be conspicuously posted at the front of the city hall or other headquarters of the city or at such other places in the affected area as the council shall designate in the resolution. By like resolution, the council may modify or rescind any such regulation.
- (c) The city council may rescind any such regulation by resolution at any time. If not sooner rescinded, every such regulation shall expire at the end of 30 days after its effective date or at the end of the emergency to which it relates, whichever comes first. Any resolution, rule, or regulation inconsistent with an emergency regulation promulgated by the council shall be suspended during the period of time and to the extent such conflict exists.
- (d) During a declared emergency, the director is, notwithstanding any statutory or Charter provision on the contrary, empowered through its governing body acting within or without the corporate limits of the city, to enter into contracts and incur obligations necessary to combat such disaster by protecting the health and safety of persons and property and providing emergency assistance to the victims of such disaster. The director may exercise such powers in the light of the exigencies of the disaster without compliance with the time-consuming procedures and formalities prescribed by law pertaining to the performance of public work, entering rental equipment agreements, purchase of supplies and materials, limitations upon tax levies, and the appropriation and expenditure of public funds including, but not limited to, publication of resolutions, publication of call for bids, provisions of personnel laws and rules, provisions relating to low bids, and requirements for budgets.

(Code 1982, § 210:25)

Sec. 14-7. - Emergency management a governmental function.

All functions thereunder and all other activities relating to emergency management are hereby declared to be governmental functions. The provisions of this section shall not affect the right of any person to receive benefits to which he would otherwise be entitled under this resolution or under the workers' compensation law, or under any pension law, nor the right of any such person to receive any benefits or compensation under any act of Congress.

(Code 1982, § 210:30)

Sec. 14-8. - Participation in labor dispute or politics.

The emergency management organization shall not participate in any form of political activity, nor shall it be employed directly or indirectly for political purposes, nor shall it be employed in a labor dispute. The director may express professional opinions on legislative or other legal regulations consistent with the areas found in Minn. Stats. ch. 12.

(Code 1982, § 210:35)

Sec. 14-9. - Authorizing dispatch and use of city equipment and services by the director in emergency situations (mutual aid).

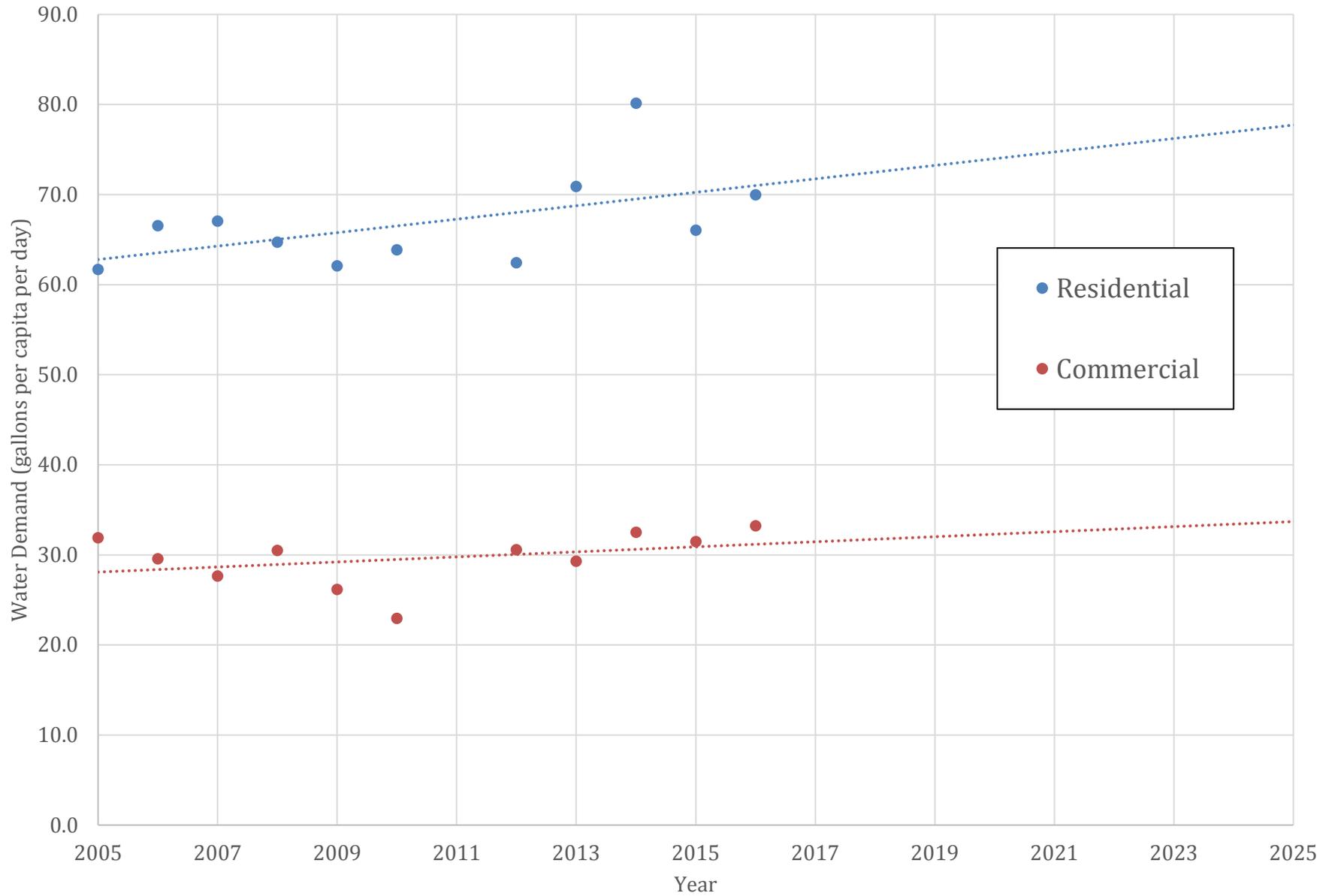
- (a) The city finds it desirable and necessary to authorize the director to dispatch city equipment and personnel to local communities who request aid to combat their emergency, disaster, or major incident consistent with this chapter and section 14-4(e).
- (b) The director shall evaluate the internal needs of the city, and dispatch appropriate available aid. The director shall immediately recall, order, and terminate the use of any dispatched equipment and personnel when the need for their use no longer exists, or earlier, when it appears in the best interest of the city. Aid requested from outside the Lake Minnetonka Regional area, or extended local aid within the Lake Minnetonka Regional area, shall require mutual agreement between the director and the city manager or their designee.
- (c) The director shall be fully authorized to act as an agent of the city, and all provisions for compensation of personnel, rental of equipment, liability insurance coverage, workman's compensation insurance, and all other safeguards and matters pertaining to the city, its equipment, and personnel, shall apply in each case as if specifically authorized and directed at such time, whether or not the governing body or authority of the place in which the disaster, major incident, mutual aid, or other occurrence exists has previously requested and provided for assistance and the use of equipment and personnel under a mutual protection agreement or other type protection agreement within the city.

(Code 1982, § 210:40)

Appendix 8

Water Demand by Customer Category

Water Demand by Customer Category



Appendix 9

Water Rate Structure

2017 Quarterly Water Rate Structure
City of Excelsior

Type of Fee	Conditions or Terms	Amount	Renewal Amt. if Paid After 12/16
Water – Commercial With Irrigation Meter	Fixed Charge – Per Meter	\$28.81	\$34.60
	Every 1,000 Gallons or Portion Thereof	\$4.18	\$4.47
Water – Commercial Without Irrigation Meter	Fixed Charge – Per Meter	\$28.81	\$34.60
	0–20,000 Gallons (Per 1,000 Gallons)	\$4.18	\$4.47
	20,000–40,000 Gallons (Per 1,000 Gallons)	\$5.23	\$5.59
	Over 40,000 Gallons (Per 1,000 Gallons)	\$7.84	\$8.37
Water – Irrigation Meters	Fixed Charge – Per Meter	\$28.81	\$34.60
	0–20,000 Gallons (Per 1,000 Gallons)	\$5.23	\$5.59
	Over 20,000 Gallons (Per 1,000 Gallons)	\$7.84	\$8.37
Water - Residential	Fixed Charge – Per Meter	\$28.81	\$34.60
	0–20,000 Gallons (Per 1,000 Gallons)	\$4.18	\$4.47
	20,000–40,000 Gallons (Per 1,000 Gallons)	\$5.23	\$5.59
	Over 40,000 Gallons (Per 1,000 Gallons)	\$7.84	\$8.37

Appendix 10

Regulations Related to Water Use

Regulations Related to Water Use

City of Excelsior

Lawn Watering Time Recommendation

<http://www.ci.excelsior.mn.us/index.aspx?NID=146>

2015 Minnesota Statute, 103G. 298 Landscape Irrigation Systems

<https://www.revisor.mn.gov/statutes/?id=103g.298>

CenterPoint Energy Rebated Water Efficient Showerheads and Faucet Aerators

<http://www.centerpointenergy.com/en-us/residential/save-energy-money/efficiency-programs-rebates/low-flow-showerheads-aerators?sa=mn>

Appendix 11

Implementation Checklist



City of Excelsior Implementation Spreadsheet

Action	Description	Timeframe				
		ongoing	annually	1-3 yrs	1-5 yrs	3-6 yrs
Revise city ordinances/codes	To encourage or require water efficient landscaping.	✓				
Revise city ordinance/codes	To permit water reuse options, especially for non-potable purposes like irrigation, groundwater recharge, and industrial use.		✓			
Revise ordinances to limit irrigation	Review outdoor irrigation installations codes to require high efficiency systems (e.g. those with soil moisture sensors or programmable watering areas) in new installations or system replacements					✓
Make water system infrastructure improvements	(e.g., leak detection and repair, system inventory and age review, etc.)	✓				
Provide rebates or incentives for installing water efficient appliances and/or fixtures indoors	(e.g., low flow toilets, high efficiency dish washers and washing machines, showerhead and faucet aerators, water softeners, etc.)					✓
Provide rebates or incentives to reduce outdoor water use	(e.g., turf replacement/reduction, rain gardens, rain barrels, smart irrigation, outdoor water use meters, etc.)					✓
Conduct audience-appropriate water conservation education and outreach	(e.g., booth at festivals, facility tours, information kiosks, etc.)	✓				
Conduct a facility water use audit	For both indoor and outdoor use, including system components		✓			
Install enhanced meters	Capable of automated readings to detect spikes in consumption	✓				
Install water conservation fixtures and appliances or change processes to conserve water	Toilets, faucets, etc.	✓				
Repair leaking system components	(e.g., pipes, valves)	✓				
Investigate the reuse of reclaimed water	(e.g., stormwater, wastewater effluent, process wastewater, etc.)		✓			
Reduce outdoor water use	(e.g., turf replacement/reduction, rain gardens, rain barrels, smart irrigation, outdoor water use meters, etc.)	✓				
Train employees how to conserve water	Include for new employee training	✓				
Consider participating in the GreenStep Cities Program	Voluntary program to aid cities in achieving their sustainability and quality-of-life goals		✓			

Rainfall sensors required on landscape irrigation systems	Conserve water and reduce utility bill when there is sufficient moisture for landscape area.	✓				
Watering restriction requirements	Odd/Even day watering recommendation	✓				
Billing inserts or tips printed on the actual bill	Educational information supplied as billing insert	✓				
Consumer Confidence Reports	Report of City's water quality		✓			
Direct mailings (water audit/retrofit kits, showerheads, brochures)	City is looking into using direct mailings to further educate residents on the benefits of water conservation.		✓			
K-12 Education programs (Project Wet, Drinking Water Institute, presentations)	Making programs to educate school age children on water resources.				✓	

Appendix 12

Natural Resource Impact Sources

Groundwater Level vs. Lake Minnetonka Level

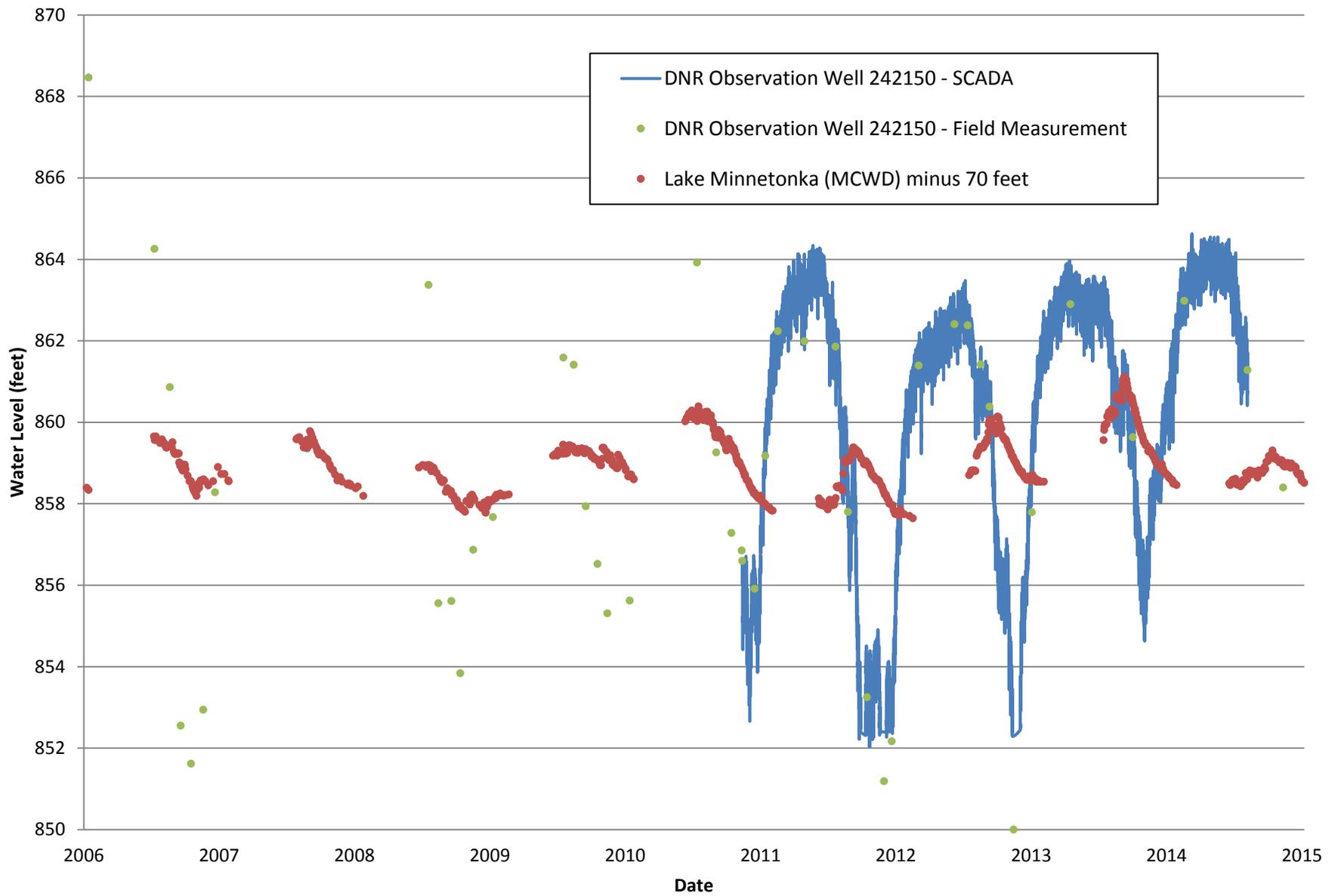


Figure 3. Surface water features and interaction with the regional groundwater system, and state-protected surface water features

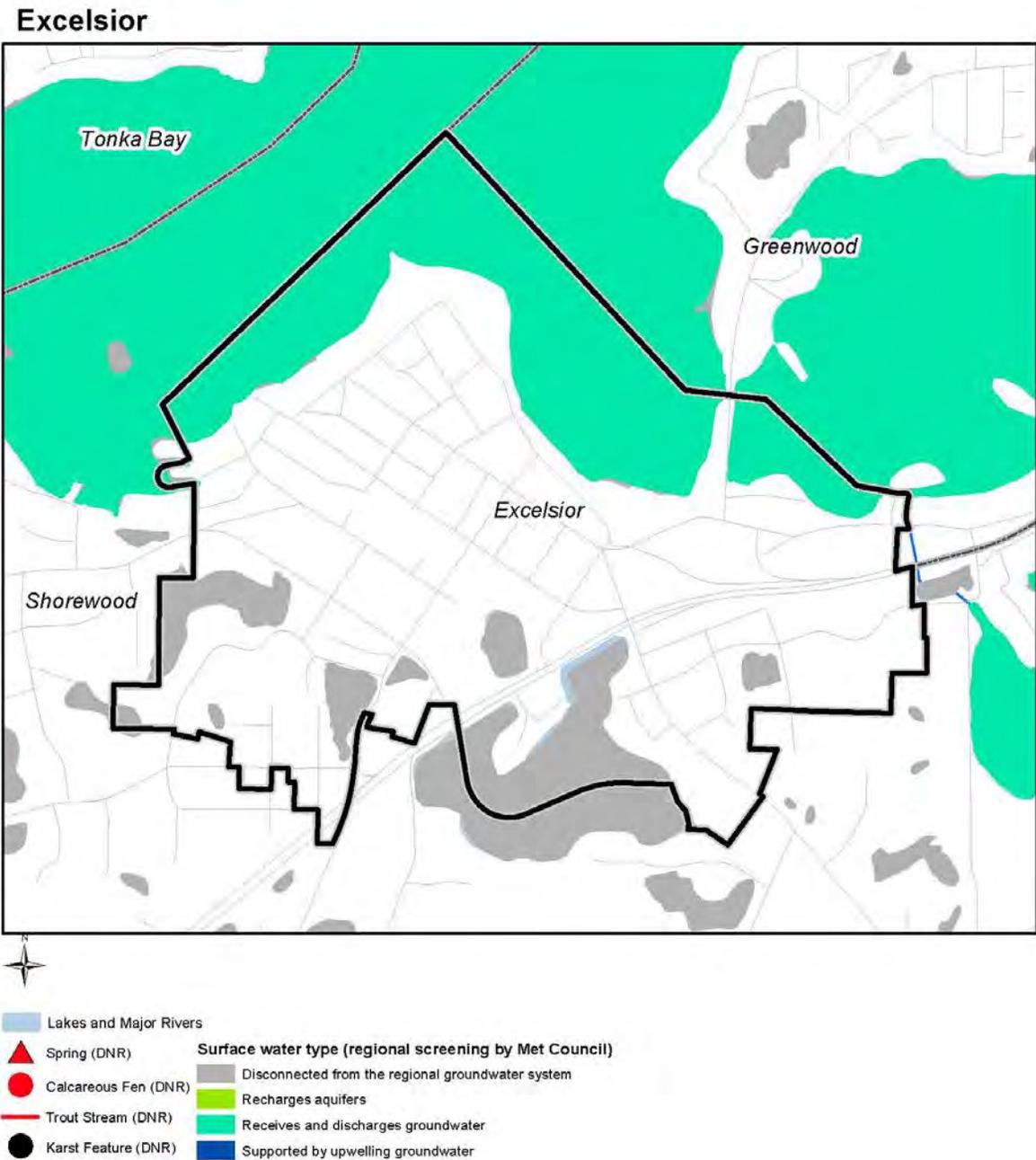


Figure 4. Availability of MN Department of Natural Resources groundwater level and MN Department of Health aquifer test data

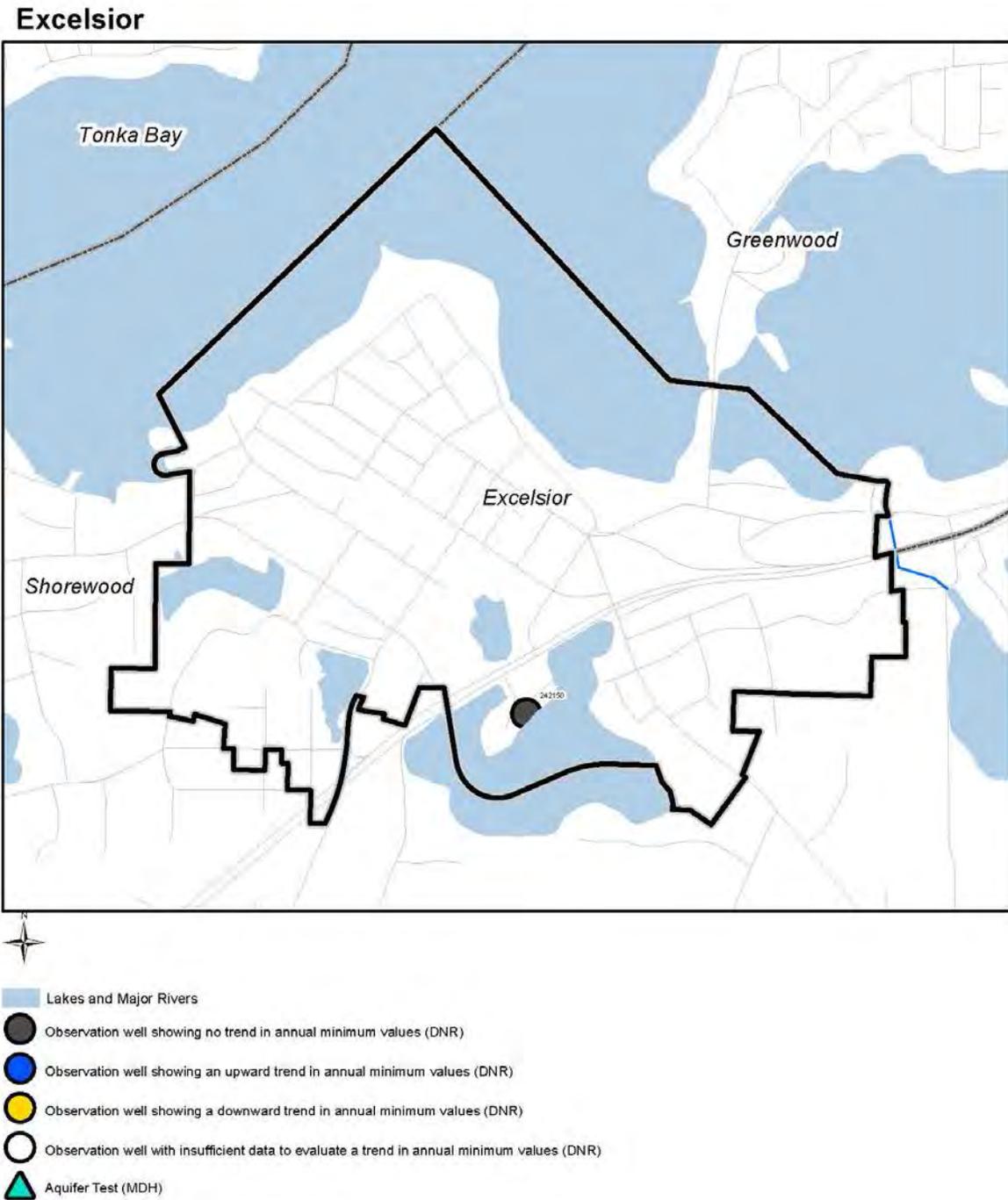
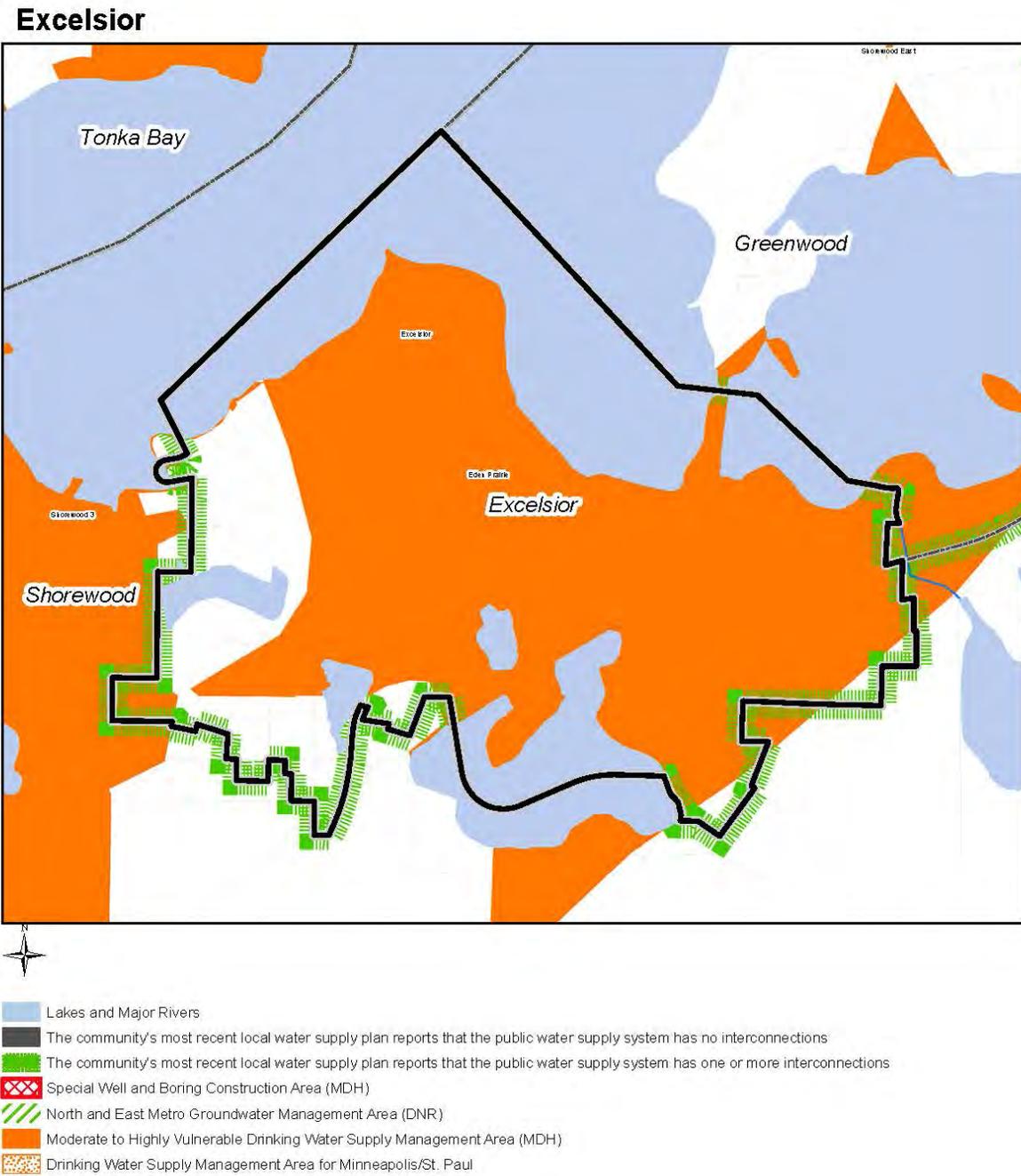


Figure 5. Municipal public water supply system interconnections and regulatory management areas



D

**APPENDIX: Local Surface Water
Management Plan**

Excelsior



Comprehensive Surface Water Management Plan

July 2018

Prepared For
City of Excelsior
339 Third Street
Excelsior, MN 55331



WSB Project No. 010059-000

COMPREHENSIVE SURFACE WATER MANAGEMENT PLAN

CITY OF EXCELSIOR, MN

JULY 2018

WSB Project No. 010059-000



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Jake Newhall, PE  _____
Reg. No. 49170

Title Page
Certification
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SECTION 2: LAND AND WATER RESOURCE INVENTORY
SECTION 3: COOPERATION WITH OTHER AGENCIES
SECTION 4: PROBLEMS AND CORRECTIVE ACTIONS
SECTION 5: ESTABLISHMENT OF GOALS AND POLICIES
SECTION 6: IMPLEMENTATION PRIORITIES / IMPLEMENTATION PROGRAM

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- Figure 13: Parks and Trails Map
- Figure 14: MPCA Areas of Interest
- Figure 15: MLCCS Land Cover Map
- Figure 16: Subwatershed and Drainage Routing Map
- Figure 17: Drinking Water Supply Management Areas Map
- Figure 18: Excelsior’s City-Owned Parcels
- Figure 19: Storm Sewer Map

Appendix B – Water Resource Related Agreements

Appendix C – Storm Water System Modeling Information

Appendix D – FEMA Flood Insurance Study

Appendix E – NPDES Phase II Information and City Facility Inventory

Appendix F – Fish and Wildlife Information

Appendix G – Pollutant Source Information

Appendix H – Lake and Water Quality Information

Appendix I – Wetland Functional Assessment

Appendix J – Ordinances

Appendix K – Phosphorus Load Reduction Plan

BMP – Best Management Practice
CIP – Capital Improvement Plan
City – City of Excelsior
DNR – Department of Natural Resources
DWSMA – Drinking Water Supply Management Area
EPA – Environmental Protection Agency
FEMA- Federal Emergency Management Agency
FIRM – Flood Insurance Rate Maps
FIS – Flood Insurance Study
GIS – Geographic Information System
HHPLS – Hydrologic, Hydraulic, and Pollutant Loading Study
LGU – Local Government Unit
LID – Low Impact Development
McRAM – Minnehaha Creek Routine Assessment Method
MCWD – Minnehaha Creek Watershed District
MDH – Minnesota Department of Health
MLCCS – Minnesota Land Cover Classification System
MPCA – Minnesota Pollution Control Agency
MS4 – Municipal Separate Storm Sewer Systems
NPDES – National Pollutant Discharge Elimination System
NURP – Nationwide Urban Runoff Program
NWI – National Wetland Inventory
OHW – Ordinary High Water
PAHs – Polycyclic Aromatic Hydrocarbons
SWMP – Surface Water Management Plan (the Plan)
SWPPP – Storm Water Pollution Prevention Plan
TMDL – Total Maximum Daily Load
TP – Total Phosphorus
TSS – Total Suspended Solids
WCA – Wetland Conservation Act

1. EXECUTIVE SUMMARY

This Comprehensive Surface Water Management Plan (SWMP, the Plan) for the City of Excelsior (the City) has been developed to meet local watershed management planning requirements of the Metropolitan Surface Water Management Act and Board of Water and Soil Resources Rules 8410. It has also been developed to conform with the requirements of the local watershed district and watershed management organizations, Metropolitan Council requirements, and applicable State and Federal laws. This document and its referenced literature is intended to provide a comprehensive inventory of pertinent water resource related information that affects the City and management of those resources.

Section 2 – Land and Water Resource Inventory of this plan provides an inventory of land and water resources within the City including a general description and summary of data related to precipitation, geology, topography, flood problem areas, water quality, water management ordinances, groundwater, soils, land use, public utilities services, public areas for water-based recreation and access, fish and wildlife habitat, and pollutant source locations within the City.

Section 3 – Cooperation with Other Agencies describes the City's ordinances as well as other governmental controls and programs that affect water resources.

Section 4 – Problems and Corrective Actions provides an assessment of the existing and potential water resource related concerns within the City.

Section 5 – Establishment of Goals and Policies outlines the water resource management related goals and policies of the City.

Section 6 – Implementation Priorities / Implementation Program presents the program elements and discusses the responsibilities, priorities, and financial considerations associated with the implementation program. It also includes the amendment procedure for the Plan, if needed.

Appendices are included in the back of the plan and are summarized below. These documents are included to provide supporting information to the main body of the Plan.

Appendix A – Figures. A number of maps were developed as part of the Plan to assist in summarizing the information provided.

Appendix B – Water Resource Related Agreements. The City is currently involved in several water resource related agreements; copies are included in this appendix.

Appendix C – Stormwater System Modeling Information. A summary of the stormwater model that was developed for the City is included in this appendix. It is a HydroCAD model developed in 2008 for this Plan. This includes drainage areas, high water levels, and peak discharge rates as well as subwatershed and storm sewer maps.

Appendix D – FEMA Flood Insurance Study. A copy of the Federal Emergency Management Agency (FEMA) flood insurance rate maps are included in this appendix.

Appendix E – NPDES Phase II Information. A copy of the National Pollutant Discharge Elimination System (NPDES) permit application and Best Management Practice (BMP) summary sheets are included in this appendix.

Appendix F – Fish and Wildlife Information. Information from the Department of Natural Resources (DNR) regarding fish and wildlife resources is included in this appendix.

Appendix G – Identified Pollutant Sources. Supporting information from the Minnesota Pollution Control Agency (MPCA) regarding pollutant sources is included in this appendix.

Appendix H – Lake and Water Quality Information. Information collected about the lakes and water quality is included in this appendix.

Appendix I – Wetland Assessment Summary. This appendix contains the results of the wetland functional assessment for the City.

Appendix J – Ordinances. The City’s applicable water resource ordinances are included.

Appendix K – Phosphorus Load Reduction Plan. The City is required by Minnehaha Creek Watershed District (MCWD) to remove ten pounds of phosphorus annually. The plan to address this requirement is in this appendix.

Additional material is referenced within this report and is available from the Engineering Department.

This document is expected to be a ten-year Surface Water Management Plan, after which time this plan should be updated. However, if significant changes to the plan are deemed necessary prior to that date the City may revise this plan in its entirety.

2. LAND AND WATER RESOURCE INVENTORY

In conformance with the Metropolitan Surface Water Management Act and as required in Minnesota Rules Section 8410.0060, this section of the Plan provides a general description and summary of the climate, geology, surficial topography, surface and groundwater resource data, soils, land use, public utilities services, water-based recreation, fish and wildlife habitat, unique features, scenic areas, and pollutant sources. This section also identifies where detailed information can be obtained for many of these areas of concern.

2.1. Climate and Precipitation

2.1.1. Climate

The climate within the Minneapolis/St. Paul metropolitan area is described as a humid continental climate with moderate precipitation, wide daily temperature variations, warm humid summers, and cold winters. The total average annual precipitation is approximately 31 inches, of which approximately one-third occurs in the months of June, July, and August. The annual snowfall average is about 56 inches and is equivalent to approximately 5.6 inches of water. Average monthly temperature and precipitation are shown in **Table 2-1**.

2.1.2. Precipitation

A rainfall event having a 99% chance of occurrence in a given year over a 24-hour period is approximately 2.5 inches. A rainfall event having a 1% chance of occurrence in a given year over a 24-hour period, or what is most commonly referred to as a 100-year event, is approximately 7.35 inches. These values are based on the Atlas 14 precipitation frequency estimates. The 100-year, 10-day snowmelt runoff is 7.2 inches. Additional climatological information for the area can be obtained from the [National Weather Service Website](#) at or from the [State Climatologist website](#).

2.2. Geology and Topographic Information

2.2.1. Geology

The City is located in southwestern Hennepin County (**Figure 1, Appendix A**). The City is surrounded by the City of Shorewood, except for the northeast side where it is bordered by the City of Greenwood. Total area within the incorporated limits of the City is 554.5 acres, with 151.1 acres being water.

According to the Hennepin County Geologic Atlas, the geomorphology of the City in the uppermost geologic formation consists of quaternary deposits that can be as thick as 300 to 400 feet. The unconsolidated quaternary deposits of glacial and post glacial material conceal all the bedrock within the City. The bedrock formations are marine sedimentary rocks of Early Paleozoic age when shallow seas covered southeastern Minnesota.

The bedrock formations throughout the City include the Prairie du Chien and the St. Peter Sandstone. Depth to bedrock varies from approximately 600 to 750 feet above sea level.

There are three main aquifers within the City boundaries: Prairie du Chien Aquifer, Franconia-Ironton-Galesville Aquifer, and Mt. Simon-Hinckley Aquifer.

Additional geologic information for areas within the City can be found in the following plans:

- [Hennepin County Geologic Atlas](#)
- [Minnehaha Creek Watershed District Plan](#)

TABLE 2-1 AVERAGE MONTHLY TEMPERATURE AND PRECIPITATION DATA FOR CITY

Months	Average Temp (F°)	Precipitation (inches)
January	15.6	0.90
February	20.8	0.77
March	32.8	1.89
April	47.5	2.66
May	59.1	3.36
June	68.8	4.25
July	73.8	4.04
August	71.2	4.30
September	62.0	3.08
October	48.9	2.43
November	33.7	1.77
December	19.7	1.16

Source: National Centers for Environmental Information, MSP Airport

2.2.2. Topography:

The topography of the City can be described as essentially hilly shoreland adjacent to Lake Minnetonka. Stormwater runoff from the City is generally directed from the south to the north into Lake Minnetonka. The specific drainage patterns based on current land use, which depict topography for areas within the City, are shown on the subwatershed delineation map (**Figure 16, Appendix A**). As can be observed from the subwatershed delineation map, the City is divided into several small watersheds. The subwatershed delineations utilized City topographic mapping, storm sewer as-builts, aerial photos, and field investigations. The City owned and maintained stormwater facilities can also be found on **Figure 16, Appendix A**. There is very little undeveloped land left within the City, so no large-scale changes are expected in land use or drainage patterns. For this reason, **Figure 16, Appendix A** is considered a drainage patterns map for both the current and future conditions.

2.3. Surface Water Resource Data

Available surface water resource data within the City is summarized in this section. Detailed information has been included either in the appendices to this report or has been identified by reference and is available from the Engineering Department.

The hydrologic system of the City consists of wetlands, streams, and major water bodies as outlined below.

2.3.1. Wetlands

MCWD acts as the Local Government Unit (LGU) for the City for the Wetland Conservation Act (WCA). All land use plans submitted to the city with wetlands on-site are forwarded to MCWD for comment as well as any wetland related concerns.

The general locations of wetlands within the City are shown on **Figures 2, 3, and 4 in Appendix A**. These figures show the Wetland Assessment from the MCWD, National Wetland Inventory (NWI), and the DNR Public Waters Map, respectively. These wetlands provide habitat to many species of plants and animals.

In 2003, the MCWD completed a functional assessment of wetlands using the Minnehaha Creek Routine Assessment Method (McRAM) as shown on **Figure 2, Appendix A**. A summary of these results is included in **Appendix I**.

2.3.2. *Major Bodies of Water*

There are several water bodies that convey and store water within and through the City. These water bodies are Lake Minnetonka, Galpin Lake, Mud Lake, and College Lake (**Figure 4, Appendix A**). More information about these water bodies is included in various portions of this section. No Outstanding Resource Value Waters fall within the City boundary.

2.3.3. *Hydrologic Modeling*

The City’s hydrologic/hydraulic system consists of Lake Minnetonka as well as other lakes, ponds, wetlands, and storm sewer systems. The City is divided into approximately 57 subwatershed areas, which are shown on **Figure 16, Appendix A**. **Figure 19, Appendix A** shows the City’s storm sewer and structural BMPs.

The City’s hydrologic/hydraulic modeling effort was completed in 2008 using HydroCAD. The model quantifies the 2-year, 10-year, and 100-year rainfall events, peak discharge rates, storage requirements, other pertinent hydrologic/hydraulic information for storm water retention areas, and trunk storm water conveyance systems within the City. The City plans to update their City-wide model to Atlas 14 conditions and updated land use within the next few years. The hydrologic/hydraulic modeling results are included as **Appendix C**.

FEMA shows the 100-year floodplain of Lake Minnetonka as 931.0. MCWD shows the 100-year floodplain elevation at 931.5. While the City’s model did not include Lake Minnetonka, the City recognizes the 100-year floodplain elevation at 931.5.

In 2003, the MCWD completed a Hydrologic, Hydraulic, and Pollutant Loading Study (HHPLS) to determine the physical and biological characteristics within the watershed. The study looked into the amount of water moving through the watershed and the quality of that water and how the water quality varied in different parts of the watershed. Additional information can be found in the HHPLS on [MCWD’s website](#).

Additional information regarding water quantity within the City can be found in the following studies. Hard copies of these studies can be found at City Hall.

- Second Avenue Storm Sewer Study
- Bells Street Hydrological Study

2.4. Flood Insurance Studies

A FEMA Flood Insurance Study (FIS) was completed for Hennepin County and updated in 2016. The FIS consists of a study report, a set of floodway and floodplain delineation maps, and a set of Flood Insurance Rate Maps (FIRM). The FIRMs are available from the City Engineering Department, in **Appendix D**, or on [FEMA’s website](#). The floodplain boundaries for the City are shown in **Figure 5, Appendix A**. The 100-year flood levels and peak discharge rates based on the City’s model are included in **Appendix C**. **Table 2-2** includes the City model’s HWL and FEMA’s 100-year floodplain elevation for lakes located within the City.

TABLE 2-2 HIGH WATER LEVELS FOR LAKES LOCATED WITHIN THE CITY

Lake Name	City Model HWL	FEMA 100-year Floodplain Elevation
Lake Minnetonka	Not included in model	931.5
College Lake	948.8	946.0
Galpin Lake	945.7	946.0
Mud Lake	945.1	946.0

2.5. Water Resource Problem Areas

A number of water resource problem areas were identified within the City. **Figure 6, Appendix A** shows the locations of these water resource problem areas and **Table 4-1** lists the areas. These areas were identified through information obtained from City staff and from analyzing the stormwater modeling results.

There are three distinct types of problems found in the City:

- 1) Erosion and silt caused by uncontrolled runoff
- 2) Erosion problems in areas that have inadequately sized storm sewer
- 3) Low areas that do not provide adequate freeboard (two feet)

More detailed information about these issues is available in **Section 4** and **Table 4-1** of this Plan.

2.6. Water Quality Data

Water quality data for the City has been obtained from the MPCA's [Environmental Data Access website](#) and from the [MCWD website](#). Some of this data is included in **Appendix H. Figure 7, Appendix A** shows the location of monitoring sites listed on the MPCA website. Some of the available water quality information is summarized in **Table 2-3**.

TABLE 2-3 WATER QUALITY SUMMARY FOR LAKES IN THE CITY

	Mean Total Phosphorus (ppb)	Mean Chlorophyll a (ppb)	Secchi Disk (meters)	Carlson Trophic Status
Galpin Lake	NA	NA	1.4	Hypereutrophic
Lake Minnetonka	32	3.56	4	Mesotrophic
Gideon's Bay (MCWD)	NA	NA	0.7	Mesotrophic

The MPCA lists the following waterbody/water course within the City as having impaired uses due to excess pollutant:

- Lake Minnetonka (*Mercury*)

This waterbody/watercourse is designated as having a Total Maximum Daily Load (TMDL) for acceptable levels of the pollutant. The EPA has approved the state-wide TMDL on mercury reductions. **Figure 7, Appendix A** also shows the location of the impaired waters.

2.7. Floodplain Management

The City has adopted regulations for activity within the floodplain district. A copy of these regulations can be found on the [City's website](#) and in **Appendix J**. These regulations dictate floodplain usage for different types of construction.

2.8. Shoreland Management

The City has adopted a Shoreland Overlay District. A copy of these regulations can be found on the [City's website](#) and in **Appendix J**. Based on these regulations, the City classification for the DNR Public Waters/Wetlands within the City can be found in **Table 2-4**.

TABLE 2-4 WATER BODY DNR CLASSIFICATION

<i>Water Body Number</i>	<i>Water Body Name</i>	<i>Classification</i>
133 P	Lake Minnetonka	General Development
898 W	Unnamed	Natural Environment
896 W	College Lake	Natural Environment
895 W	Mud Lake	Natural Environment
144 P	Galpin Lake	General Development

Figure 4, Appendix A shows the location of these water bodies with the Ordinary High Water (OHW) level, if applicable.

2.9. Private Development Stormwater Maintenance

Stormwater management ponds constructed on private developments are required to be covered by drainage and utility easements that are dedicated to the City. Developers are required to submit an operations and maintenance plan as well as a maintenance agreement for proposed stormwater BMPs. Current and future landowners are required to maintain the stormwater BMPs including but not limited to removing trash and debris, inspecting inlets and outlets, removing sediment buildup, and stabilizing and restoring eroded areas. In the event the landowner fails to maintain the stormwater BMP in good working condition acceptable to the City, the City may enter the property and correct any deficiencies. Privately owned and maintained stormwater BMPs can be found on Figure 16, Appendix A.

2.10. Groundwater Appropriations

A groundwater well serves the City's water needs. This well has a groundwater appropriation permit from the DNR. Figure 8, Appendix A shows the location of the DNR permitted groundwater appropriation site within the City. The City has adopted the Minnesota Department of Health (MDH) rules on wellhead protection (see Subsection III.R). Information from the MDH regarding the City can be found on the [City's website](#) or a physical copy can be found at City Hall. Additional information on the City's wellhead protection policies can be found in Section 2.19.

2.11. Groundwater Resource Data

Groundwater resource data for areas within the City is contained within the Hennepin County Geologic Atlas. The primary aquifers within the City are the Prairie du Chien-Jordan Aquifer, the Franconia-Ironton-Galesville Aquifer, and the Mt. Simon-Hinckley Aquifer. The Prairie du Chien-Jordan Aquifer is of special concern since it is the most heavily used groundwater source in Hennepin County.

2.12. Soils Information

The soils within the City area have moderate to high infiltration rates and therefore create a modest to high susceptibility to groundwater contamination. The hydrologic soil classification map is shown in Figure 9, Appendix A. The four soil classifications are defined as follows:

Group A – These soils have high infiltration rates even when thoroughly wetted. The infiltration rates range from 0.3 to 0.5 inches per hour. These soils consist chiefly of deep, well drained to excessively drained sands and gravel. Group A soils have a high rate of water transmission, therefore resulting in a low runoff potential.

Group B – These soils have moderate infiltration rates ranging from 0.15 to 0.30 inches per hour when thoroughly wetted. Group B soils consist of deep moderately well to well drained soils with moderately fine to moderately coarse textures.

Group C – These soils have slow infiltration rates ranging from 0.05 to 0.15 inches per hour when thoroughly wetted. Group C soils have moderately fine to fine texture.

Group D – These soils have very slow infiltration rates ranging from 0 to 0.05 inches per hour when thoroughly wetted. Group D soils are typically clay soils with high swelling potential, soils with high permanent water table, soils with a clay layer at or near the surface, or shallow soils over nearly impervious material.

The City is almost entirely made up of soil from the Hayden-Cordova-Peaty muck association. This association consists of nearly level to rolling medium textured and moderately fine textured soils developed in glacial till and level organic soils. The soil is patches of loam and sandy loam, commonly capped by and interbedded with thin deposits of silty to gravelly sediment. There is little runoff potential since the soils have moderate to high infiltration rates. Additional information on the geology and soil for the city is included in the Hennepin County Soil Survey available at the Hennepin Soil and Water Conservation District.

2.13. Land Use and Public Utilities Services

The City's land use practices include residential, commercial, public, and private open space areas. **Figure 10, Appendix A** is a representation of the existing land use. **Figure 11, Appendix A** shows the future land use and **Figure 12, Appendix A** shows zoning. All the residences and businesses in the City are served by public water and sewer systems. The City is considered a built-out community with 0.1 percent of its land area considered vacant, so no large-scale changes are expected in land use, zoning, or drainage patterns.

Because there is little land left for development, the City expects changes in land use to be driven by redevelopment and infill development. The Metropolitan Council has estimated that Excelsior should plan for 100 new housing units over the next 10 years (from 2020 to 2030). Most of the housing growth should be accomplished in commercial zoning districts that allow residential living above shops. Areas around Downtown and the East Side area have the capacity to add additional housing to what is currently in place.

The East Side Subarea Plan describes the vision for the East Side area as an exciting and complete neighborhood with a diversity of housing types, restaurants, and waterfront entertainment typical of lakeside towns. The community desires a vision of the East Side area that would be compatible, yet standalone from the Downtown district along Water Street. The Downtown would be the retail hub of the community, while the East Side would have more of an entertainment theme. The City will look for opportunities to incorporate stormwater treatment as the plan for the East Side Subarea continues to develop. Additional information on the East Side Subarea Plan can be found in the Land Use section of the City's 2040 Comprehensive Plan.

There are no major transportation expansion plans for the City at this time. State Highway 7 was improved through the City in 2002, and the Metropolitan Council currently has no plans to expand State Highway 7 further.

Figure 18, Appendix A shows parcels that are owned by the City. The City will continue to look for opportunities to add or improve stormwater treatment using City-owned parcels as the budget allows. Parcels in areas of the City with little treatment currently will be prioritized. The City is interested in adding surface biofiltration areas within two municipal parking lots downtown to improve water quality to Lake Minnetonka; however, funding for this project has not yet been secured.

The Minnesota Land Cover Classification System (MLCCS) has been completed within the City. The results of the land cover classification are shown in **Figure 15, Appendix A**. Most of the City consists of varying degrees of impervious area or is classified as open water. The remaining area is classified by the

different types of vegetation present on the land (e.g., forest, short grasses, wetland emergent vegetation).

2.14. Public Areas for Water Based Recreation and Access

There are a number of water bodies that offer active recreation such as fishing and passive recreation such as walking. These recreational resources are outlined below:

Lake Minnetonka: Lake Minnetonka provides excellent fishing and boating opportunities. A variety of other recreation is enjoyed during all seasons such as swimming and cross-country skiing. There is a swimming beach located at The Commons Parkground. There are public accesses located on the lake; however, none are in the City.

Galpin Lake: Galpin Lake is located in both Excelsior and Shorewood. The DNR does not consider it a fishing lake, but other types of recreation are enjoyed around it.

Figure 13, Appendix A shows existing trails and parks. Additional information regarding recreational opportunities and park management within the City is available from the Parks Department at City Hall.

In 2016, the Community for the Commons non-profit called for a master park plan for the Commons park along Lake Minnetonka. In 2017, the design plan for the Commons titled the Excelsior Commons Conceptual Guide Plan was accepted and serves as the master park plan for the Commons park. The Excelsior Commons Conceptual Guide Plan lays out possible improvements to the Commons park including repurposing courts for multi-use activities such as an ice rink, adding additional restrooms, and adding additional trails and fishing piers. The proposed improvements also include adding multiple areas for infiltration of road and park runoff to improve the water quality of Lake Minnetonka and shoreline improvements to minimize erosion along the lake. The City is still determining the best option for updating the Commons but is using the Excelsior Commons Conceptual Guide Plan as a starting point.

Struder Parkland combines active and passive uses within a natural setting. The largest setback for Struder Parkland is its inaccessibility. The City will look to develop a plan for the potential access improvements to the park, including over/under County Road 19 and by adding a trail from College Avenue to the Parkland. The City is considering park usage updates including improving the community garden plot area, leaving an open area to promote as a dog park or soccer field and developing a skate park.

2.15. Fish and Wildlife Habitat

The City provides habitat for a variety of small mammals, reptiles, birds, amphibians, and insects. Maintenance of habitat for wildlife species is important to ecological stability of the City's natural areas.

Information from the DNR indicates there is a variety of moderately unique fish and wildlife habitat within the City, much of which is located near or in Lake Minnetonka and Galpin Lake. Lake Minnetonka is often stocked by the DNR to supplement natural reproduction. A Lake Survey Report for Lake Minnetonka can be found at on the [DNR website](#).

2.16. Unique Features and Scenic Areas

Unique features and scenic areas include state designated Scientific and Natural Areas, designated scenic areas, areas containing rare and endangered species, biologically diverse areas, and historic areas. Information about rare and endangered species from the DNR County Biological Survey is included in **Appendix F**.

The City has limited natural areas, water bodies, and city/regional parks. The City has no Scientific and

Natural Areas or wild and scenic rivers as defined by the state. Due to the fact that the City is almost fully developed, there are no plans at this time to acquire land for conservation.

The City does have a number of historical and architectural resources as identified by the Minnesota State Historical Preservation Office. The sites and locations of these resources can be obtained from the Engineering Department.

2.17. Pollutant Source Locations

Information from the MPCA is shown on **Figure 14, Appendix A**. This figure shows the approximate locations of a variety of pollutant sites. Many of the sites on the figure have been cleaned up or are in the process of being cleaned up. The MPCA should be contacted for site-specific details. Additional information is included in **Appendix G**.

2.18. NPDES Phase II

The MPCA implemented the NPDES Phase II Stormwater Program in March 2003. Phase II requires municipal separate storm sewer systems (MS4s) in urban areas with populations over 10,000 and under 100,000 to obtain an NPDES permit. Permits for construction sites greater than one acre will also be required as part of the Phase II. The City has submitted its Stormwater Pollution Prevention Plan and Notice of Intent in conformance with the MPCA guidelines. The application that was sent to the MPCA is included in **Appendix E**.

2.19. Wellhead Protection

In 2015, the City completed its Wellhead Protection Plan which addresses the three municipal water supplies used by the city and the associated source water aquifers. **Figure 17, Appendix A** shows the boundaries of the City's drinking water supply management area (DWSMA) and the wellhead protection area. The central and northwestern parts of the City are included in the DWSMA with varying degrees of vulnerability. A copy of the Wellhead Protection Plan can be found on the [City's website](#) and at City Hall.

3. COOPERATION WITH OTHER AGENCIES

There are a number of other local, state, and federal agencies that have rules and regulations related to stormwater management. Through this strategy, the City recognizes these other agencies' role in this endeavor and will cooperate and coordinate with these agencies as necessary.

This Plan is in conformance with but does not restate all other agency rules that are applicable to water quality and natural resource protection. The other agency rules and policies include rules, policies, and guidelines associated with the following organizations:

- [Minnesota Department of Health](#)
- [Minnesota Pollution Control Agency](#)
- [Board of Water and Soil Resources](#) and the [Wetland Conservation Act](#)
- [Minnesota Department of Natural Resources](#)
- [US Army Corps of Engineers](#)
- [Minnesota Department of Agriculture](#)
- [Minnehaha Creek Watershed District](#)
- [US Fish and Wildlife Service](#)

While these other agency rules, policies, and guidelines are not restated in this Plan, they are applicable to projects, programs, and planning within the City. The [Minnesota Stormwater Manual](#), which is a document intended to be frequently updated, is incorporated by referenced into this Plan.

3.1. Personnel Contacts

The primary implementation responsibility will lie with the appropriate staff members at the City. Assistance from the surrounding municipalities and watershed district will also be expected. Below are the names, addresses, telephone numbers, and website address for personnel having responsibilities for overseeing or implementing various aspects of the Plan.

City of Excelsior
 City Manager: Kristi Luger
 339 Third Street
 Excelsior, MN 55331
 952-653-3672
<http://ci.excelsior.mn.us>

Minnehaha Creek Watershed District
 Contact: Becky Christopher
 Lead Planner
 15320 Minnetonka Boulevard
 Minnetonka, MN 55345
 952-641-4512
<http://www.minnehahacreek.org>

3.2. Minnehaha Creek Watershed Coordination Plan

The MCWD requests that local government units (LGU) establish a coordination plan that the LGU and MCWD can implement at a staff level to achieve common goals. Some of these goals include maintaining an awareness of needs and opportunities between the City and MCWD and implementing programs and projects that meet the needs of all partners, align financially, and are a part of the overall watershed planning effort. Improving coordination between land use planning at the City and watershed planning at the MCWD at the conceptual level planning phase will result in better projects that meet agency goals and are a more efficient use of public funds. Early coordination and collaboration between entities is the

key to maximizing shared water resource goals and community goals for private redevelopment and public capital improvements. Through this coordination, it is the intent of the City to efficiently manage water quality concerns and maximize the asset value of the City's natural resources in the future.

The following is a summary of the coordination plan, which will be adjusted and expanded as deemed appropriate by the City and MCWD during project implementation. It is anticipated that the City Manager and Public Works Superintendent will be the primary contacts for the coordination plan.

- Annual meeting – Staff members will meet during the summer to review the NPDES MS4 reports and activity from the previous year. Staff will also discuss draft Capital Improvement Plans (CIPs) for each entity for the upcoming year. It is anticipated that the City Manager and Public Works Superintendent will be the primary contacts for the annual meeting.
- Land Use Planning – City Planning staff will continue to route requests for land use approvals including, but not limited to, subdivisions and site plan reviews to MCWD staff for comment. Coordination will occur during the concept plan review in the beginning stages of the project.

The City's ten-year CIP is a flexible schedule of projects and public improvements that the City wishes to do over the next ten years. The 2018-2028 CIP is the most recent version and can be found on the [City's website](#). The CIP is updated annually to ensure consistency of changing demands and funds available. When developing and updating the CIP, the City evaluates where projects are needed by taking input from Public Works and Planning staff, updates to regional planning, and from residents of the community.

The CIP includes projects and maintenance needs for transportation infrastructure, sewer and water infrastructure, park improvement, storm sewer infrastructure, as well as other City needs. Projects are prioritized by the current level of need for the project and the overlap of different department projects but are largely driven by the available funds. The City will send the MCWD the CIP when it is updated annually and ask for the MCWD for planning assistance and aid in finding funding sources for projects on the CIP. The City will include the MCWD early on in project initiation, even if projects are unfunded at the time, to utilize the technical planning assistance offered by the MCWD and to look for opportunities to incorporate water quality improvements in otherwise non-water related projects.

Because there is little land left for development, the City expects changes in land use to be driven by redevelopment and infill development. The City will include the MCWD early on in potential land use changes and redevelopment projects so the MCWD can be value added to projects.

- Regulatory Activities – Planning staff will require documentation of appropriate MCWD construction and land alteration permits for those projects located within district boundaries as a condition of City approval. Approved MCWD permits will be stored with other project documentation for future reference. Staff will consider additional coordination for erosion control inspection and enforcement and discuss opportunities at future annual meetings.
- Wetland Conservation Act (WCA) Enforcement – MCWD acts as the LGU for the City for the WCA applications. The City will continue to forward any concerns involving wetlands to MCWD as they arise, and will forward all land use applications with wetlands on site to MCWD for comment. Applications are submitted to the Planning Department.
- Funding – The City seeks support from the MCWD in terms of grant funding for water quality projects. The City requests that MCWD staff continue to provide information about upcoming grants and other funding opportunities internal and external to the MCWD.
- Data Sharing – City staff will coordinate with MCWD staff to share any new or relevant data on an annual basis to ensure consistency. This data could be related to any newly completed studies

water quality monitoring, or BMP performance monitoring, among other things.

- Public Improvement Projects – City staff members will provide yearly updates on plans for public improvement projects. This will be coordinated as part of the annual meeting while discussing the draft CIP. Maintenance activities for stormwater infrastructure will be provided to MCWD as part of the MS4 recording process and as part of City inspection reports.
- Public Outreach and Education – The City will continue to distribute an annual newsletter and post on the City website to spread awareness of stormwater related issues. The City will help promote the MCWD’s educational workshop and events to private homeowners and developers. The MCWD’s educational workshops cover topics such as winter maintenance training, installing turf alternatives, and informational sessions on the Master Water Steward program. The City will coordinate with the MCWD on other educational efforts when possible to avoid duplicating efforts.
- Future Project Coordination – The City wishes to continue to collaborate with MCWD on future projects. In 2013, a MOU was adopted which stated that the City would like to partner with the MCWD to develop opportunities to implement BMPs for improving the water quality of runoff to the Lower Lake South of Lake Minnetonka. Potential projects which the City and the MCWD could coordinate on include Commons park improvements, downtown improvements, and road improvement projects.

The Excelsior Commons Conceptual Guide Plan lays out possible improvements to the Commons park including adding multiple areas of infiltration for road and park runoff to improve the water quality of Lake Minnetonka and shoreline improvements to minimize erosion along the lake. The City is still determining the best option for updating the Commons but is using the Excelsior Commons Conceptual Guide Plan as a starting point and would like to collaborate with the MCWD on potential water quality improvement projects.

A feasibility study was completed by WSB in 2013 which included recommendations for constructing surface biofiltration areas within the two municipal parking lots downtown. Funding for this project has not yet been secured, but the City is interested in collaborating with MCWD on this potential project. The City has sent the MCWD the feasibility report from the 2013 WSB study for comments and recommendations. The City will continue to ask for technical assistance and locating potential funding sources from the MCWD with the downtown updates as the project moves forward.

Street reconstruction projects are planned for most upcoming years in the City. Some street reconstruction projects include storm sewer replacement. The City will send the MCWD where future street reconstruction projects are planned when they are added to the CIP, so the MCWD can provide recommendations and technical planning assistance for how water quality improvements could be incorporated into larger City projects.

The City of Excelsior and the City of Shorewood plan to partner on a Grant Street/Park Street drainage improvement project in the future with collaboration from the MCWD. The City will invite the MCWD to participate in early planning of the Grant Street/Park Street drainage improvement project to help guide the collaboration between the City and the City of Shorewood. The City will provide information early and often to the MCWD concerning project initiation and planning so the MCWD can be value added to the City including technical planning assistance, regulatory coordination which can save time and design costs, and in some cases grant funding opportunities. The City will continue to look for opportunities to partner with the MCWD on future drainage improvement projects.

4. PROBLEMS AND CORRECTIVE ACTIONS

Outlined below is an assessment of known existing and potential water resource-related problems. These problems have been identified based on an analysis of the land and water resource data collected as part of this Plan preparation and through information from the City. A description of any existing or potential problems within the topic area has been listed and future corrective actions have been incorporated into an implementation plan.

4.1. Lake and Stream Water Quality Problems

Problem 4.1.A Impaired waters to which the City discharges stormwater include:

- Lake Minnetonka
- Christmas Lake (located outside of the City)

The impairment for each of these is mercury.

Corrective Action 4.1.A The Environmental Protection Agency (EPA) has approved the statewide TMDL mercury study. No action by the City is needed. If additional TMDLs are identified that affect the City, the City shall participate in the stakeholder process to develop the TMDL and implementation plan. The City is committed to protecting the existing water quality of Lake Galpin and would partner with MCWD and/or the City of Shorewood to do so.

Problem 4.1.B The MCWD requires that the City provide an annual reduction of ten pounds of phosphorus for areas that drain to Lake Minnetonka from the City.

Corrective Action 4.1.B The City has an extensive street sweeping program. This includes sweeping all streets once in the spring and once in the fall. It also includes sweeping the downtown area twice a week. It is estimated that this program will remove 11.7 pounds of phosphorus annually. The City will test its swept material to calibrate this analysis. **Appendix K** contains information about an analysis of this program. Carp management to reduce the internal loading rate is another option for reducing phosphorus loads. Additionally, as areas redevelop, they will follow MCWD stormwater management requirements reducing phosphorus discharges.

4.2. Flooding and Stormwater Rate Control Concerns

Problem 4.2.A Drainage problems have been reported in the following areas:

- Glencoe Road
- Division Street
- Various areas where the structures do not have two-foot freeboard protection for the 100-year event.

Corrective Action 4.2.A To date, high water in these areas have created short-term nuisances during heavy rainfall events and have not posed a threat to public health, safety, or property. The City will work with the MCWD to manage flooding and rate control concerns experienced within the city. The City will also complete hydraulic and hydrologic analysis of problem areas as redevelopment and street and utility reconstruction occurs.

Problem 4.2.B Drainage problems located in the downtown area.

Corrective Action 4.2.b The City hired WSB in 2013 to complete a feasibility study for the downtown area to identify possible BMP opportunities to reduce phosphorus loading and runoff volume to the Lower Lake of Lake Minnetonka. The feasibility study recommended installing surface bio-filtration areas within two downtown municipal parking lots to achieve these goals. This project has been included in **Table 4-1**.

Problem 4.2.C There are small landlocked subwatersheds located within the City at:

- South of Third Avenue and west of Division Street
- North of Third Avenue and east of Mill Street
- At the west end of Monroe Avenue
- West of Glencoe Road and south of Wood Duck Circle

Corrective Action 4.2.C The City will complete feasibility studies for these areas, identifying potential flooding areas as well as strategies to minimize flooding, and create new outlets with future redevelopment or street improvement projects. Outlets will be provided in areas where there is a demonstrated threat to structures or public safety.

4.3. Impacts of Water Quantity or Quality Management Practices on Recreational Opportunities

Problem 4.3.A The City has not experienced any impacts to recreational opportunities as the result of water quantity or quality impacts.

Corrective Action 4.3.A No corrective action needed. However, if areas develop or redevelop, the project will be subject to the policies of the MCWD. The City will look to partner with MCWD and adjacent communities if any issues arise.

4.4. Impacts of Stormwater Quality on Fish and Wildlife Resources

Problem 4.4.A The City has not experienced and impacts on fish and wildlife resources

Corrective Action 4.4.A No corrective action needed. However, if areas develop or redevelop, the project will be subject to the policies of the MCWD. The City will look to partner with MCWD and adjacent communities if any issues arise.

4.5. Impacts of Erosion and Sedimentation on Water Resources

Problem 4.5.A Soil erosion and sediment transportation associated with re-development may impact the quality of water and storage volume available within City lakes, streams, and ditches.

Corrective Action 4.5.A The City has updated the erosion control requirements in the stormwater ordinance. New develop and redevelopment will also be subject to the policies of the MCWD.

Problem 4.5.B Erosion problems have been reported at the storm sewer outlets discharging to Lake Minnetonka.

Corrective Action 4.5.B The City will inspect the storm sewer outlets in conformance with the City's NPDES permit. The outlets that discharge directly into Lake Minnetonka will be inspected annually. If the outlets require maintenance, the City will repair the outlet or remove sediment

deltas if present.

Problem 4.5.C Erosion at Lake Minnetonka at “the Point” has been noted as a problem.

Corrective Action 4.5.C The City and MCWD collaborated on a project in 2009 to reduce shoreline erosion on the Point, a unique section of lakeshore on the Commons. The project aimed to educate local land owners about shoreline stabilization techniques that provide habitat and wave energy dissipation benefits that cannot be achieved through standard riprap (hard armoring). A secondary goal was to stabilize the shoreline around the Point, reversing years of damage and stopping the flow of sediment from the land into the lake. MCWD designed and built the project, as well as maintained it for a three-year establishment phase, after which the City took over maintenance duties.

Problem 4.5.D Erosion problems have been reported in the following areas where storm sewer is not present:

- Lafayette Fire Lane
- George Street Fire Lane
- Highway 7 runoff near Water Street
- Wheeler Drive: 2nd Avenue to 3rd Avenue
- Grathwol Lane: Water Street to Dead End
- Linden Street: Elm Place to Dead End
- West Lake drainage
- Localized drainage from Shoreview

Corrective Action 4.5.D The City will conduct feasibility studies at the listed locations to determine the best course of action to resolve the erosion problem. Storm sewer and/or permanent stabilization may be utilized to alleviate erosion concerns.

Problem 4.5.E Erosion problems have been reported in the following areas where storm sewer is present:

- Water Street at Port outlet
- Courtland Avenue: 2nd Street to 3rd Street
- William Street: Oak Street to George Street
- Commons Park pipe outlet
- Downtown parking lot BMPs

Corrective Action 4.5.E The City will conduct feasibility studies at the locations above to determine the best energy dissipation and permanent stabilization techniques for these areas to resolve the erosion problem.

4.6. Impact of Land Use Practices and Development on Water Resource Issues

Problem 4.6.A Selected areas of the City have been exposed to increased rates and volumes of stormwater runoff as a result of an increase in impervious surface area. Other land development and land use practices have negatively impacted both water quality and quantity outside the City limits. The City will look into partnering with MCWD on future projects to reduce impacts from development and improve water quality.

Corrective Action 4.6.A The City will implement policies and projects in this SWMP. Additionally, areas that develop or redevelop will be subject to the policies of the MCWD. The City places high priority on maintaining local parks and open spaces. The use of natural landscaping in these

areas will help minimize runoff and erosion concerns. When maintenance or upgrading to local parks, trails or open spaces is required, the City will look for opportunities to install additional BMPs to help further reduce erosion and runoff concerns.

4.7. Adequacy of Existing Regulations to Address Adverse Impacts on Water Resources

Problem 4.7.A The City generally has adequate regulatory controls in place to manage and mitigate adverse impacts on public waters and wetlands. However, additional ordinances or ordinance updates are necessary to continue to successfully manage water resources.

Corrective Action 4.7.A The MCWD will retain permitting authority within the City. The City will continue to implement the City's NPDES SWPPP as well as implement the policies with this SWMP. The City will review and revise existing ordinances, as necessary. Also, the City will update the erosion control requirements in the stormwater ordinance. Ordinances will be updated to include submission of preliminary plats to the MCWD. Ordinances will be updated within 180 days of MCWD plan approval.

4.8. Education Program

Problem 4.8.A The City recognizes the need for community education programs to increase public awareness of water resource management and improve the quality of stormwater runoff.

Corrective Action 4.8.A The City will continue to provide educational content and opportunities to residents, businesses, developers, and others. These efforts may include postings on the City website and publishing an annual newsletter to spread awareness of stormwater related issues. Roughly 1,400 copies of the newsletter will be distributed. The City will work with MCWD on educational efforts when possible to avoid duplicating efforts.

4.9. Identification of Potential Problems Anticipated to Occur in the Next 20 years Based on Growth Projections and Planned Urbanization.

Problem 4.9.A The City is generally fully developed, with little opportunity to construct stormwater management projects.

Corrective Action 4.9.A Upon new development and redevelopment, the stormwater management policies of the MCWD will apply. By applying these policies, previously untreated areas will have treatment and implementation of BMPs.

The City will also pursue alternative funding through local, state, and/or federal grants for a regional stormwater treatment and reuse system to treat stormwater in the downtown area. The City does not currently have funding for this project but will explore options and opportunities to complete such a project.

Problem 4.9.B Determining the performance of existing stormwater facilities throughout the City.

Corrective Action 4.9.B Included in the City's SWPPP are established BMPs aimed at storm sewer inspection and maintenance training programs. The City is to annually inspect 20 percent of completed City owned BMPs and 100 percent of pollution control devices. The City will also evaluate inspection records to determine if inspection frequency should be increased or decreased. The City is in the process of developing procedures for determining Total Suspended Solids (TSS) and Total Phosphorus (TP) treatment effectiveness of city-owned ponds used for

treatment of stormwater. More information on the City's stormwater maintenance and inspection program can be found in the SWPPP located in **Appendix E**.

Problem 4.9.C Locate potential flooding areas in the downtown area.

Corrective Action 4.9.C The City will complete a feasibility study to analyze flooding areas as well as strategies to minimize flooding and create water quality improvements.

Problem 4.9.D Increasing prevalence of polycyclic aromatic hydrocarbons (PAHs) in stormwater ponds from runoff of roadways and other surfaces.

Corrective Action 4.9.D Identify stormwater ponds that are contaminated and follow protocol on the MPCA website for disposal of dredged material. The City also bans the use of materials that contain PAHs for paved surfaces for future development and redevelopment.

4.10. Availability and Adequacy of Existing Information to Manage Water Resources

Problem 4.10.A The City will need to maintain and update information developed within this SWMP.

Corrective Action 4.10.A The City will continue to update the hydrologic/hydraulic model and Geographic Information System (GIS) database as new development and redevelopment occur.

Problem 4.10.B Locate all drainage easements within the City and enforce requirement for drainage easements with redevelopment projects.

Corrective Action 4.10.B The City will conduct a project to identify and log all drainage easements. When redevelopment happens in the City, drainage easements will be required.

Problem 4.10.C The City recognizes that there is currently not enough water quality monitoring data available to determine the effects of stormwater quality on area lakes.

Corrective Action 4.10.C The City defers to and supports the water quality monitoring activities of the MCWD.

4.11. Illicit Discharges

Problem 4.11.A The City must detect, locate, and eliminate existing and future illicit discharges.

Corrective Action 4.11.A The City will hire a consultant to televise a section of the storm sewer system and collect grab samples or perform other effective testing procedures to find illicit connections in the system as needed as well as complete regular illicit discharge inspections.

Problem 4.11.B There is no user-friendly way to report an illicit discharge on the City webpage currently.

Corrective Action 4.11.B The City will update their Request Tracker on the City webpage to include a link to report illicit discharges.

SECTION 4

TABLE 4-1

SURFACE WATER MANAGEMENT IMPLEMENTATION PLAN

No.	Project Description	10 Year Total Cost Estimate ^{1,3}	Possible Funding Sources ^{2,4}	Proposed Cost By Year ¹							Comments				
				2018	2019	2020	2021	2022	2023	2024		2025	2026	2027	
Capital Improvement Projects (CIP)															
1	Construct 1st Street storm outlet to Lake Minnetonka.	\$10,000	Stormwater Utility Revenue		\$10,000										Map ID #1 Driving Factor: Maintenance Schedule
2	Reconstruct storm sewer for Water Street at Port Outlet.	\$75,000	Stormwater Utility Revenue/ Developer		\$75,000										Map ID #2 Driving Factor: Re-Development
3	Construct storm sewer at Lafayette Fire Lane.	\$10,000	Stormwater Utility Revenue			\$10,000									Map ID #3 Driving Factor: Maintenance Schedule
4	Construct storm sewer at George Street Fire Lane.	\$10,000	Stormwater Utility Revenue				\$10,000								Map ID #4 Driving Factor: Maintenance Schedule
5	Clean out County Road 19 pond outlets and monitor for the need for dredging.	\$30,000	Stormwater Utility Revenue/Cost Share with MCES						\$30,000						Map ID #5 Driving Factor: Maintenance Schedule Coordinate with MCES's lift station project.
6	Correct for freeboard less than 2 feet at Glencoe Road.	\$15,000	Stormwater Utility Revenue/ Outside Sources							\$15,000					Map ID #6 Driving Factor: Street Upgrade Coordinate with street improvement.
7	Construct storm sewer to correct for flooding from runoff from Highway 7 near Water Street.	\$25,000	Stormwater Utility Revenue/ Outside Sources											\$25,000	Map ID #7 Driving Factor: Re-Development
8	Correct for freeboard less than 2 feet at 2nd Avenue and Mill Street.	\$15,000	Stormwater Utility Revenue/ Outside Sources											\$15,000	Map ID #8 Driving Factor: Street Upgrade/Re-Development
9	Correct for freeboard less than 2 feet upstream of Galpin Lake.	\$15,000	Stormwater Utility Revenue/ Outside Sources							\$15,000					Map ID #9 Driving Factor: Street Upgrade
10	Correct for freeboard less than 2 feet upstream of Mirassa Pond.	\$25,000	Stormwater Utility Revenue									\$25,000			Map ID #10 Driving Factor: Street Upgrade
11	Construct storm sewer at Wheeler Drive between 2nd and 3rd Avenues.	\$30,000	Stormwater Utility Revenue										\$30,000		Map ID #11 Driving Factor: Street Upgrade

SECTION 4

No.	Project Description	10 Year Total Cost Estimate ^{1,3}	Possible Funding Sources ^{2,4}	Proposed Cost By Year ¹										Comments		
				2018	2019	2020	2021	2022	2023	2024	2025	2026	2027			
12	Reconstruct storm sewer at Courland Avenue between 2nd and 3rd Streets.	\$20,000	Stormwater Utility Revenue												Map ID #12 Driving Factor: Street Upgrade	\$20,000
13	Reconstruct storm sewer at William Street between Oak Street and George Street.	\$30,000	Stormwater Utility Revenue												Map ID #13 Driving Factor: Street Upgrade	\$30,000
14	Construct storm sewer at Grathwol Lane from Water Street to the end of the alley.	\$25,000	Stormwater Utility Revenue												Map ID #14 Driving Factor: Street Upgrade	\$25,000
15	Construct storm sewer at Linden Street from Elm Place to the end of the alley.	\$20,000	Stormwater Utility Revenue											\$20,000	Map ID #15 Driving Factor: Street Upgrade	
16	Correct for less than 2 feet of freeboard present at Division Street.	\$40,000	Stormwater Utility Revenue					\$40,000							Map ID #16 Driving Factor: Street Upgrade/ Re-Development	
17	Correct for freeboard less than 2 feet near the Unnamed Pond off Highway 7 near the Greenwood border.	\$10,000	Stormwater Utility Revenue										\$10,000		Map ID #17 Driving Factor: Maintenance Schedule	
18	Correct for freeboard less than 2 feet at the Mufasa Pond outlet.	\$10,000	Stormwater Utility Revenue										\$10,000		Map ID #18 Driving Factor: Maintenance Schedule	
19	Reconstruct outlet located at Commons Park.	\$15,000	Stormwater Utility Revenue, MCWD										\$15,000		Map ID #19 Driving Factor: Maintenance Schedule	
20	Construct storm sewer to correct for flooding from West Lake drainage.	\$10,000	Stormwater Utility Revenue			\$10,000									Map ID #20 Driving Factor: Maintenance Schedule	
21	Construct storm sewer to correct for flooding from localized drainage from Shoreview.	\$20,000	Stormwater Utility Revenue/ Outside Source				\$20,000								Map ID #21 Driving Factor: Maintenance Schedule	
22	Construct regional storm water treatment and reuse system for downtown	\$2,000,000	Grants from State, MCWD, Stormwater Utility Revenue									\$2,000,000			Map ID #22 Driving Factor: Re-Development The City doesn't have the funding for this project but it is identified here as a potential future project when grant funding becomes available. This funding could be from the MCWD, State or Federal Agencies, and/or the Heritage Amendment. Estimated fee to complete this work is \$2 million.	

SECTION 4

No.	Project Description	10 Year Total Cost Estimate ^{1,3}	Possible Funding Sources ^{2,4}	Proposed Cost By Year ¹										Comments	
				2018	2019	2020	2021	2022	2023	2024	2025	2026	2027		
Operation and Maintenance															
23	Implement public education plan as part of the NPDES MS4 permit, including distributing an annual newsletter	\$80,000	Stormwater Utility Revenue	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	
24	Update and maintain the City's website with storm water management information	\$10,000	Stormwater Utility Revenue	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	This street sweeping is the City's method to address the MCWD's requirements for 10 pounds of phosphorus removal.
25	Continue to implement the City's street sweeping program (see Appendix K)	\$200,000	Stormwater Utility Revenue	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	
26	Continue to train employees. Training topics include fertilizer application, pesticide/herbicide application, mowing discharge, automotive maintenance program, spill cleanup, hazardous materials, building leak prevention, parking lot and street cleaning, storm drain systems cleaning and road salt materials management.	\$15,000	Stormwater Utility Revenue	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	
27	Continue to update and maintain GIS database and storm sewer map	\$100,000	Stormwater Utility Revenue	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	
28	Continue to update and maintain hydrologic/ hydraulic model	RCWD	Stormwater Utility Revenue	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	
29	Inspect 20% of City owned BMPs and outfalls every year, with priority for the outlets into Lake Minnetonka	\$20,000	Stormwater Utility Revenue	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	
30	Annually inspect locations identified as high-priority outfalls and around high-risk establishments. Examples of high-risk establishments include fast food restaurants, dumpsters, car washes, mechanics, and oil changes.	\$20,000	Stormwater Utility Revenue	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	
31	Annually inspect all pollution control devices. Perform maintenance as necessary.	\$10,000	Stormwater Utility Revenue	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	
32	Conduct erosion control inspections on sites that require an NPDES permit	\$50,000	Stormwater Utility Revenue/ Developer	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	
33	Enforce illicit discharge ordinance and conduct illicit discharge inspections	\$20,000	Stormwater Utility Revenue	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	City passed an illicit ordinance in 2008.
34	Continue to clean storm drain system and document number of sumps cleaned per year.	\$10,000	Stormwater Utility Revenue	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	
35	Maintain the Point shoreline stabilization and demonstration project	\$5,000	Stormwater Utility Revenue	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	The project is in collaboration between the MCWD and the City.

SECTION 4

No.	Project Description	10 Year Total Cost Estimate ^{1,3}	Possible Funding Sources ^{2,4}	Proposed Cost By Year ¹										Comments			
				2018	2019	2020	2021	2022	2023	2024	2025	2026	2027				
36	Hire a consultant to televis a section of the storm sewer system, collect grab samples or perform other effective testing procedures to find illicit connections in the system, as needed	\$15,000	Stormwater Utility Revenue	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	
37	Annually internal housekeeping practices such as mowing, fertilizing, dicing, and herbicide practices within the City and update practices as feasible to protect water quality	\$10,000	Stormwater Utility Revenue	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	
Official Controls																	
38	Annually review mowing, road salt application, fertilizing, and herbicide practices within the City and update practices as feasible to protect water quality	\$10,000	Stormwater Utility Revenue	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	
39	Annually review ordinances and illicit discharge written procedures to ensure that it continues to meet the needs of the City and legal requirements.	\$10,000	Stormwater Utility Revenue	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	
40	Update Request Tracker on City webpage to include a link to report illicit discharges.	Staff Time			X												
41	Incorporate to the City Website a stormwater page which allows residents to provide comments to the City Staff for a number of topics.	Staff Time			X												
Monitor and Study																	
42	Participate in TMDL stakeholder process	\$15,000	Stormwater Utility Revenue, MCWID	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	
43	Complete phosphorus loading study of street sweepings to calibrate the phosphorus load reductions for the MCWID	\$6,000	Stormwater Utility Revenue		\$3,000	\$3,000											
44	Complete feasibility studies for landlocked basins.	\$25,000	Stormwater Utility Revenue	\$5,000		\$5,000											To be completed as part of the redevelopment or street reconstruction.
45	Implement recommendations from feasibility study for the downtown area alleviating flooding areas. Includes updating City's hydrologic/hydraulic model to Atlas 14 conditions.	\$125,000	Stormwater Utility Revenue, MCWID			\$125,000											
	TOTAL	\$3,216,000		\$69,000	\$152,000	\$217,000	\$94,000	\$109,000	\$94,000	\$2,099,000	\$124,000	\$134,000	\$164,000				

¹ Cost estimates are preliminary and subject to review and revision as engineer's reports are completed and more information becomes available. Table reflects 2018 costs and does not account for inflation. Costs generally include labor, equipment, materials, and all other costs necessary to complete each activity. Some of the costs outlined above may be included in other operational costs budgeted by the City.

² Funding for stormwater program activities projected to come from following sources - Surface Water Management Fund, Developers Agreements, Grant Funds, General Operating Fund, or Special Assessments.

³ Staff time is not included in the cost shown.

⁴ Outside Sources include Private Development, Other Agencies or Potential City Cost Share

5. ESTABLISHMENT OF GOALS AND POLICIES

5.1. 5.1 General Goals

The City has developed a number of goals, strategies, and policies for the management of stormwater within the City. These goals and policies have been developed to complement any county, regional, or state goals and policies. The goals of the City are as follows:

1. Minimize the public capital expenditures needed to correct flooding and water quality problems.
2. Identify and plan for ways to effectively protect and improve surface and groundwater quality.
3. Prevent the erosion of soil into surface water systems.
4. Promote groundwater recharge.
5. Protect and enhance fish and wildlife habitat and water recreational facilities.
6. Acquire the other benefits associated with the proper management of surface and groundwater.

5.2. General Strategies

To achieve the City's goals for managing stormwater, four strategies were developed. These strategies will assist the City in targeting its main audiences for the purposes of stormwater management.

- Cooperation with other agencies: This strategy recognizes that the City is not alone in managing stormwater within its boundaries. There are local, state, and federal agencies that also have rules and regulations related to stormwater management. Through this strategy, the City has recognized role these agencies will have in this endeavor and will cooperate and coordinate with them as necessary.
- Education: This strategy includes educating various groups within the City about proper stormwater management. Education of residents, City staff, City Council, business owners, and developers is included in this strategy.
- Regulation: Much of stormwater management comes in the form of regulations put on new or redevelopment within the City. These regulations will also assist the City in achieving their water management goals. Policies related to the management of stormwater are included in the regulation strategy.
- Internal operations: The final strategy relates to the internal operations of the City. By outlining policies related to how the City's operations will treat and manage stormwater, the City can work to achieve its stormwater management goals.

5.3. Education

The purpose of the education strategy is to foster responsible water quality management practices by educating residents, business owners, City staff, City Council, and developers about proper stormwater management. If everyone recognizes their role in responsible stormwater management in their homes, businesses, and practices, it is another means for the City to meet its goals. This education strategy has also been designed to be in conformance with the NPDES requirements.

STRATEGY: EDUCATION	
No.	Policy
5.3.1	The City will implement public education as part of the NPDES Phase II program.
5.3.2	The City will develop and update its website for water resource management information.
5.3.3	The City will develop and distribute annual newsletter aimed at fostering responsible water quality management practices. Topics may include, but are not limited to: <ul style="list-style-type: none"> • Wetland buffers • Groundwater quality and protection • Controlling invasive species • Water conservation and the water cycle • Proper hazardous waste disposal • Yard waste management • Pet waste disposal
5.3.4	The MCWD, the Lake Minnetonka Conservation District and others offer several education opportunities, including: <ul style="list-style-type: none"> • Citizen Lake Monitoring • Newsletters • Sponsored Events • General conservation practice information <p>These organizations provide many other educational opportunities. The City will continue to promote and support the educational efforts of these organizations.</p>

5.4. Regulation

The policies developed in this strategy outline specific stormwater management elements that are required to be implemented through the development and/or permitting process. The regulation strategy is targeted at the public, developers, City staff, and City Council.

Projects within the City may also trigger the need for a MCWD permit. Projects within the City are subject to the permitting authority of the MCWD and applicants are encouraged to contact the MCWD early in the plan development process. If there is a conflict between the City requirements and the MCWD requirements and the MCWD requirements cannot be met, a variance from the MCWD will need to be obtained by the applicant or the project will need to be revised.

STRATEGY: REGULATION	
No.	Policy
Rate Control	
5.4.1	Stormwater management facilities shall limit runoff rates generated by any new development or redevelopment to the existing discharge rates for the 2-year, 10-year, and 100-year critical rainfall events based on the Atlas 14 precipitation frequency estimates below: <ul style="list-style-type: none"> • 2-year storm: 2.9 inches • 10-year storm: 4.3 inches • 100-year storm: 7.35 inches (<i>Updated policy</i>)

STRATEGY: REGULATION	
No.	Policy
5.4.2	The design of the storm drainage system shall be based on a critical duration rainfall event having a 20 percent chance of occurrence in any given year for local storm sewer, a 10 percent chance of occurrence for trunk storm sewer, and a one percent chance of occurrence for ponds and open channels. <i>(Current policy)</i>
5.4.3	For collection systems not designed to meet rate control standards (i.e., catch basins) a clogging factor of 50 percent will be utilized in sizing intake structures. <i>(Current policy)</i>
5.4.4	An emergency spillway (emergency outlet) from ponding areas shall be installed a minimum of one foot below the lowest building opening and shall be designed to have a capacity to overflow water at an elevation below the lowest building opening at a rate not less than three times the 100-year peak discharge rate from the basin or the anticipated 100-year peak inflow rate to the basin, whichever is higher. <i>(Current policy)</i>
Flood Control	
5.4.5	The basement floor elevation will be two feet above the elevation of any known historic high groundwater elevations for the area and two feet above the 100-year high surface water elevation in the area. Information on historic high groundwater elevations can be derived from any reasonable sources including piezometer data, soil boring data, or percolation testing logs. <i>(Current policy)</i>
5.4.6	Any new or redevelopment building construction within the City will maintain a minimum building opening elevation three feet above the projected 100-year high water elevation for the area. If this three-foot building opening freeboard requirement is considered a hardship, the standard could be lowered to two feet if the following can be demonstrated: <ul style="list-style-type: none"> • That, within the two-foot freeboard area, stormwater storage is available which is equal to or exceeds 50 percent of the stormwater storage currently available in the basin below the 100-year elevation. • That a 25 percent obstruction of the basin outlet over a 24-hour period would not result in more than one foot of additional bounce in the basin. • An adequate overflow route from the basin is available that will provide assurance that one foot of freeboard will be maintained for the proposed low building opening. <i>(Current policy)</i>
5.4.7	The City prohibits filling activities within the 100-year floodplain that will cause an increase in the stage of the 100-year or regional flood or cause an increase in the flood damages in the reach affected. Additional detail is provided in the City's floodplain ordinance on the City's website at and in Appendix J . <i>(Current policy)</i>
Water Quality Treatment	
5.4.8	Treatment of stormwater to remove 50 percent of phosphorus and 85 percent of total suspended solids OR treatment to Nationwide Urban Runoff Program (NURP) guidelines is required prior to stormwater discharge to a lake, stream, or wetland and prior to discharge from the site as part of development. The NURP guidelines for the design of stormwater treatment basins are as follows: <ol style="list-style-type: none"> a. A permanent pool (dead storage) volume below the principal spillway (normal outlet)

STRATEGY: REGULATION	
No.	Policy
	<p>which shall be greater than or equal to the runoff from a 2.5-inch storm over the entire contributing drainage area assuming full development.</p> <p>b. A permanent pool average depth (basin volume/basin area) which shall be equal to or less than 4 feet, with a maximum depth of equal to or greater than 10 feet.</p> <p>c. Basin side slopes above the normal water level should be no steeper than 3:1, and preferably flatter. A basin shelf with a minimum width of 10 feet and one foot deep below the normal water level is recommended to enhance wildlife habitat, reduce potential safety hazards, and improve access for long-term maintenance.</p> <p>d. The pond should be wedge shaped with the inlet at the narrowest end and the outlet at the widest end. A length to width ratio of 3:1 or greater shall be used whenever possible. Distance between outfalls and outlets should be maximized.</p> <p>e. A 16.5-foot buffer around the pond is required. <i>(Current policy)</i></p>
5.4.9	The City requires skimmers or other devices in the construction of new pond outlets and the addition of skimmers to existing systems whenever feasible and practical. The designs shall provide for skimmers that extend a minimum of four inches below the water surface and minimize the velocities of water passing under the skimmer to less than one and a half feet per second for rainfall events having a 99 percent frequency. <i>(Current policy)</i>
5.4.10	New stormwater management ponds that are constructed as part of private development shall be covered by drainage and utility easements that are dedicated to the City. <i>(Current policy)</i>
5.4.11	The responsible party shall enter into a maintenance agreement with the City that documents all responsibilities for operation and maintenance of all stormwater treatment practices. <i>(New policy laid out in Stormwater Management Ordinance)</i>
Infiltration/Volume Control	
5.4.12	Abstraction via infiltration, evapotranspiration, capture, and/or reuse of one inch of rainfall from the site on a regional or site-specific basis is required for development or redevelopment for projects that increase stormwater runoff volume, provided that past and existing land use practices do not have a significant potential to contaminate the stormwater runoff and the soil characteristics are suitable for infiltration. <i>(Current policy)</i>
5.4.13	A separation distance of 3 feet is required between the bottom of the infiltration practice and the elevation of the seasonally high water table or the top of bedrock <i>(New Policy based on MPCA Requirements)</i>
5.4.14	New development and redevelopment shall consider and incorporate to the extent practical and feasible Low Impact Development (LID) techniques that have been reviewed and approved by the City. A maintenance plan for these features will be submitted to the City for review and approval. <i>(Current policy)</i>
5.4.15	It is encouraged that project proposers consult with the MCWD during the project planning process for additional guidance and information on LID techniques. <i>(Current policy)</i>

STRATEGY: REGULATION	
No.	Policy
Wetlands	
5.4.16	The MCWD is the LGU for the WCA and therefore requires any projects that impact wetlands to conform to the WCA and the district’s wetland ordinances. <i>(Current policy)</i>
5.4.17	The wetland buffer requirements of the MCWD shall apply when these buffers are required by MCWD permit. <i>(Current policy)</i>
5.4.18	When permits are not required from the MCWD, the City requires a 16.5-foot buffer around wetlands for any project. <i>(Current policy)</i>
Groundwater	
5.4.19	The City will coordinate with the MPCA to implement the groundwater protection plans. <i>(Current policy)</i>
5.4.20	The City has adopted the rules of the MDH for its wellhead protection. The City will continue to implement and abide by these rules. <i>(Current policy)</i>
Erosion and Sediment Control	
5.4.21	The City shall require, in conformance with the MPCA NPDES rules, the submission and implementation of erosion and sediment control plans for land disturbance activities of one acre or more in size. These plans shall conform to the general criteria outlined in the Minnesota Stormwater Manual, Surface Water Management Ordinance, and the NPDES Construction Site permit. <i>(Current policy)</i>
5.4.22	A stormwater pollution control plan is required for any project that requires a building permit, subdivision approval, or grading permit per the City’s Surface Water Management ordinance and also in Appendix J . <i>(Current City Ordinance)</i>

5.5. Internal Operations

The City’s internal operations can have a significant impact on stormwater management. This strategy is targeted primarily at the City with some areas targeted at the public and/or another agency. These policies are aimed at operation and maintenance activities associated with water resource management within the City.

Many of the following items are current, internal housekeeping activities. Some of the policies have been updated or added. By maintaining the existing stormwater infrastructure, the City anticipates providing water quality benefits to original design standards. By providing additional education to residents, small benefits to Lake Minnetonka and surrounding water bodies can be achieved. By regularly reviewing internal housekeeping items and by communicating about BMPs, additional benefit to surrounding water resources can be obtained.

STRATEGY: INTERNAL OPERATIONS	
No.	Policy
5.5.1	The City will sweep all City streets at least twice annually and the downtown area twice a week. Areas that need more frequent sweeping will be swept as needed. These needs are determined by Public Works staff based on the debris on the roads during the year. Priority areas include the downtown area. Appendix K contains more information about the City's street sweeping program. <i>(Current policy)</i>
5.5.2	The City will inspect stormwater treatment basins on a rotating basis at least every five years and sump catch basins/manholes every year. Maintenance will be conducted as necessary. <i>(Current policy)</i>
5.5.3	Landlocked depressions that presently do not have a defined outlet and do not typically overflow may be allowed a positive outlet to protect adjacent properties provided there is a demonstrated threat to structures and public safety. This outlet must be in conformance with current wetland regulations and demonstrate that downstream properties are not adversely affected by the flows. <i>(Current policy)</i>
5.5.4	If an outlet or suitable water level management plan is not available for a landlocked basin, no development will be allowed below the overflow elevation of this area. <i>(Current policy)</i>
5.5.5	The City prefers to use regional detention and treatment areas rather than site specific detention areas where feasible. The City recognizes that development of these areas will likely be incorporated into development activity and not initiated independently by the City. <i>(Current policy)</i>
5.5.6	The City requires as-builts of all ponding areas and designated emergency overflows. <i>(Current policy)</i>
5.5.7	The City shall educate and assist with efforts to control invasive Milfoil and Curly Leaf Pond Weed on Lake Minnetonka. <i>(Current policy)</i>
5.5.8	The City will annually review internal housekeeping practices with Public Works staff. This will include salt/sand usage and storage, street sweeping, lawn care, and waste removal. <i>(Current policy)</i>
5.5.9	The City will annually review the stormwater management ordinance (which also contains erosion and sediment control requirements) the floodplain ordinance, and the illicit discharge ordinance and update as necessary. <i>(Updated policy)</i>
5.5.10	Barriers to housekeeping activities are related to communication of City staff and contractors. The City will endeavor to communicate effectively between departments and between staff regarding stormwater management items. <i>(Current policy)</i>
5.5.11	The City along with the MCWD will inspect sites that require an NPDES permit for erosion and sedimentation control for all new developments and redevelopments one acre and larger in size. <i>(Current policy)</i>

6. IMPLEMENTATION PRIORITIES/IMPLEMENTATION PROGRAM

Based on the information developed in **Sections 2** through **5**, the City has developed an implementation program that reflects the needs and concerns of the City Council, City staff, and citizens. **Table 4-1** is a prioritized listing of the studies, programs, and capital improvements that have been identified as necessary to respond to the water resource needs within the City.

The City anticipates implementing to some extent the regulatory programs, studies, or improvements identified within this plan within the next ten years while implementing the following priorities in its stormwater management program:

1. Meet requirements of regulatory agencies or programs.
2. Incorporate BMPs in stormwater management maintenance and repairs.
3. Maintain and improve the existing system as part of Public Works Capital Improvement Projects.
4. Improve the management of water quality and water quantity with future redevelopment and reconstruction projects.

The City will also actively pursue grant opportunities to fund some projects, studies, or programs.

The City's ten-year CIP is a flexible schedule of projects and public improvements that the City wishes to complete over the timeframe. The 2018-2028 CIP is the most recent version of the CIP and can be found on the [City's website](#). The CIP is updated annually to ensure consistency with changing demands and funds available. The CIP includes projects and maintenance needs for transportation infrastructure, sewer and water infrastructure, park improvement, storm sewer infrastructure, as well as other City needs. Projects are prioritized by the current level of need for the project, the overlap of different department projects, and the available funds for each of the different departments.

6.1. Financial Considerations

The implementation of the proposed projects, programs, and studies identified in this plan will have a financial impact on the City. To establish how significant this impact will be, a review of the means and ability of the City to fund these controls, programs, and improvements is necessary. Toward this end, outlined below a listing of various potential sources of revenue to implement the water resource management efforts outlined in this Plan.

The costs to implement this Plan are outlined in **Table 4-1**. The City anticipates funding these projects, studies, and programs primarily through the stormwater utility fund. This fund generates approximately \$125,000 annually. As is evident from the tables in **Section 4**, the Stormwater Utility Fund alone is not sufficient to fund these activities. The City will consider adjusting the Stormwater Utility Fee to cover the costs associated with the implementation program. The City will continue to review the stormwater utility fee annually and adjust based on the stormwater related needs of the City and other available funding mechanisms. The City will also use a levy for construction projects that have a direct benefit to landowners when appropriate (see **Table 4-1**). Grants or partnership opportunities will also be sought. The City has chosen not use ad valorem for funding water resource projects at this time but may use special assessments for specific projects if appropriate.

While the City's funds do not appear to be able to fully fund these activities, the City does not wish to remove items from the Plan. The Plan acts as a placeholder and planning tool for these projects, programs, and studies. The City also knows that to be eligible for many State grants and loans, projects must be listed in the local surface water management plan. Therefore, this Plan will act as a road map

and tool to complete projects, seek out additional funding sources, and assess updates to the Stormwater Utility.

6.2. Amendment Procedure

It is the intention of the City to have this Plan reviewed and approved by MCWD and the Metropolitan Council. Once approved, no significant changes to this plan can be facilitated without the approval of the proposed revisions by the watershed district or Metropolitan Council. Significant changes to the local plan shall be made known to the following parties:

1. City Manager, Public Works Superintendent, and City Engineer
2. Minnehaha Creek Watershed District
3. Metropolitan Council
4. Public within the City through a public hearing process

Following notification of the above parties, they shall have 60 days to comment on the proposed revisions. The Metropolitan Council shall have 45 days to comment on the revisions. Failure to respond within 60 days constitutes approval. Upon receipt of approvals from the affected watershed management organizations and watershed districts within the City, any proposed amendments will be considered approved.

Minor changes to the Plan shall be defined as changes that do not modify the goals, policies, or commitments expressly defined in this plan by the City. Adjustment to subwatershed boundaries will be considered minor changes provided that the change will have no significant impact on the rate or quality in which stormwater runoff is discharged from the City boundaries. Minor changes to this plan can be made by the staff at the City without outside review. It is the intention of the City that this Plan be updated ten years after the adoption of this Plan unless significant changes to the plan are deemed necessary prior to that date.

Amendments to this Plan will be required within two years of the adoption of an updated Watershed Management Plan from the MCWD pursuant to MR8410.0160.

The MCWD will retain the permitting authority within the City. If needed, the City will submit a SWMP amendment to the MCWD and Metropolitan Council for a 60-day review and amended approval.

APPENDIX A – FIGURES

Excelsior



City of Excelsior
Surface Water Management Plan

Figure 2 - Wetland Assessment Map

Legend

Excelsior Boundary

City Boundaries

Wetland Management Class

- Manage 1
- Manage 2
- Manage 3
- Not Classified
- Preserve





Excelsior

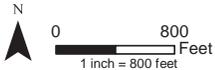


City of Excelsior
Surface Water Management Plan

**Figure 3 - National Wetland
Inventory Map**

Legend

-  Excelsior Boundary
-  City Boundaries
-  NWI Wetland



Excelsior



City of Excelsior
Surface Water Management Plan

Figure 4 - DNR Public Waters and Wetlands Map

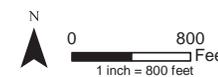


Ordinary High Water Level (OHW)

Lake Minnetonka	133P	929.4'
Galpin Lake	144P	943.14'

Legend

-  Excelsior Boundary
-  City Boundaries
-  DNR Public Waters/Wetlands





Excelsior

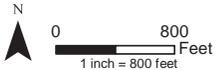


City of Excelsior
Surface Water Management Plan

**Figure 5 - FEMA
Floodplain Map**

Legend

-  Excelsior Boundary
-  City Boundaries
-  100-Year Floodplain
-  500-Year Floodplain

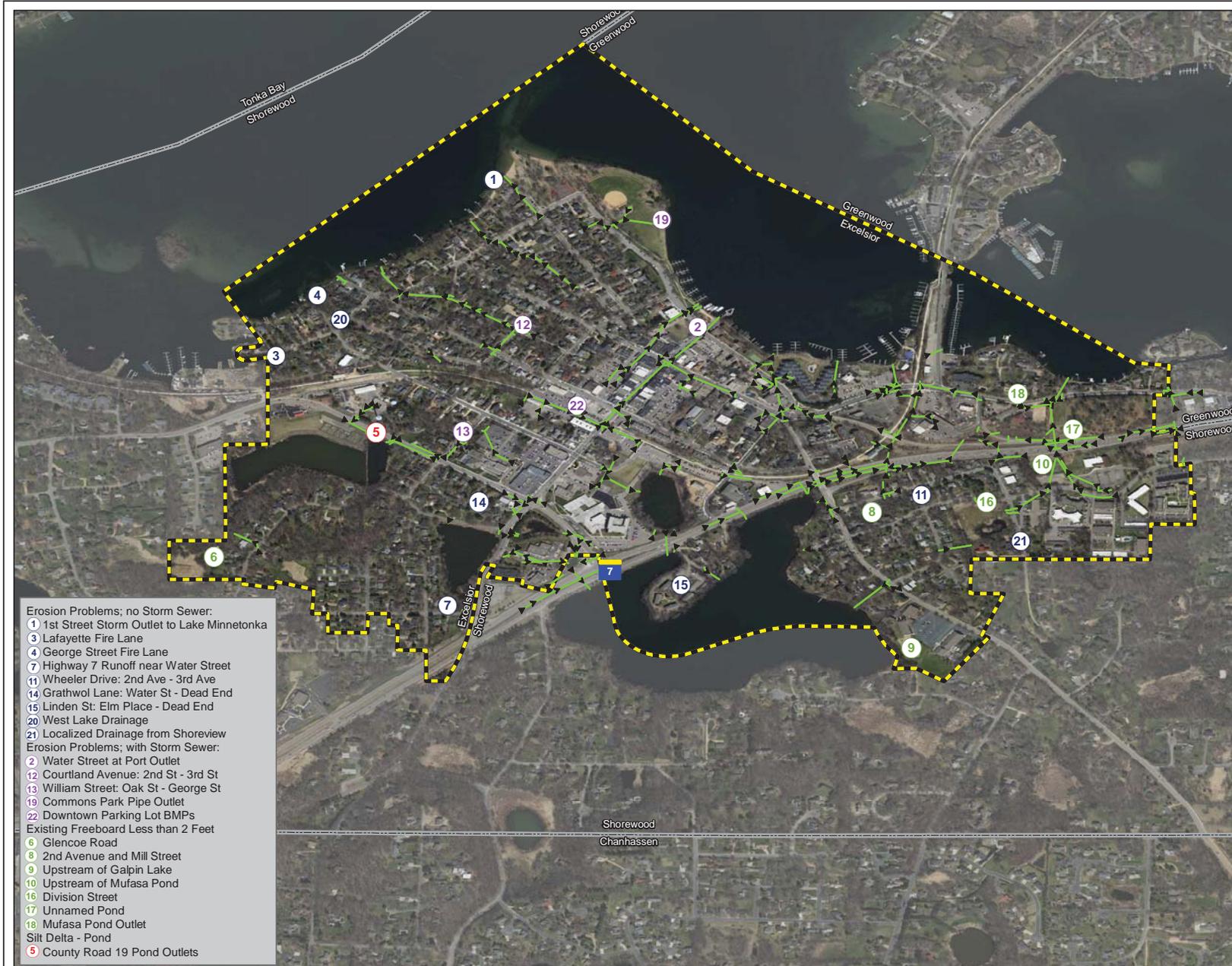


Excelsior



City of Excelsior
Surface Water Management Plan

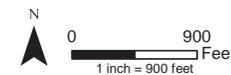
Figure 6 - Water Resource Problem Areas



- Erosion Problems; no Storm Sewer:**
- 1 1st Street Storm Outlet to Lake Minnetonka
 - 3 Lafayette Fire Lane
 - 4 George Street Fire Lane
 - 7 Highway 7 Runoff near Water Street
 - 11 Wheeler Drive: 2nd Ave - 3rd Ave
 - 14 Grathwol Lane: Water St - Dead End
 - 15 Linden St: Elm Place - Dead End
 - 20 West Lake Drainage
 - 21 Localized Drainage from Shoreview
- Erosion Problems; with Storm Sewer:**
- 2 Water Street at Port Outlet
 - 12 Courtland Avenue: 2nd St - 3rd St
 - 13 William Street: Oak St - George St
 - 19 Commons Park Pipe Outlet
 - 22 Downtown Parking Lot BMPs
- Existing Freeboard Less than 2 Feet**
- 6 Glencoe Road
 - 8 2nd Avenue and Mill Street
 - 9 Upstream of Galpin Lake
 - 10 Upstream of Mufasa Pond
 - 16 Division Street
 - 17 Unnamed Pond
 - 18 Mufasa Pond Outlet
 - Silt Delta - Pond
 - 5 County Road 19 Pond Outlets

Legend

- Storm Sewer
- Excelsior Boundary
- City Boundaries



Excelsior



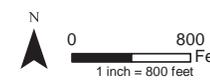
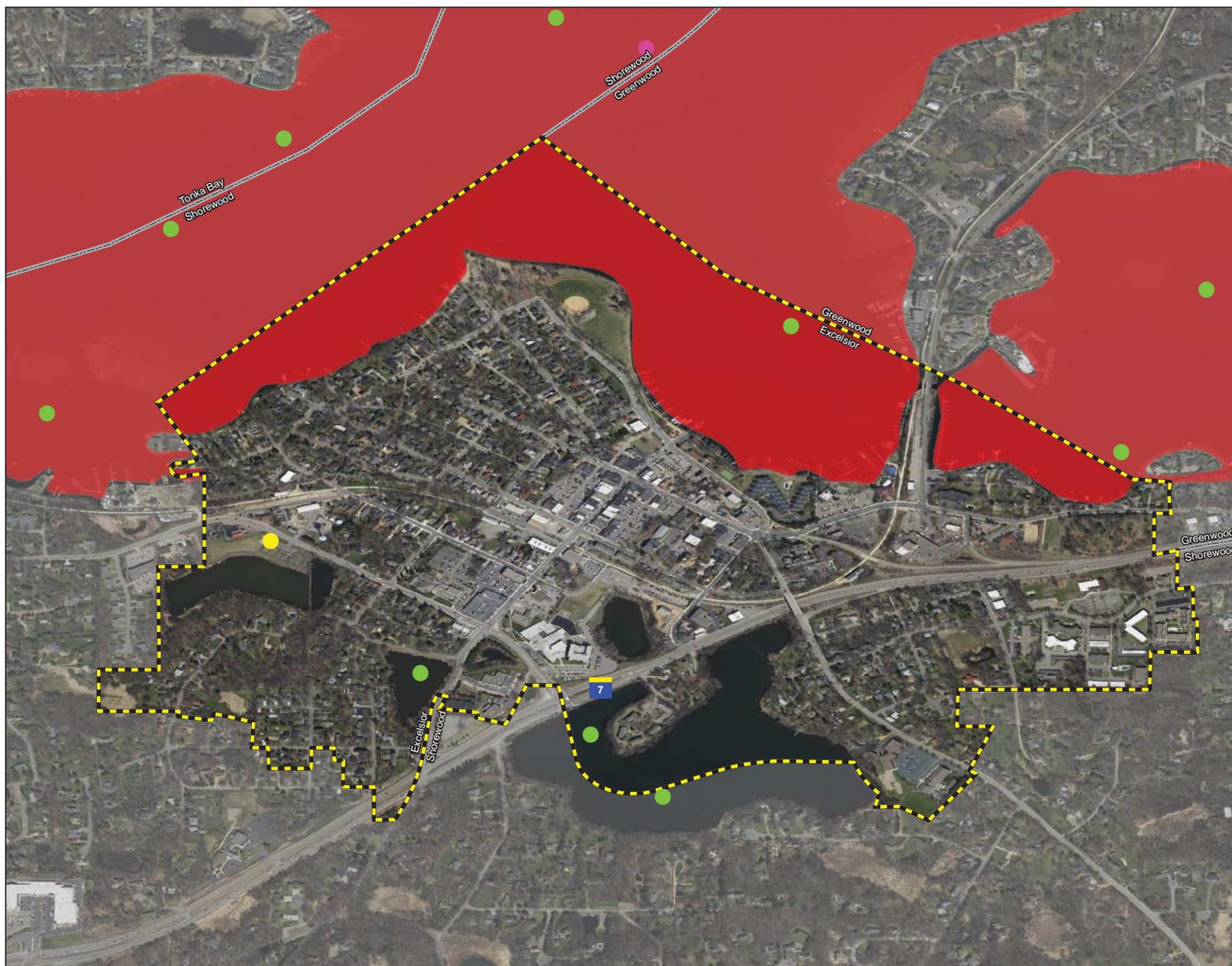
City of Excelsior
Surface Water Management Plan

Figure 7 - Water Quality Monitoring Locations Map

Legend

MPCA Water Quality Monitoring Points

-  MPCA
-  NPDES Permittee
-  USEPA
-  Excelsior Boundary
-  City Boundaries
-  Impaired Water





Excelsior

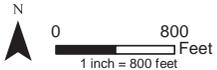


City of Excelsior
Surface Water Management Plan

Figure 8 - Groundwater Appropriation Locations

Legend

-  Excelsior Boundary
-  City Boundaries
-  Water Withdrawal Location



Excelsior



City of Excelsior
Surface Water Management Plan

Figure 9 - Hydrologic Soils Classification Map

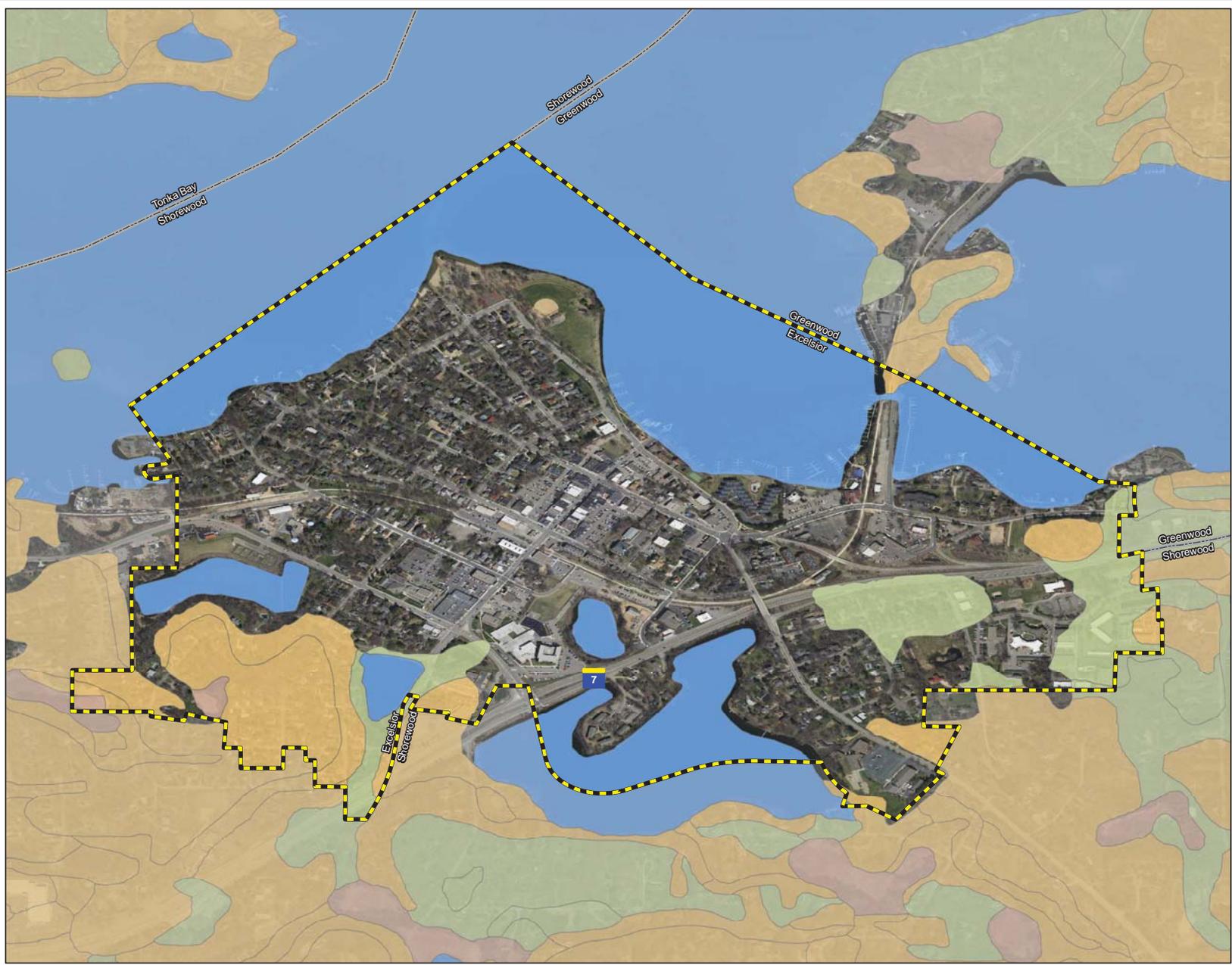
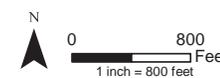
Legend

- Excelsior Boundary
- City Boundaries

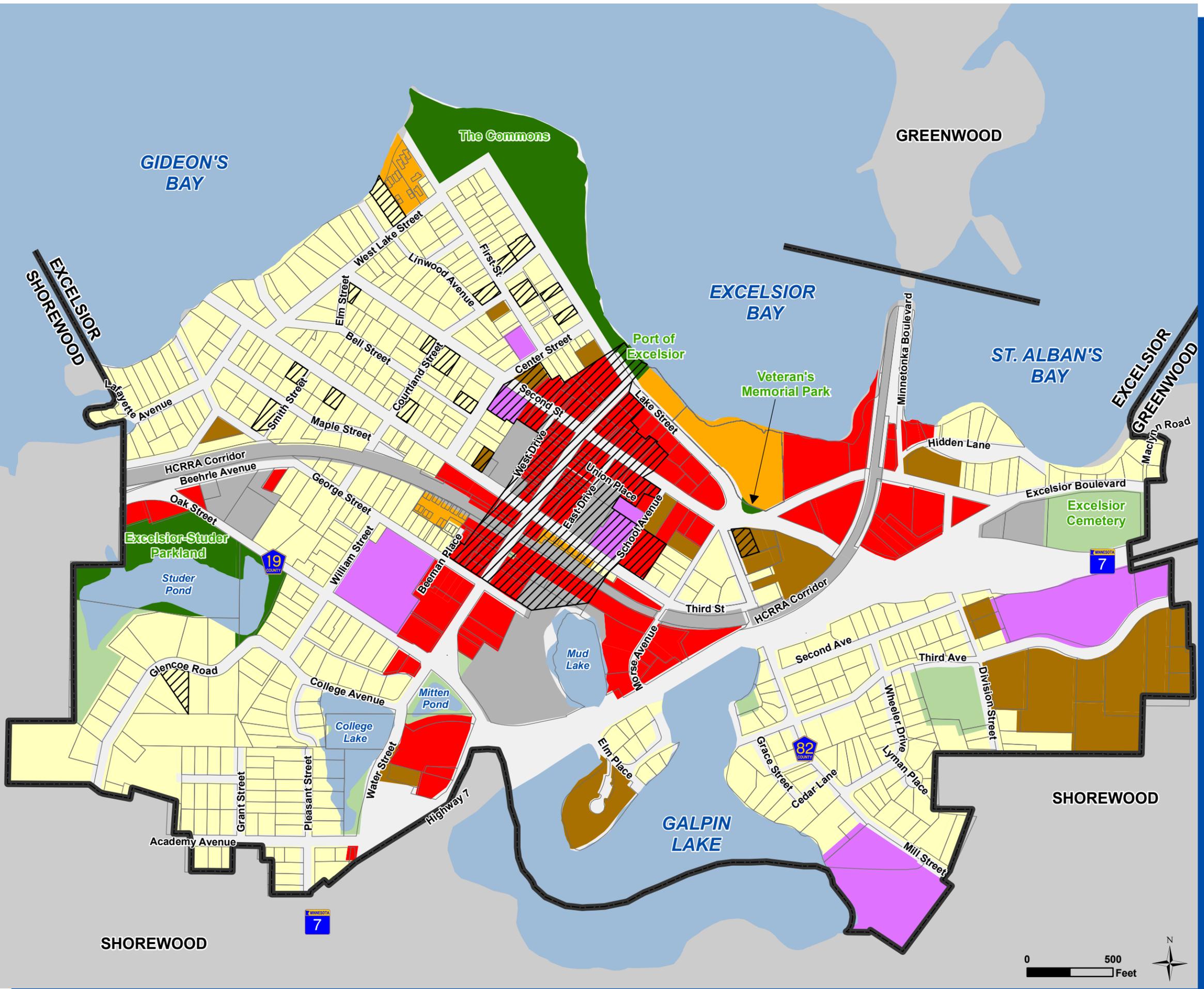
Hydrologic Soils Classification

- Water
- A/D
- B
- B/D

Areas not labeled are classified as urban soils and are not assigned a hydrologic group.

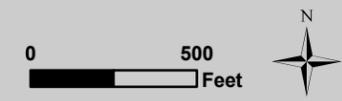


Existing Land Use - 2018



Legend

- Low Density Residential
- Medium Density Residential
- High Density Residential
- Commercial
- Institutional
- Open Space/Wetland
- Parks
- Public/Semi-Public
- Historic Landmarks & Downtown Historic District
- Excelsior Boundary



Proposed Land Use Plan



Legend

- Low Density Residential (0-7 Units/acre)
- Medium Density Residential (8-18 Units/acre)
- High Density Residential (19-30 Units/acre)
- Institutional
- Downtown
- Cottage Commercial
- Mixed Use Commercial
- General Commercial
- Parks & Open Space
- Public/Semi-Public
- Excelsior Boundary



SHOREWOOD

SHOREWOOD

GREENWOOD

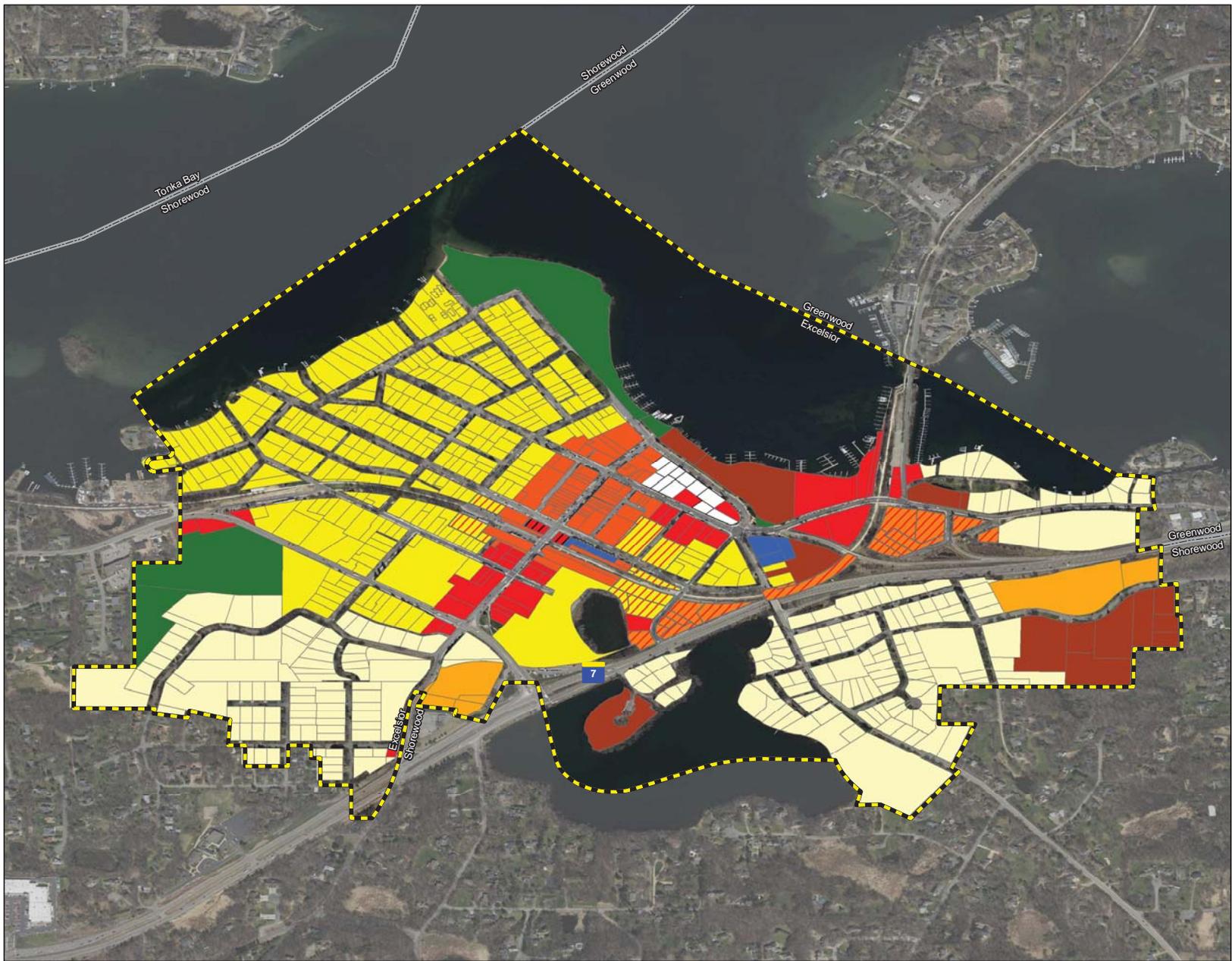
GIDEON'S BAY

EXCELSIOR BAY

ST. ALBAN'S BAY

GALPIN LAKE





Excelsior



City of Excelsior
Surface Water Management Plan

Figure 12 - Zoning Parcels

Legend

-  Excelsior Boundary
-  City Boundaries
- Zoning**
-  R-1, Single Family Residential
-  R-2, Single and Two Family
-  R-3, Medium Density Residential
-  R-4, High Density Residential
-  B-1, Central Business District
-  B-2, General Business District
-  B-3, Office/Residential District
-  B-4, Office/Residential District
-  B-5, Central Business District/Motor Fuel Station
-  B-6, Highway Office, Retail & Residential District
-  P, Public Park District
-  PUD, Planned Unit Development (Residential)



Excelsior

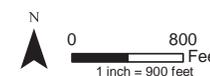


City of Excelsior
Surface Water Management Plan

Figure 13 - Parks and Trails Map

Legend

-  Excelsior Boundary
-  City Boundaries
-  Trails
-  Park, Recreational, or Preserve



Excelsior



City of Excelsior
Surface Water Management Plan

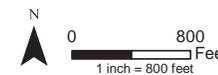
Figure 14 - MPCA Areas of Interest

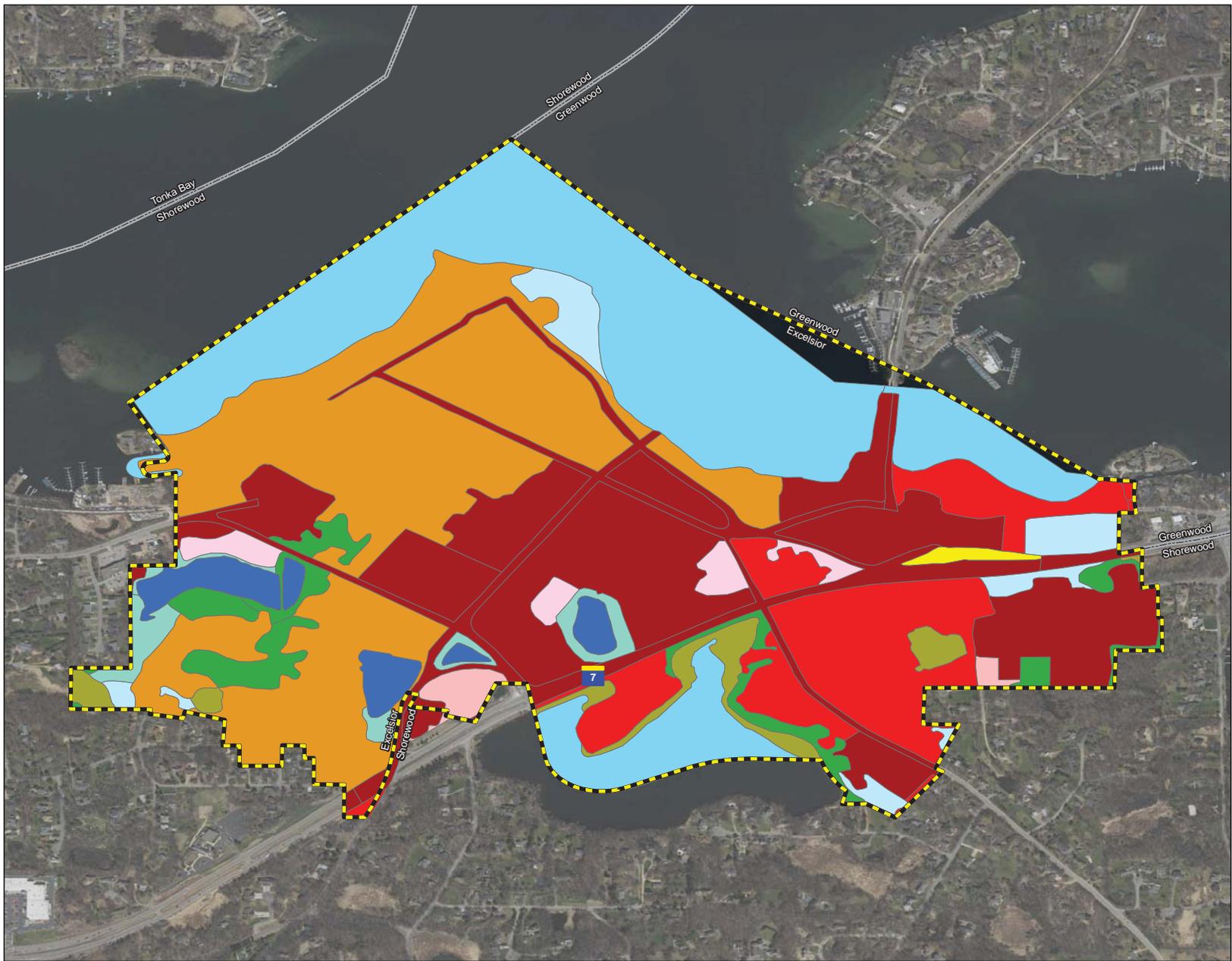
Legend

- Excelsior Boundary
- City Boundaries

Area of Interest Description

- Multiple Programs
- Brownfields
- Environmental Review
- Hazardous Waste
- Construction Stormwater
- Industrial Stormwater
- Aboveground Tanks
- Underground Tanks
- Petroleum Remediation
- Site Assessment
- Wastewater





Excelsior



City of Excelsior
Surface Water Management Plan

**Figure 15 - MLCCS
Land Cover Map**

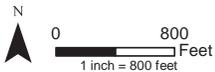
Legend

Excelsior Boundary

City Boundaries

MLCCS Land Cover

- 11. 5-10% Impervious
- 12. 11-25% Impervious
- 13. 26-50% Impervious
- 14. 51-75% Impervious
- 15. 76-100% Impervious
- 21. Short Grasses
- 31. Forest
- 32. Wetland Forest
- 62. Wetland Emergent Vegetation
- 63. Dry Tall Grasses
- 90. Open Water
- 92. Wetland Open Water

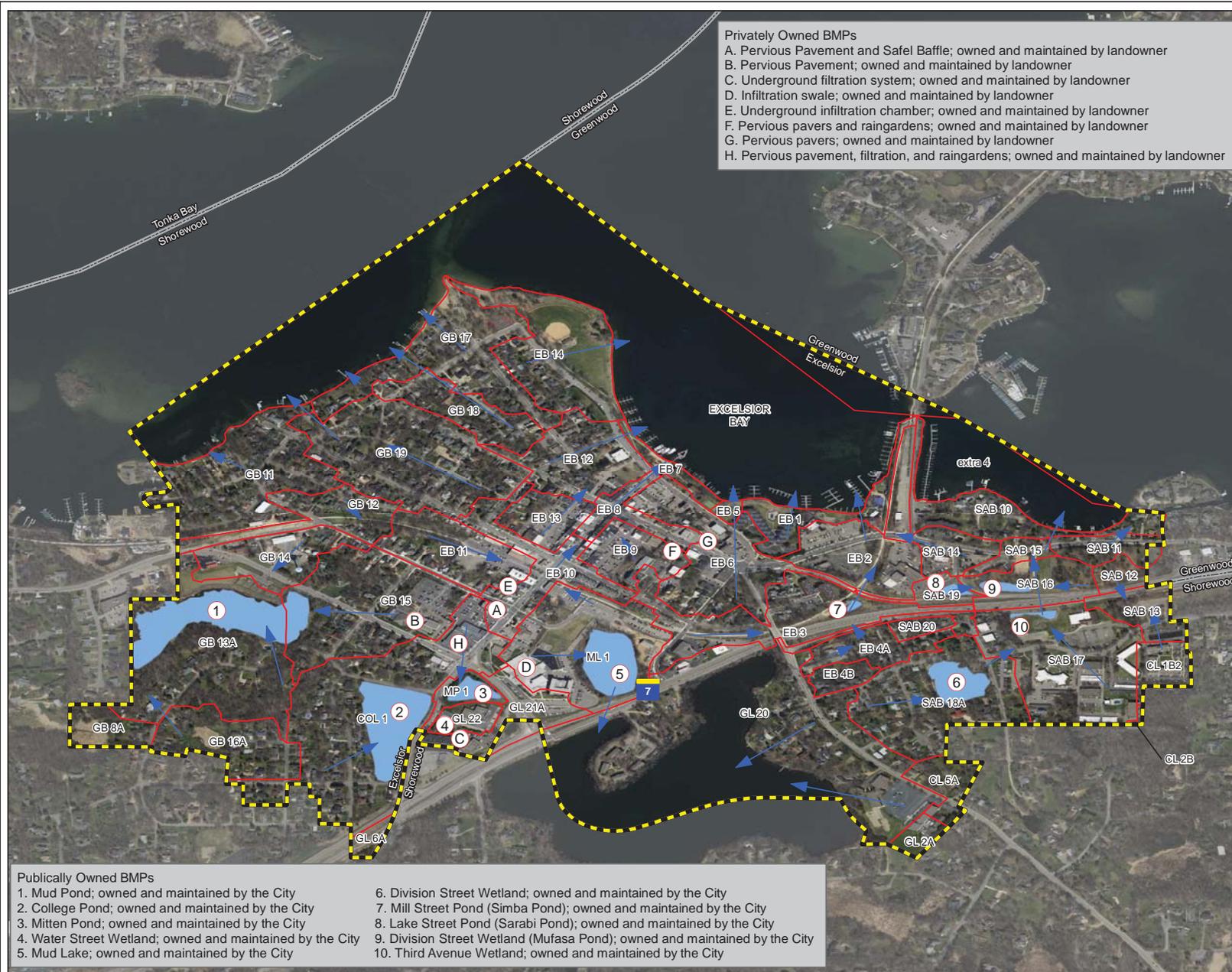


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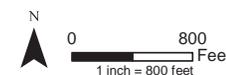
City of Excelsior
Surface Water Management Plan

Figure 16 - Subwatershed and Drainage Routing Map



Legend

- Flowline
- Excelsior Boundary
- City Boundaries
- Subwatershed Boundary
- Pond Inventory

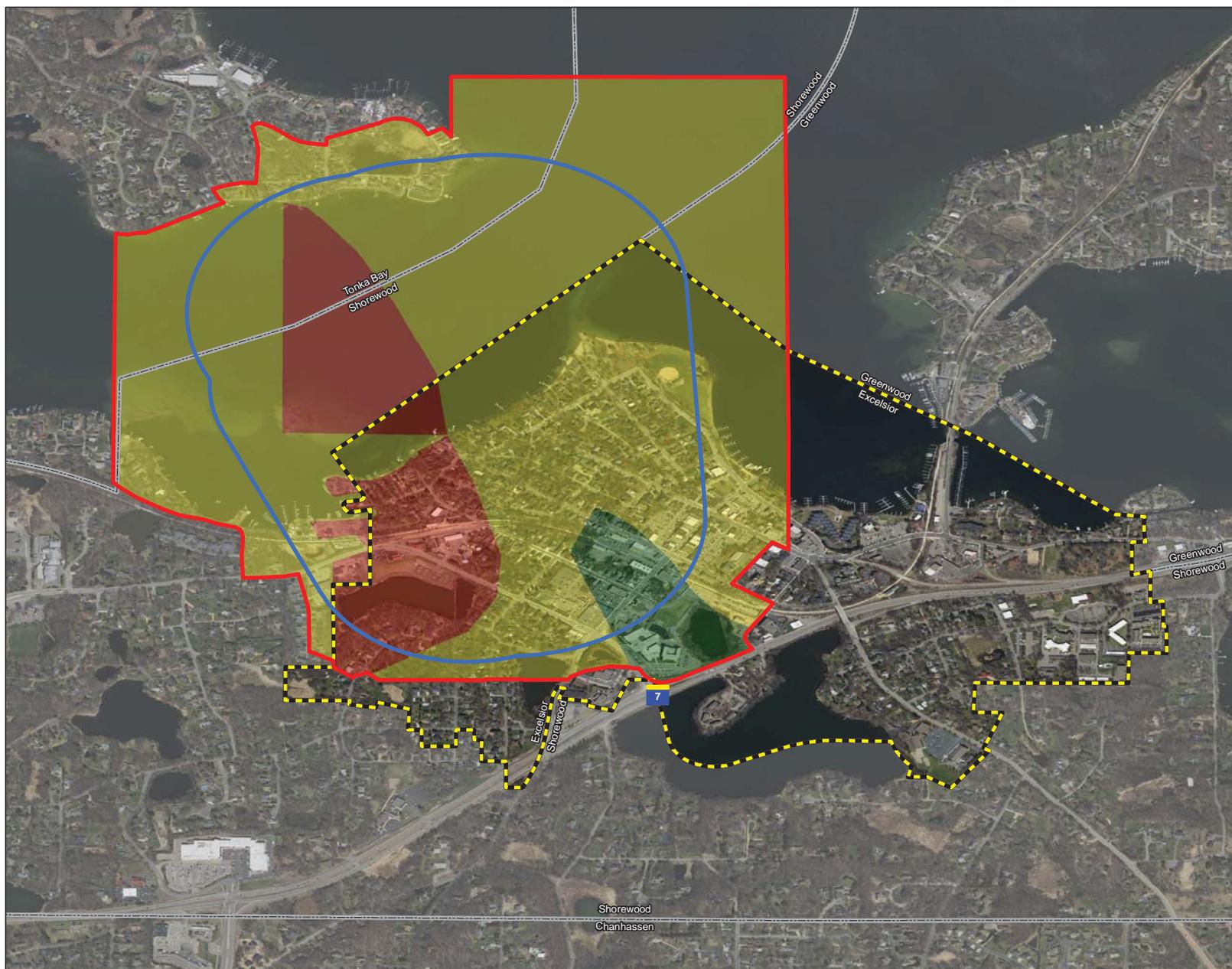


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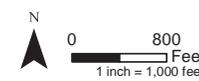
City of Excelsior
Surface Water Management Plan

Figure 17 - Drinking Water Supply Management Areas Map



Legend

-  Wellhead Protection Area
 -  DWSMA
 -  Excelsior Boundary
 -  City Boundaries
- DWSMA Vulnerability**
-  High
 -  Low
 -  Moderate





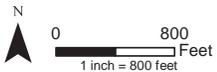
Excelsior



City of Excelsior
Surface Water Management Plan

**Figure 18 - Excelsior's
City-Owned Parcels**

- Legend**
-  Excelsior Boundary
 -  City Boundaries
 -  City Owned Parcels



APPENDIX B – WATER RESOURCE RELATED AGREEMENTS

MEMORANDUM of UNDERSTANDING

Between the Minnehaha Creek Watershed District and the City of Excelsior

This Memorandum of Understanding (MOU) is made by and between the Minnehaha Creek Watershed District, a watershed district with purposes and powers as set forth at Minnesota Statutes Chapters 103B and 103D ("MCWD"), and the City of Excelsior, a statutory city and political subdivision of the State of Minnesota ("City").

Recitals and Statement of Purpose

WHEREAS the MCWD's 2007 Comprehensive Water Resources Management Plan identifies a need to reduce stormwater runoff and nutrient loading to Lower Lake South of Lake Minnetonka;

WHEREAS conceptual projects and best management practices (BMPs) have been identified and defined through feasibility studies conducted by the MCWD;

WHEREAS the City would like to partner with the MCWD to develop opportunities to implement BMPs for improving the water quality of runoff to Lower Lake South of Lake Minnetonka; provided such a partnership is in the best interest of the City and it is deemed reasonable and practicable to do so;

WHEREAS the City is under no obligation to encumber project costs or implement the projects proposed by the MCWD feasibility studies;

WHEREAS, should a suitable project be identified, the parties of this agreement recognize there will be a need for a future cooperative agreement between the City and the MCWD that identifies the roles and responsibilities of each party in installing and maintaining water quality measures in the City of Excelsior;

WHEREAS the MCWD wishes to be notified as soon as possible of City, private, County, or other projects that are being planned that have the potential to incorporate BMPs to reduce stormwater runoff and nutrient loading to Lower Lake South of Lake Minnetonka; and

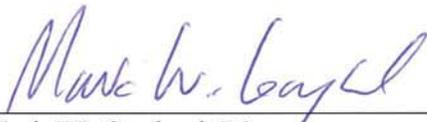
WHEREAS the MCWD and the City wish to memorialize an understanding of responsibilities by each party, to develop and implement best management practices (BMPs);

NOW THEREFORE BE IT RESOLVED; that the two parties will operate in the following manner;

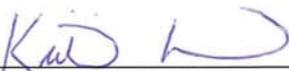
1. The City will notify the MCWD of any City projects, private development and redevelopment, and County projects that may be suitable for implementation through this partnership agreement.

2. Each party will use best efforts to fulfill the terms of this MOU and to cooperate fully and effectively to carry out the cooperative partnership specified in this MOU.
3. This voluntary agreement will remain in effect as long as potential opportunities and funding sources exist for appropriate projects or either party wishes to terminate the MOU, which can be accomplished by providing written notice to the other party.
4. MCWD completed feasibility studies for water quality and volume BMP opportunities within the City of Excelsior, these studies can be used for project ideas should the opportunity arise.

THE CITY OF EXCELSIOR

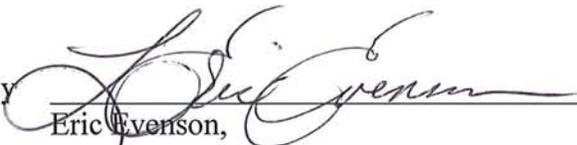
By 
Mark W. Gaylord, Mayor

Date:

By 
Kristi Luger, City Manager

Date: 03-21-13

**MINNEHAHA CREEK WATERSHED
DISTRICT**

By 
Eric Evenson,
District Administrator

Date: 4-8-13

APPROVED AS TO FORM AND
EXECUTION

By 
Its Attorney

MINNEHAHA CREEK WATERSHED MCWD
Low Impact Development Cost–Share Funding Agreement

Minnehaha Creek Watershed District and
City of Excelsior

This Agreement is entered into by and between the Minnehaha Creek Watershed District, a special purpose district of the State of Minnesota with powers set forth at Minnesota Statutes Chapters 103B and 103D (MCWD), and the City of Excelsior, a home rule charter city and political subdivision of the State of Minnesota (CITY) (together, the Parties).

The purpose of this Agreement is to provide cost–share assistance for the construction and maintenance of a project demonstrating water resource conservation and providing education at 3rd Street on property owned by the CITY (the Property).

MCWD has determined and communicated to CITY that it will contribute cost–share funding for construction of water resources–conservation practices in conjunction with a project CITY has undertaken as part of the improvement of its 3rd Street Fire Lane. MCWD has determined the amount of funding that it will contribute to the construction and design of the practices on the basis of the water–quality improvement, public education and demonstration benefits that will be realized.

MCWD commits to reimburse CITY in accordance with the terms and on satisfaction of the conditions of this Agreement.

1. Scope of Work

CITY has constructed a hydrodynamic separator, SAFL Baffle and curb (the Facilities) on the Property, or construct the Facilities itself, in accordance with the Site Plan attached to and incorporated into this Agreement as Exhibit A and the Budget attached to and incorporated into this Agreement as Exhibit B.

Within 60 days of execution of this Agreement, CITY will submit to MCWD:

- a. certification by a registered engineer on behalf of CITY that the Facilities have been constructed and are substantially complete, functional and conforming to Exhibit A;
- b. a narrative describing the construction of the Facilities, including a description of any changes made or expected to the Facilities;

- c. as-built drawings of the Facilities;
- d. photographs documenting construction; and
- e. an invoice and receipts documenting the Facilities costs, along with any completed reimbursement forms required by MCWD.

CITY will maintain a copy of the Site Plan and other records concerning the Facilities for six years from the date CITY receives or completes the as-built drawings of the Facilities. MCWD may examine, audit or copy any such records on reasonable notice to CITY.

2. Contractor

CITY represents that it selected a contractor or contractors for the Facilities or constructed the Facilities itself and ensured construction of the Facilities in accordance with Exhibit A. CITY represents that in contracting for construction of the Facilities, CITY ensured that no person was excluded from full employment rights or participation in or benefits of any program, service, or activity on the grounds of race, color, creed, religion, age, sex, disability, marital status, sexual orientation, public-assistance status or national origin, and that no person protected by applicable federal or state laws, rules or regulations against discrimination was subject to discrimination.

3. Reimbursement

When MCWD has received from CITY the documentation described in section 1 of this Agreement and after MCWD has either inspected the Facilities or communicated in writing to CITY that it waives its right to do so, MCWD will reimburse CITY 50 percent of CITY's eligible costs to design and construct the Facilities, except that reimbursement under this Agreement will not exceed a total of \$20,110.

MCWD has determined that partial performance of obligations under section 1 of this Agreement may confer no or limited benefit on MCWD. As a result:

- a. MCWD may withhold 10 percent of any reimbursement under this section 3 until MCWD has confirmed substantial completion of the Facilities; and
- b. if construction, including vegetation establishment where specified, of the Facilities is not substantially completed in material conformance with the approved plans and specifications within two (2) years of the date this Agreement is fully executed, subject to delays outside of CITY's control, MCWD will not be obligated to provide reimbursement to CITY under this Agreement and may declare this Agreement rescinded and no longer of

effect. Notwithstanding, the parties will consult before MCWD makes a decision to deny reimbursement or rescind the Agreement.

4. Right of Access

CITY will permit MCWD representatives to enter the Property at reasonable times to inspect the work, ensure compliance with this Agreement and monitor or take samples for the purposes of assessing the construction or performance of the Facilities and compliance with the terms of this Agreement. If MCWD finds that an obligation under this Agreement is not being met, it will provide 30 days' written notice and opportunity to cure, and thereafter may declare this Agreement void. CITY will reimburse MCWD for all costs incurred in the exercise of this authority, including reasonable engineering, legal and other contract costs.

5. Maintenance

CITY will maintain the Facilities in perpetuity from the date of substantial completion of construction in accordance with the Maintenance Plan & Schedule attached and incorporated into this Agreement as Exhibit C. If CITY fails to maintain the Facilities, MCWD will have a right to reimbursement of all amounts paid to CITY, unless MCWD determines that the failure to maintain the Facilities was caused by reasons beyond CITY's control.

If the CITY conveys into private Ownership a fee interest in all or any portion of the public property that is subject to this Agreement, it must require as a condition of sale, and enforce: (a) that the purchaser record a declaration on the property incorporating the maintenance requirements of this Agreement; and (b) that recordation occur either before any encumbrance is recorded on the property or, if after, only as accompanied by a subordination and consent executed by the encumbrance holder ensuring that the declaration will run with the land in perpetuity. If the CITY conveys into public Ownership a fee interest in all or any portion of the property that is subject to this Agreement, it must require as a condition of the purchase and sale Agreement that the purchaser accept an assignment of all obligations vested under this Agreement.

6. Acknowledgment and Publicity

Any publicly distributed or displayed printed or electronic documents or other text display regarding the Facilities will properly acknowledge the funding provided by MCWD. CITY will cooperate with MCWD to seek publicity and media coverage of the

Facilities, and to allow members of the public periodically to enter the Property to view the Facilities in the company of an MCWD representative. CITY will permit MCWD, at its cost and discretion, to place reasonable signage on CITY's property informing the public about the Facilities and MCWD 's cost-share program.

7. Independent Relationship; Indemnification

MCWD's role under this Agreement is solely to provide funds to support the performance of voluntary work by CITY that furthers the purposes of MCWD. This Agreement is not a joint powers agreement under Minnesota Statutes section 471.59. CITY acts independently and selects the means, method and manner of constructing the Facilities. No employee, representative, contractor or consultant of any party to this Agreement has acted or may act in any respect as the agent or representative of the other party. Any right to review or approve a design, work in progress or a constructed facility provided by the Agreement to MCWD is solely for MCWD's purpose of accounting for MCWD funds expended. CITY is not the agent, representative, employee or contractor of MCWD. CITY will hold MCWD, its officers, board members, employees and agents harmless, and will defend and indemnify MCWD, with respect to all actions, costs, damages and liabilities of any nature arising from: (a) CITY's negligent or otherwise wrongful act or omission, or breach of a specific contractual duty; or (b) a subcontractor's negligent or otherwise wrongful act or omission, or breach of a specific contractual duty owed by CITY to MCWD. No action or inaction of MCWD or the CITY under this Agreement creates a duty of care on the part of MCWD or the CITY for the benefit of any third party.

8. Remedies; Immunities

Only contractual remedies are available for a party's failure to fulfill the terms of this Agreement. Notwithstanding any other term of this Agreement, the District and the CITY waive no immunities in tort. No action or inaction of a party under this Agreement creates a duty of care for the benefit of any third party. This Agreement creates no right in and waives no immunity, defense or liability limitation with respect to any third party.

9. Effective Date; Termination; Survival of Obligations

This Agreement is effective when fully executed by all parties and expires 10 years thereafter. MCWD retains the right to void this Agreement if MCWD has not received from CITY the documentation described in section 1 of this Agreement by December

31, 2013. Upon issuance by MCWD of notice of MCWD 's determination to void this Agreement, CITY will not receive any further reimbursement for work subject to this Agreement, unless MCWD extends the construction-completion period.

All obligations that have come into being before termination, specifically including obligations under paragraphs 4, 5, 6, 7 and 8 will survive expiration.

10. Compliance With Laws

CITY is responsible to secure all permits and comply with all other legal requirements applicable to the construction of the Facilities.

11. Notices

Any written communication required under this Agreement shall be addressed to the other party as follows:

To MCWD :

Administrator
Minnehaha Creek Watershed District
18202 Minnetonka Blvd
Deephaven, MN 55391

To CITY:

Public Works Director
City of Excelsior
339 Third Street
Excelsior, MN 55331

12. Waiver

MCWD's failure to insist on the performance of any obligation under this Agreement does not waive its right in the future to insist on strict performance of that or any other obligation. Notwithstanding any other term of this Agreement, MCWD waives no immunities in tort. This Agreement creates no rights in and waives no immunities with respect to any third party or a party to this Agreement.

13. Venue and Jurisdiction

The Agreement will be construed under and governed by the laws of the State of Minnesota. The appropriate venue and jurisdiction for any legal action hereunder will be Hennepin County, Minnesota.

Intending to be bound, the parties hereto execute and deliver this Agreement.

CITY
By Mark W. Gaylord Date 12-16-13
Name Mark Gaylord
Its Mayor

By Kristi Luger Date 12-16-13
Name Kristi Luger
Its City Manager

MINNEHAHA CREEK WATERSHED DISTRICT

By _____ Date _____
Name _____
President

APPROVED AS TO FORM AND EXECUTION

Its Attorney

**Exhibit B
Budget**

The following includes the breakdown of the costs associated with the 2012 Excelsior 3rd Street Fire Lane Road Reconstruction Project:

1. Hydrodynamic Separator	\$23,000
2. <u>SAFL Baffle</u>	\$7,500
3. Catch Basin Casting Assembly	\$1,950
4. Concrete Curb & Gutter	\$5,800
5. Design & Engineering Services	<u>\$1,970</u>
Total	\$40,220

Exhibit C

Maintenance Plan & Schedule

Stormwater Management Facilities. Stormwater management facilities described in the Site Plan and Design attached as Exhibit A to the Agreement must be maintained as follows:

Grit chambers and other structures.

Grit chambers, sump catch basins and sump manholes shall be inspected each year in the spring, summer and fall; outlet structures, culverts, outfall structures or other stormwater facilities shall be inspected in the spring and fall each year; proprietary stormwater-management devices and structures shall be inspected as recommended by the manufacturer and/or installer, but at least annually. All sediment and debris will be removed during the inspections such that the stormwater facilities operate as designed and permitted; erosion impairing the function or integrity of the facilities, if any, will be corrected; and any structural damage impairing or threatening to impair the function of the facilities will be repaired. Conveyances and other structures shall be inspected annually to ensure preservation of designed hydraulic capacity.

APPENDIX C – STORM WATER SYSTEM MODELING INFORMATION

**CITY OF EXCELSIOR
SURFACE WATER MANAGEMENT PLAN
100-YEAR EVENT**

Problem Area #	SUB- WATERSHED NUMBER	AREA (Acres)	Tc (min)	SCS CN	PEAK RUNOFF RATE (cfs)		FULLY DEVELOPED PEAK DISCHARGE RATE			FWL (B)	REQUIRED STORAGE (ft)		LOW BUILDING ELEVATIONS (ft)	OVERLAND OVERFLOW (ft)	COMMENTS
					100-YR 10-DAY FULLY DEVELOPED	100-YR 24-HR FULLY DEVELOPED	100-YR 10-DAY PEAK OUTFLOW FROM POND (cfs)	100-YR 24-HR PEAK OUTFLOW FROM POND (cfs)	100-YR 10-DAY FULLY DEVELOPED		100-YR 24-HR FULLY DEVELOPED	100-YR 10-DAY FULLY DEVELOPED			
18	EB 1	2.9	15.0	78.0	1.4	17.1	14.38	19.2	NA	942.8	7.43	10.08	950.0	REFURBISH EXISTING PUMP STATION AND EXCELSIOR AREA	
	GL 1B2	0.2	20	78	0.1	1.0	NA	NA	NA	942.8	NA	NA	950.0	EXCELSIOR DRAINAGE AREA FLOWS EAST TO SHOREWOOD STORAGE AREA	
	GL 2A	4.2	16	66	2.1	19.3	1.0	1.2	NA	938.3	0.63	0.87	940.1	EXCELSIOR DRAINAGE AREA FLOWS EAST TO SHOREWOOD STORAGE AREA	
	GL 2B	0.2	15	72	0.1	1.0	NA	NA	NA	938.3	NA	NA	940.1	EXCELSIOR DRAINAGE AREA FLOWS EAST TO SHOREWOOD STORAGE AREA	
	GL 3A	3.4	21	74	1.8	16.2	NA	NA	NA	933.3	0.50	1.91	940.1	EXCELSIOR DRAINAGE AREA FLOWS EAST TO SHOREWOOD STORAGE AREA	
	GL 3B	14.0	21	72	6.6	63.4	5.7	39.0	NA	933.3	0.50	1.91	940.1	EXCELSIOR DRAINAGE AREA FLOWS EAST TO SHOREWOOD STORAGE AREA	
	COL 1	30.7	30	79	14.2	134.4	30.4	86.6	NA	947.4	24.08	33.05	950.0	HYDRAULIC CONNECTION ON SOUTH END WOLFPEN LAKE	
	EB 10	3.6	20	69	2.6	36.0	NA	NA	NA	947.4	NA	NA	940.1	DRAINAGE AREA NORTH OF EXCELSIOR BLVD & LAKE ST. DIRECTLY TRIBUTARY TO EXCELSIOR BAY	
	EB 11	9.4	30	88	4.3	41.7	8.5	46.7	NA	947.4	0.00	0.08	948.8	DRAINAGE AREA TRIBUTARY TO 3RD ST. & WATER ST. INTERSECTION TO FORM SEWER	
	EB 12	9.7	25	78	4.2	38.9	4.2	21.9	NA	948.8	0.01	1.88	948.8	DRAINAGE AREA TRIBUTARY TO DEPRESSION NORTHWEST OF GEORGE ST. & WATER ST.	
23	EB 13	1.5	15	82	0.3	3.0	NA	NA	NA	930.1	NA	NA	940.0	DRAINAGE AREA TRIBUTARY TO FORMER WEST OF WATER ST. - OFFFALL TO EXCELSIOR BAY	
	EB 14	14.3	30	64	6.7	42.1	NA	NA	NA	930.1	NA	NA	940.0	PARK AREA TO DRAINAGE AREA NORTHWEST OF LAKE ST. / CENTER ST.	
	EB 2	8.8	30	62	4.1	47.2	4.1	33.6	NA	933.3	0.12	2.15	938.6	PARKING LOT STORAGE SOUTH OF EXCELSIOR BOULEVARD	
	EB 3	14.4	30	62	6.6	65.7	17.1	26.9	NA	933.3	0.67	2.21	948.8	DRAINAGE AREA TRIBUTARY TO 1475 SIBBA POND	
	EB 4	4.6	25.5	72	2.2	20.2	5.3	11.2	NA	937.4	0.22	2.43	937.9	DRAINAGE AREA SOUTH OF 1475 SIBBA POND	
	EB 5	8.8	25	72	3.7	32.8	3.8	11.8	NA	940.0	0.08	0.92	948.8	DEPRESSION SOUTH OF 3RD AVE & MILL ST. PROPOSED OUTLET TO EXCELSIOR BAY	
	EB 6	13.9	30	62	6.3	58.3	NA	NA	NA	941.1	0.08	0.92	948.8	DRAINAGE AREA TRIBUTARY TO DEPRESSION SOUTH OF EXCELSIOR BAY	
	EB 7	2.0	15	77	1.0	12.4	NA	NA	NA	941.1	NA	NA	940.0	DRAINAGE AREA TRIBUTARY TO EXCELSIOR BOULEVARD	
	EB 8	3.9	20	91	1.9	25.7	12.7	74.5	NA	942.6	0.00	0.00	948.8	DRAINAGE AREA NORTH OF LAKE ST. - DIRECT TO EXCELSIOR BAY	
	EB 9	5.2	25	89	2.4	30.0	2.4	9.4	NA	942.6	0.00	0.00	948.8	DRAINAGE AREA TRIBUTARY TO WATER ST. & SECOND ST. STORM SEWER	
7	GB 1A	8.6	40.3	71	3.9	26.1	11.8	11.8	NA	951.3	0.06	1.30	958.3	NORTHWEST DRAINAGE AREA OF CITY TO GREENS BAY	
	GB 1B	2.8	32.7	72	1.3	9.7	NA	NA	NA	951.3	NA	NA	948.8	DRAINAGE AREA DISCHARGES WEST TO SHOREWOOD	
	GB 1C	1.8	30	72	0.9	7.2	NA	NA	NA	951.3	NA	NA	948.8	DRAINAGE AREA DISCHARGES WEST TO SHOREWOOD	
	GB 1D	9.9	32.5	82	4.6	44.0	NA	NA	NA	951.3	NA	NA	948.8	SHOREWOOD DRAINAGE AREA RAINOFF TO EXCELSIOR	
	GB 1E	7.7	29.6	74	3.5	30.2	NA	NA	NA	951.3	NA	NA	948.8	DRAINAGE AREA NORTH OF OLD WASTE WATER TREATMENT BASIN (EAST CELL)	
	GB 1F	18.1	34.2	75	8.7	70.4	8.8	62.7	NA	938.0	3.03	3.43	937.0	EAST BASIN OF OLD WASTE WATER TREATMENT SYSTEM	
	GB 1G	8.6	40.3	71	3.9	26.1	11.8	11.8	NA	951.3	0.06	1.30	958.3	EXCELSIOR DRAINAGE AREA TO STORAGE AREA EAST OF GLENCOE ROAD	
	GB 1H	1.7	17	70	0.9	7.2	NA	NA	NA	951.3	NA	NA	948.8	SHOREWOOD DRAINAGE AREA TO STORAGE AREA EAST OF GLENCOE ROAD	
	GB 1I	16.9	20.3	72	3.8	36.7	2.6	25.7	NA	941.6	0.04	0.42	945.4	DRAINAGE AREA TO WOODVILLE LAKE ST. STORM SEWER	
	GB 1J	20.6	22.7	70	10.0	14.8	9.7	7.7	NA	941.6	0.52	3.84	945.4	DRAINAGE AREA TO BELL ST. & ELM ST. LOW POINT	
21	GB 2A	36.0	42.7	71	18.5	106.4	NA	NA	NA	940.0	7.97	NA	944.5	EXCELSIOR DRAINAGE AREA TO DEPRESSION WEST OF GLENCOE ROAD	
	GB 2B	5.0	38.8	74	2.3	16.8	NA	NA	NA	940.0	NA	NA	944.5	SHOREWOOD DRAINAGE AREA TO DEPRESSION WEST OF GLENCOE ROAD	
	GL 21A	1.1	15	70	0.5	5.4	15.4	19.2	NA	947.0	1.09	1.47	940.0	EXCELSIOR DRAINAGE AREA TO POND NORTHWEST OF CSAT 19 & 147	
	GL 21C	1.5	20	91	0.7	10.0	NA	NA	NA	947.0	NA	NA	940.0	SHOREWOOD DRAINAGE AREA TO POND NW QUADRANT OF CSAT 19 & 147	
	GL 22	2.2	15	82	1.0	14.4	0.6	4.0	NA	948.4	0.15	0.37	952.3	SHOREWOOD DRAINAGE AREA TO POND NW QUADRANT OF CSAT 19 & 147	
	GL 2A	1.8	18	80	0.8	9.4	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR DRAINAGE AREA TO SOUTH WEST INTO SHOREWOOD	
	GL 2B	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR DRAINAGE AREA TO SOUTH WEST INTO SHOREWOOD	
	GL 2C	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR DRAINAGE AREA TO SOUTH WEST INTO SHOREWOOD	
	GL 2D	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR DRAINAGE AREA TO SOUTH WEST INTO SHOREWOOD	
	GL 2E	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR DRAINAGE AREA TO SOUTH WEST INTO SHOREWOOD	
20	GL 2A	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	MUD LAKE OUTLET TO GALPIN LAKE	
	GL 2B	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	MUD LAKE OUTLET TO GALPIN LAKE	
	GL 2C	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	MUD LAKE OUTLET TO GALPIN LAKE	
	GL 2D	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	MUD LAKE OUTLET TO GALPIN LAKE	
	GL 2E	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	MUD LAKE OUTLET TO GALPIN LAKE	
	GL 2F	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	MUD LAKE OUTLET TO GALPIN LAKE	
	GL 2G	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	MUD LAKE OUTLET TO GALPIN LAKE	
	GL 2H	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	MUD LAKE OUTLET TO GALPIN LAKE	
	GL 2I	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	MUD LAKE OUTLET TO GALPIN LAKE	
	GL 2J	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	MUD LAKE OUTLET TO GALPIN LAKE	
22	GL 2A	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR AREA FLOWS EAST TO 1475 SIBBA POND	
	GL 2B	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR AREA FLOWS EAST TO 1475 SIBBA POND	
	GL 2C	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR AREA FLOWS EAST TO 1475 SIBBA POND	
	GL 2D	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR AREA FLOWS EAST TO 1475 SIBBA POND	
	GL 2E	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR AREA FLOWS EAST TO 1475 SIBBA POND	
	GL 2F	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR AREA FLOWS EAST TO 1475 SIBBA POND	
	GL 2G	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR AREA FLOWS EAST TO 1475 SIBBA POND	
	GL 2H	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR AREA FLOWS EAST TO 1475 SIBBA POND	
	GL 2I	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR AREA FLOWS EAST TO 1475 SIBBA POND	
	GL 2J	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR AREA FLOWS EAST TO 1475 SIBBA POND	
24	GL 2A	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR AREA FLOWS EAST TO 1475 SIBBA POND	
	GL 2B	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR AREA FLOWS EAST TO 1475 SIBBA POND	
	GL 2C	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR AREA FLOWS EAST TO 1475 SIBBA POND	
	GL 2D	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR AREA FLOWS EAST TO 1475 SIBBA POND	
	GL 2E	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR AREA FLOWS EAST TO 1475 SIBBA POND	
	GL 2F	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR AREA FLOWS EAST TO 1475 SIBBA POND	
	GL 2G	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR AREA FLOWS EAST TO 1475 SIBBA POND	
	GL 2H	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR AREA FLOWS EAST TO 1475 SIBBA POND	
	GL 2I	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR AREA FLOWS EAST TO 1475 SIBBA POND	
	GL 2J	1.2	20	83	0.6	7.0	NA	NA	NA	948.4	NA	NA	940.0	EXCELSIOR AREA FLOWS EAST TO 1475 SIBBA POND	

A) The overflow elevation and low building elevations should be considered approximate. Detailed field surveys are required to obtain actual elevations.
 B) The side slope that the road ditches are built on is to the NW at this event. This HWL is affected by the occupancy of the data such as drainage area, storage capacity, outlet description and condition, and runoff factors and has not been field calibrated.
 The actual or observed HWL could be affected by land use, etc. All of these factors should be reviewed when HWL is considered critical.

MP - MITTEN POND
 CL - CHRISTMAS LAKE
 SUBWATERSHED IDENTIFICATION
 COL - COLLEGE LAKE
 EB - EXCELSIOR BAY
 GL - GALPIN LAKE
 ML - MUD LAKE
 GB - GIDEONS BAY
 SAB - ST. ALBANS BAY

APPENDIX D – FEMA FLOOD INSURANCE STUDY

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage or other sources. It is not intended to be used for purposes other than those for which it was prepared.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **Base Flood Depths (BFDs)** are shown, users are encouraged to consult the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that the BFEs and BFDs are intended for flood insurance rating purposes only and are not to be used for any other purpose. The FIRM should be used in conjunction with the FIS Report for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only to coastal areas of 5.0 feet or more above the mean high water line. For information regarding convention and/or coastal base flood elevations, users are encouraged to consult the Summary of Shoreline and Coastal Base Flood Elevations Report for this jurisdiction. Elevations and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the Agency have been compared to all on-site hydrologic and streamflow data for the purpose of this study. The Agency is responsible for the accuracy of the data used in the preparation of this FIRM. The Agency is not responsible for the accuracy of the data used in the preparation of this FIRM.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures of the Flood Insurance Study Report for more information on these areas. The Agency is responsible for the accuracy of the data used in the preparation of this FIRM.

The Agency is not responsible for the accuracy of the data used in the preparation of this FIRM. The Agency is not responsible for the accuracy of the data used in the preparation of this FIRM.

For more information on the National Flood Insurance Program, contact the National Flood Insurance Program at 1100 North 17th Street, Arlington, VA 22209. For more information on the National Flood Insurance Program, contact the National Flood Insurance Program at 1100 North 17th Street, Arlington, VA 22209.

To obtain current elevation, description, and/or location information for bench marks referenced to the same vertical datum, for information regarding convention and/or coastal base flood elevations, users are encouraged to consult the Summary of Shoreline and Coastal Base Flood Elevations Report for this jurisdiction. Elevations and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

The profile boundaries depicted on this map represent the hydraulic flooding limits based on the profile boundaries in some cases, may deviate significantly from the channel boundaries or appear outside the FIRM.

For information on available products associated with this FIRM, visit the Map Service Center (MSC) website at www.floodmaps.com. Users may also contact the National Flood Insurance Program at 1100 North 17th Street, Arlington, VA 22209. For more information on the National Flood Insurance Program, contact the National Flood Insurance Program at 1100 North 17th Street, Arlington, VA 22209.

Administrative boundaries designated in accordance with local regulations for management of these areas.

Profile Node Label.

Administrative boundaries designated in accordance with local regulations for management of these areas.

Profile Node Label.

LEGEND

SPECIAL FLOOD HAZARD AREAS (SPECIAL SUBJECT TO THE NATIONAL FLOOD INSURANCE PROGRAM)

Zone AE - Areas of 1% Annual Chance Flood

Zone A1 - Areas of 1% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Zone A2 - Areas of 1% Annual Chance Flood with a Flood Depth of 3 to 6 feet (includes areas of protection)

Zone A3 - Areas of 1% Annual Chance Flood with a Flood Depth of 6 to 9 feet (includes areas of protection)

Zone A4 - Areas of 1% Annual Chance Flood with a Flood Depth of 9 to 12 feet (includes areas of protection)

Zone A5 - Areas of 1% Annual Chance Flood with a Flood Depth of 12 to 15 feet (includes areas of protection)

Zone A6 - Areas of 1% Annual Chance Flood with a Flood Depth of 15 to 18 feet (includes areas of protection)

Zone A7 - Areas of 1% Annual Chance Flood with a Flood Depth of 18 to 21 feet (includes areas of protection)

Zone A8 - Areas of 1% Annual Chance Flood with a Flood Depth of 21 to 24 feet (includes areas of protection)

Zone A9 - Areas of 1% Annual Chance Flood with a Flood Depth of 24 to 27 feet (includes areas of protection)

Zone A10 - Areas of 1% Annual Chance Flood with a Flood Depth of 27 to 30 feet (includes areas of protection)

Zone A11 - Areas of 1% Annual Chance Flood with a Flood Depth of 30 to 33 feet (includes areas of protection)

Zone A12 - Areas of 1% Annual Chance Flood with a Flood Depth of 33 to 36 feet (includes areas of protection)

Zone A13 - Areas of 1% Annual Chance Flood with a Flood Depth of 36 to 39 feet (includes areas of protection)

Zone A14 - Areas of 1% Annual Chance Flood with a Flood Depth of 39 to 42 feet (includes areas of protection)

Zone A15 - Areas of 1% Annual Chance Flood with a Flood Depth of 42 to 45 feet (includes areas of protection)

Zone A16 - Areas of 1% Annual Chance Flood with a Flood Depth of 45 to 48 feet (includes areas of protection)

Zone A17 - Areas of 1% Annual Chance Flood with a Flood Depth of 48 to 51 feet (includes areas of protection)

Zone A18 - Areas of 1% Annual Chance Flood with a Flood Depth of 51 to 54 feet (includes areas of protection)

Zone A19 - Areas of 1% Annual Chance Flood with a Flood Depth of 54 to 57 feet (includes areas of protection)

Zone A20 - Areas of 1% Annual Chance Flood with a Flood Depth of 57 to 60 feet (includes areas of protection)

OTHER FLOOD AREAS

Area of 50% Annual Chance Flood - Areas of 50% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 10% Annual Chance Flood - Areas of 10% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 1% Annual Chance Flood - Areas of 1% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.2% Annual Chance Flood - Areas of 0.2% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.1% Annual Chance Flood - Areas of 0.1% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.05% Annual Chance Flood - Areas of 0.05% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.02% Annual Chance Flood - Areas of 0.02% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.01% Annual Chance Flood - Areas of 0.01% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.005% Annual Chance Flood - Areas of 0.005% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.002% Annual Chance Flood - Areas of 0.002% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.001% Annual Chance Flood - Areas of 0.001% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.0005% Annual Chance Flood - Areas of 0.0005% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.0002% Annual Chance Flood - Areas of 0.0002% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.0001% Annual Chance Flood - Areas of 0.0001% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.00005% Annual Chance Flood - Areas of 0.00005% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.00002% Annual Chance Flood - Areas of 0.00002% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.00001% Annual Chance Flood - Areas of 0.00001% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.000005% Annual Chance Flood - Areas of 0.000005% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.000002% Annual Chance Flood - Areas of 0.000002% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.000001% Annual Chance Flood - Areas of 0.000001% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.0000005% Annual Chance Flood - Areas of 0.0000005% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.0000002% Annual Chance Flood - Areas of 0.0000002% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.0000001% Annual Chance Flood - Areas of 0.0000001% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.00000005% Annual Chance Flood - Areas of 0.00000005% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.00000002% Annual Chance Flood - Areas of 0.00000002% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

Area of 0.00000001% Annual Chance Flood - Areas of 0.00000001% Annual Chance Flood with a Flood Depth of 1 to 3 feet (includes areas of protection)

NFIP PANEL 0312F
FIRM
FLOOD INSURANCE RATE MAP
HENNEPIN COUNTY,
MINNESOTA
(ALL JURISDICTIONS)

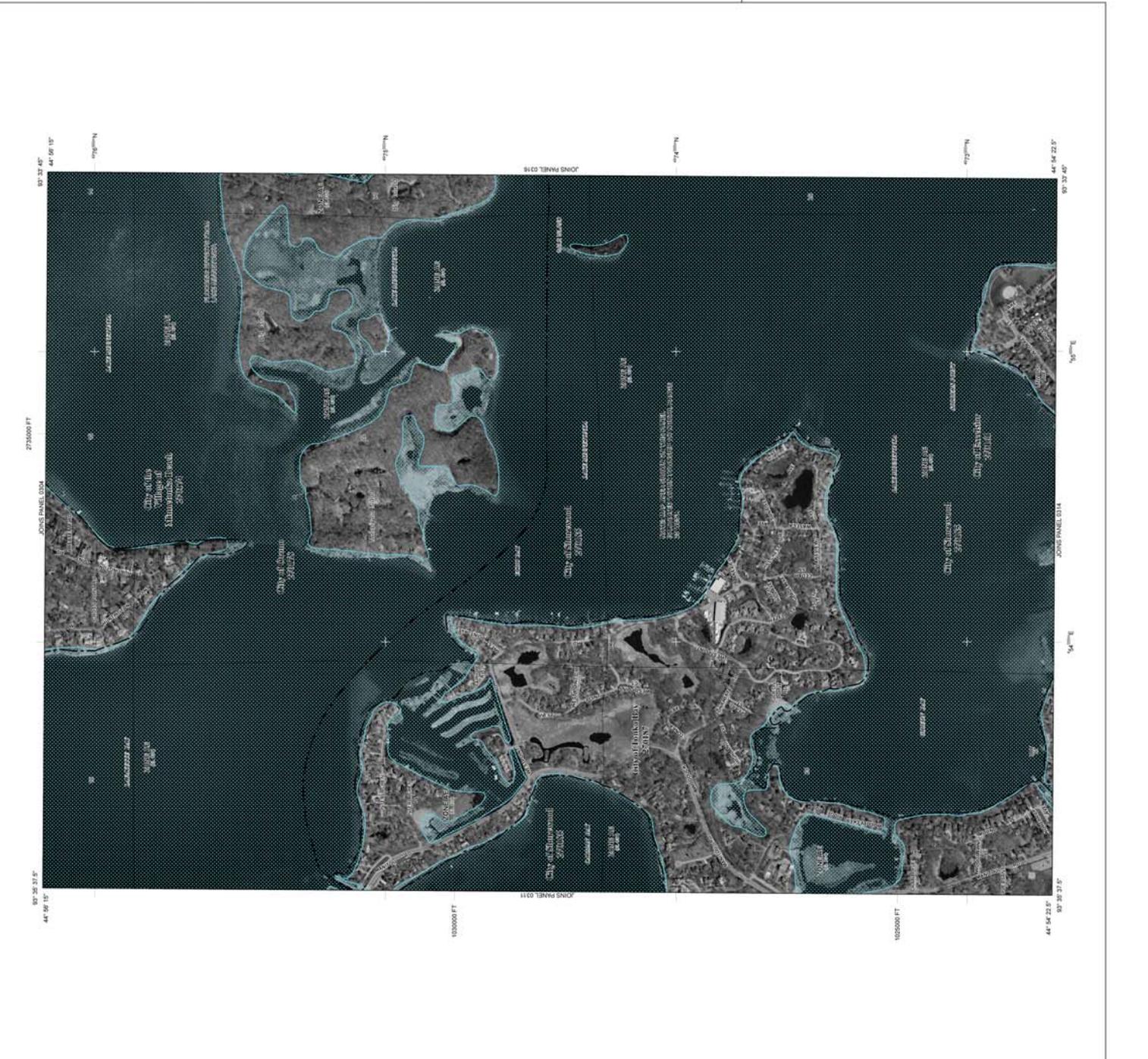
PANEL 312 OF 500
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTRACT NUMBER: 27053C0312F
 CONTRACT DATE: 11/04/16
 EFFECTIVE DATE: 11/04/16
 SHEET NUMBER: 0001 OF 0008
 SHEET DATE: 11/04/16

MAP NUMBER: 27053C0312F
 MAP REVISED: NOVEMBER 4, 2016
 FEDERAL EMERGENCY MANAGEMENT AGENCY

Notes to User: The Map Number shown below should be used when planning map orders. The user should refer to the National Flood Insurance Program website for more information on the National Flood Insurance Program.

Scale: 1" = 1000' (1:1000)
 MAP SCALE: 1" = 1000'



NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage systems. It is not intended to be used for flood insurance purposes. It is intended for possible reference only. For more information, contact the Flood Insurance Study (FIS) for the community. For more information, contact the Flood Insurance Study (FIS) for the community. For more information, contact the Flood Insurance Study (FIS) for the community.

Coastal Base Flood Elevations shown on this map apply only to buildings of 1-2 stories. For information regarding the National Flood Insurance Program, please contact the Federal Emergency Management Agency (FEMA) at 400 West Capitol Mall, Sacramento, CA 95833. For more information, contact the Flood Insurance Study (FIS) for the community.

Administrative Boundaries are shown on this map for reference only. They do not necessarily represent the actual boundaries of the community. For more information, contact the Flood Insurance Study (FIS) for the community.

Profile information shown on this map is for reference only. It is not intended to be used for flood insurance purposes. For more information, contact the Flood Insurance Study (FIS) for the community.

Map Scale information shown on this map is for reference only. It is not intended to be used for flood insurance purposes. For more information, contact the Flood Insurance Study (FIS) for the community.

Map Symbols shown on this map are for reference only. They do not necessarily represent the actual symbols used in the community. For more information, contact the Flood Insurance Study (FIS) for the community.

Map Accuracy information shown on this map is for reference only. It is not intended to be used for flood insurance purposes. For more information, contact the Flood Insurance Study (FIS) for the community.

Map Date information shown on this map is for reference only. It is not intended to be used for flood insurance purposes. For more information, contact the Flood Insurance Study (FIS) for the community.

Map Author information shown on this map is for reference only. It is not intended to be used for flood insurance purposes. For more information, contact the Flood Insurance Study (FIS) for the community.

Map Contact information shown on this map is for reference only. It is not intended to be used for flood insurance purposes. For more information, contact the Flood Insurance Study (FIS) for the community.

Map Disclaimer information shown on this map is for reference only. It is not intended to be used for flood insurance purposes. For more information, contact the Flood Insurance Study (FIS) for the community.

Map Legend information shown on this map is for reference only. It is not intended to be used for flood insurance purposes. For more information, contact the Flood Insurance Study (FIS) for the community.

Map Title information shown on this map is for reference only. It is not intended to be used for flood insurance purposes. For more information, contact the Flood Insurance Study (FIS) for the community.

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LEGEND

SPECIAL FLOOD HAZARD AREAS (SPECIAL SUBJECT TO THE NATIONAL FLOOD INSURANCE PROGRAM)
 The 1% Annual Chance Flood Hazard Areas (ACFHA) are shown on this map. The 1% ACFHA are the areas that have a 1% chance of being flooded in any given year. The 1% ACFHA are the areas that have a 1% chance of being flooded in any given year. The 1% ACFHA are the areas that have a 1% chance of being flooded in any given year.

OTHER FLOOD AREAS
 Areas of 0.2% Annual Chance Flood Hazard (ACFHA) are shown on this map. The 0.2% ACFHA are the areas that have a 0.2% chance of being flooded in any given year. The 0.2% ACFHA are the areas that have a 0.2% chance of being flooded in any given year. The 0.2% ACFHA are the areas that have a 0.2% chance of being flooded in any given year.

OTHER AREAS
 Areas that are not subject to flooding are shown on this map. These areas are not subject to flooding. These areas are not subject to flooding. These areas are not subject to flooding. These areas are not subject to flooding.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
 Areas in which flood hazards are unmodeled, but possible. These areas are not subject to flooding. These areas are not subject to flooding. These areas are not subject to flooding. These areas are not subject to flooding.

OTHERWISE PROTECTED AREAS (OPA)
 Areas that are otherwise protected from flooding are shown on this map. These areas are otherwise protected from flooding. These areas are otherwise protected from flooding. These areas are otherwise protected from flooding.

0.2% Annual Chance Flood Hazard Boundary
 The boundary of the 0.2% Annual Chance Flood Hazard is shown on this map. This boundary is shown on this map. This boundary is shown on this map. This boundary is shown on this map.

1% Annual Chance Flood Hazard Boundary
 The boundary of the 1% Annual Chance Flood Hazard is shown on this map. This boundary is shown on this map. This boundary is shown on this map. This boundary is shown on this map.

Zone E Boundary
 The boundary of Zone E is shown on this map. This boundary is shown on this map. This boundary is shown on this map. This boundary is shown on this map.

CBRS and OPA Boundary
 The boundary of the Coastal Barrier Resources System (CBRS) and Otherwise Protected Areas (OPA) is shown on this map. This boundary is shown on this map. This boundary is shown on this map. This boundary is shown on this map.

Map Symbols
 The symbols used on this map are for reference only. They do not necessarily represent the actual symbols used in the community. For more information, contact the Flood Insurance Study (FIS) for the community.

Map Scale
 The scale of this map is for reference only. It is not intended to be used for flood insurance purposes. For more information, contact the Flood Insurance Study (FIS) for the community.

Map Date
 The date of this map is for reference only. It is not intended to be used for flood insurance purposes. For more information, contact the Flood Insurance Study (FIS) for the community.

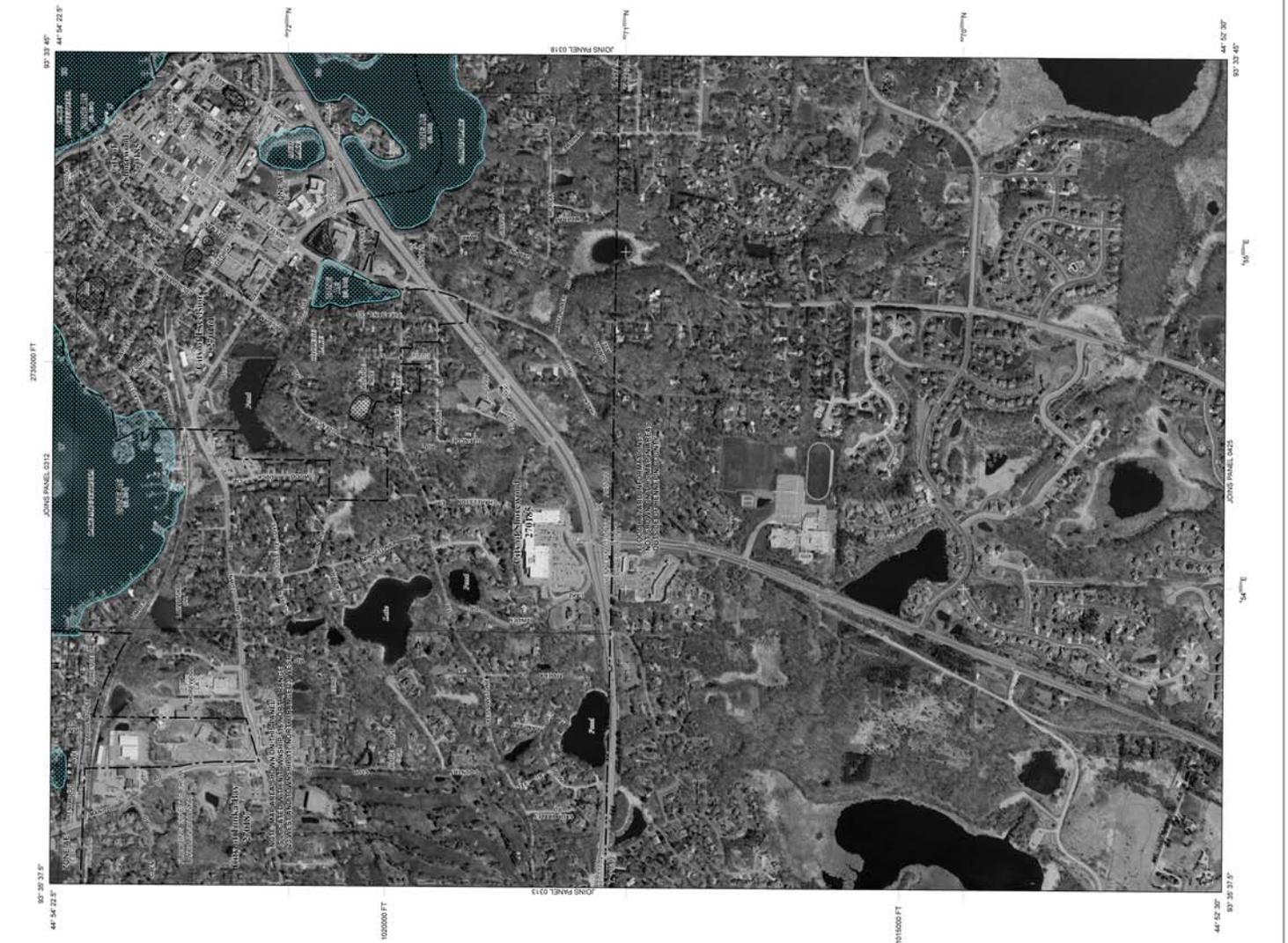
Map Author
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Map Title
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NFIP **FIRM** **FLOOD INSURANCE RATE MAP**
HENNEPIN COUNTY, MINNESOTA (ALL JURISDICTIONS)
PANEL 0314F
PANEL 314 OF 500
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

COMMITTEE: FEDERAL EMERGENCY MANAGEMENT AGENCY
DATE: NOVEMBER 4, 2016
MAP NUMBER: 27053C0314F
MAP REVISED: NOVEMBER 4, 2016

NATIONAL FLOOD INSURANCE PROGRAM
Federal Emergency Management Agency

APPENDIX E – NPDES PHASE II INFORMATION AND CITY FACILITY INVENTORY



Minnesota Pollution Control Agency

520 Lafayette Road North
St. Paul, MN 55155-4194

MS4 SWPPP Application for Reauthorization

for the NPDES/SDS General Small Municipal Separate Storm Sewer System (MS4) Permit MNR040000 reissued with an effective date of August 1, 2013 Stormwater Pollution Prevention Program (SWPPP) Document

Doc Type: Permit Application

Instructions: This application is for authorization to discharge stormwater associated with Municipal Separate Storm Sewer Systems (MS4s) under the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) Permit Program. **No fee** is required with the submittal of this application. Please refer to "Example" for detailed instructions found on the Minnesota Pollution Control Agency (MPCA) MS4 website at <http://www.pca.state.mn.us/ms4>.

Submittal: This MS4 SWPPP Application for Reauthorization form must be submitted electronically via e-mail to the MPCA at ms4permitprogram.pca@state.mn.us from the person that is duly authorized to certify this form. All questions with an asterisk (*) are required fields. All applications will be returned if required fields are not completed.

Questions: Contact Claudia Hochstein at 651-757-2881 or claudia.hochstein@state.mn.us, Dan Miller at 651-757-2246 or daniel.miller@state.mn.us, or call toll-free at 800-657-3864.

General Contact Information (*Required fields)

MS4 Owner (with ownership or operational responsibility, or control of the MS4)

*MS4 permittee name: City of Excelsior *County: Hennepin
(city, county, municipality, government agency or other entity)
*Mailing address: 151 Oak Street
*City: Excelsior *State: MN *Zip code: 55331
*Phone (including area code): 952-474-3464 *E-mail: dwardorf@ci.excelsior.mn.us

MS4 General contact (with Stormwater Pollution Prevention Program [SWPPP] implementation responsibility)

*Last name: Wardorf *First name: Dave
(department head, MS4 coordinator, consultant, etc.)
*Title: Public Works Director
*Mailing address: 151 Oak Street
*City: Excelsior *State: MN *Zip code: 55331
*Phone (including area code): 952.474.3464 *E-mail: dwardorf@ci.excelsior.mn.us

Preparer information (complete if SWPPP application is prepared by a party other than MS4 General contact)

Last name: Peters First name: Jeff
(department head, MS4 coordinator, consultant, etc.)
Title: WSB & Associates
Mailing address: 701 Xenia Ave South Suite 300
City: Minneapolis State: MN Zip code: 55416
Phone (including area code): (763) 541-4800 E-mail: jpeters@wsbeng.com

Verification

- I seek to continue discharging stormwater associated with a small MS4 after the effective date of this Permit, and shall submit this MS4 SWPPP Application for Reauthorization form, in accordance with the schedule in Appendix A, Table 1, with the SWPPP document completed in accordance with the Permit (Part II.D.). Yes
- I have read and understand the NPDES/SDS MS4 General Permit and certify that we intend to comply with all requirements of the Permit. Yes

Certification (All fields are required)

- Yes - I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted.

I certify that based on my inquiry of the person, or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of civil and criminal penalties.

This certification is required by Minn. Stat. §§ 7001.0070 and 7001.0540. The authorized person with overall, MS4 legal responsibility must certify the application (principal executive officer or a ranking elected official).

By typing my name in the following box, I certify the above statements to be true and correct, to the best of my knowledge, and that this information can be used for the purpose of processing my application.

Name: Dave Wisdorf
(This document has been electronically signed)

Title: Public Works Director Date (mm/dd/yyyy): 10/28/2013

Mailing address: 151 Oak Street

City: Excelsior State: MN Zip code: 55331

Phone (including area code): 952-474-3464 E-mail: dwisdorf@ci.excelsior.mn.us

Note: The application will not be processed without certification.

Stormwater Pollution Prevention Program Document

I. Partnerships: (Part II.D.1)

- A. List the **regulated small MS4(s)** with which you have established a partnership in order to satisfy one or more requirements of this Permit. Indicate which Minimum Control Measure (MCM) requirements or other program components that each partnership helps to accomplish (List all that apply). Check the box below if you currently have no established partnerships with other regulated MS4s. If you have more than five partnerships, hit the tab key after the last line to generate a new row.

No partnerships with regulated small MS4s

Name and description of partnership	MCM/Other permit requirements involved

- B. If you have additional information that you would like to communicate about your partnerships with other regulated small MS4(s), provide it in the space below, or include an attachment to the SWPPP Document, with the following file naming convention: *MS4NameHere_Partnerships*.

The city of Excelsior will continue to work with the Minnehaha Creek Watershed District to evaluate potential partnership opportunities.

II. Description of Regulatory Mechanisms: (Part II.D.2)

Illicit discharges

- A. Do you have a regulatory mechanism(s) that effectively prohibits non-stormwater discharges into your small MS4, except those non-stormwater discharges authorized under the Permit (Part III.D.3.b.)? Yes No

1. If **yes**:

- a. Check which *type* of regulatory mechanism(s) your organization has (check all that apply):

- Ordinance Contract language
 Policy/Standards Permits
 Rules
 Other, explain: _____

- b. Provide either a direct link to the mechanism selected above or attach it as an electronic document to this form; or if your regulatory mechanism is either an Ordinance or a Rule, you may provide a citation:

Citation:

Article 36. General Stormwater Management

Sec. 36-5. Stormwater Management- general and specific standards

Sec. 34-33. Definitions

Sec. 34-35. Stormwater sewer

Direct link:

http://library.municode.com/HTML/13367/level3/PTIICOOR_CH34UT_ARTIISESE.html#PTIICOOR_CH34UT_ARTIISESE_S34-35STSE

- Check here if attaching an electronic copy of your regulatory mechanism, with the following file naming convention: *MS4NameHere_IDDEreg*.

2. If **no**:

Describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date

permit coverage is extended, this permit requirement is met:

Ordinance will be reviewed and updated if needed within 12 months of the date of permit coverage.

Construction site stormwater runoff control

- A. Do you have a regulatory mechanism(s) that establishes requirements for erosion and sediment controls and waste controls?
 Yes No

1. If **yes**:

- a. Check which *type* of regulatory mechanism(s) your organization has (check all that apply):

- Ordinance Contract language
 Policy/Standards Permits
 Rules
 Other, explain: Building Permit -

- b. Provide either a direct link to the mechanism selected above or attach it as an electronic document to this form; or if your regulatory mechanism is either an Ordinance or a Rule, you may provide a citation:

Citation:

City Code: Sec. 36 (1-9)

Article IV. General Standards and Requirements City Code: Sec. 30 -150. Erosion and Sediment Control

Building Permit -

Direct link:

http://library.municode.com/HTML/13367/level3/PTIICOOR_APXEZO_ART36GESTMA.html#PTIICOOR_APXEZO_ART36GESTMA_S36-6STMAPLAPPR

- Check here if attaching an electronic copy of your regulatory mechanism, with the following file naming convention: *MS4NameHere_CSWreg.*

- B. Is your regulatory mechanism at least as stringent as the MPCA general permit to Discharge Stormwater Associated with Construction Activity (as of the effective date of the MS4 Permit)? Yes No

If you answered **yes** to the above question, proceed to C.

If you answered **no** to either of the above permit requirements listed in A. or B., describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

The City's construction site stormwater runoff control regulatory mechanism will be updated to be at least as stringent as the MPCA CSW permit. This effort will be completed within 12 months of the date permit coverage is extended.

- C. Answer **yes** or **no** to indicate whether your regulatory mechanism(s) requires owners and operators of construction activity to develop site plans that incorporate the following erosion and sediment controls and waste controls as described in the Permit (Part III.D.4.a.(1)-(8)), and as listed below:

- | | |
|--|---|
| 1. Best Management Practices (BMPs) to minimize erosion. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 2. BMPs to minimize the discharge of sediment and other pollutants. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 3. BMPs for dewatering activities. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| 4. Site inspections and records of rainfall events | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| 5. BMP maintenance | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 6. Management of solid and hazardous wastes on each project site. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| 7. Final stabilization upon the completion of construction activity, including the use of perennial vegetative cover on all exposed soils or other equivalent means. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| 8. Criteria for the use of temporary sediment basins. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

C. (3.), (4.), (6.), (7.), are addressed in City Design Standards SWPPP Requirements and in the Building Permit - Erosion Protection Maintenance Memorandum. However, they are not reference in the City's Ordinance. The City Engineer to draft these amendments using the MPCA model ECS ordinance as a guideline. The amended ordinances will be place on the City Council's meeting agenda for approval within 12 months following the date permit coverage is extended.

Post-construction stormwater management

A. Do you have a regulatory mechanism(s) to address post-construction stormwater management activities?

Yes No

1. If **yes**:

a. Check which *type* of regulatory mechanism(s) your organization has (check all that apply):

Ordinance Contract language

Policy/Standards Permits

Rules

Other, explain: _____

b. Provide either a direct link to the mechanism selected above or attach it as an electronic document to this form; or if your regulatory mechanism is either an Ordinance or a Rule, you may provide a citation:

Citation:

Article IV. General Standards and Requirements Sec. 30-154. Dedication of stormwater holding areas or ponds

Article 36. General Stormwater Management Sec. 36-8 Approval Standards.

Direct link:

<http://library.municode.com/index.aspx?clientId=13367&stateID=23&statename=Minnesota>

Check here if attaching an electronic copy of your regulatory mechanism, with the following file naming convention: *MS4NameHere_PostCSWreg.*

B. Answer **yes** or **no** below to indicate whether you have a regulatory mechanism(s) in place that meets the following requirements as described in the Permit (Part III.D.5.a.):

1. **Site plan review:** Requirements that owners and/or operators of construction activity submit site plans with post-construction stormwater management BMPs to the permittee for review and approval, prior to start of construction activity. Yes No

2. **Conditions for post construction stormwater management:** Requires the use of any combination of BMPs, with highest preference given to Green Infrastructure techniques and practices (e.g., infiltration, evapotranspiration, reuse/harvesting, conservation design, urban forestry, green roofs, etc.), necessary to meet the following conditions on the site of a construction activity to the Maximum Extent Practicable (MEP):

a. For new development projects – no net increase from pre-project conditions (on an annual average basis) of: Yes No

- 1) Stormwater discharge volume, unless precluded by the stormwater management limitations in the Permit (Part III.D.5.a(3)(a)).
- 2) Stormwater discharges of Total Suspended Solids (TSS).
- 3) Stormwater discharges of Total Phosphorus (TP).

b. For redevelopment projects – a net reduction from pre-project conditions (on an annual average basis) of: Yes No

- 1) Stormwater discharge volume, unless precluded by the stormwater management limitations in the Permit (Part III.D.5.a(3)(a)).
- 2) Stormwater discharges of TSS.
- 3) Stormwater discharges of TP.

3. **Stormwater management limitations and exceptions:**

a. Limitations

1) Prohibit the use of infiltration techniques to achieve the conditions for post-construction stormwater management in the Permit (Part III.D.5.a(2)) when the infiltration structural stormwater BMP will receive discharges from, or be constructed in areas: Yes No

- a) Where industrial facilities are not authorized to infiltrate industrial stormwater under an NPDES/SDS Industrial Stormwater Permit issued by the MPCA.
- b) Where vehicle fueling and maintenance occur.
- c) With less than three (3) feet of separation distance from the bottom of the infiltration system to the elevation of the seasonally saturated soils or the top of bedrock.
- d) Where high levels of contaminants in soil or groundwater will be mobilized by the infiltrating stormwater.

2) Restrict the use of infiltration techniques to achieve the conditions for post-construction stormwater management in the Permit (Part III.D.5.a(2)), without higher engineering Yes No

review, sufficient to provide a functioning treatment system and prevent adverse impacts to groundwater, when the infiltration device will be constructed in areas:

- a) With predominately Hydrologic Soil Group D (clay) soils.
- b) Within 1,000 feet up-gradient, or 100 feet down-gradient of active karst features.
- c) Within a Drinking Water Supply Management Area (DWSMA) as defined in Minn. R. 4720.5100, subp. 13.
- d) Where soil infiltration rates are more than 8.3 inches per hour.

- 3) For linear projects where the lack of right-of-way precludes the installation of volume control practices that meet the conditions for post-construction stormwater management in the Permit (Part III.D.5.a(2)), the permittee's regulatory mechanism(s) may allow exceptions as described in the Permit (Part III.D.5.a(3)(b)). The permittee's regulatory mechanism(s) shall ensure that a reasonable attempt be made to obtain right-of-way during the project planning process. Yes No

4. **Mitigation provisions:** The permittee's regulatory mechanism(s) shall ensure that any stormwater discharges of TSS and/or TP not addressed on the site of the original construction activity are addressed through mitigation and, at a minimum, shall ensure the following requirements are met:

- a. Mitigation project areas are selected in the following order of preference: Yes No
 - 1) Locations that yield benefits to the same receiving water that receives runoff from the original construction activity.
 - 2) Locations within the same Minnesota Department of Natural Resource (DNR) catchment area as the original construction activity.
 - 3) Locations in the next adjacent DNR catchment area up-stream
 - 4) Locations anywhere within the permittee's jurisdiction.
- b. Mitigation projects must involve the creation of new structural stormwater BMPs or the retrofit of existing structural stormwater BMPs, or the use of a properly designed regional structural stormwater BMP. Yes No
- c. Routine maintenance of structural stormwater BMPs already required by this permit cannot be used to meet mitigation requirements of this part. Yes No
- d. Mitigation projects shall be completed within 24 months after the start of the original construction activity. Yes No
- e. The permittee shall determine, and document, who will be responsible for long-term maintenance on all mitigation projects of this part. Yes No
- f. If the permittee receives payment from the owner and/or operator of a construction activity for mitigation purposes in lieu of the owner or operator of that construction activity meeting the conditions for post-construction stormwater management in Part III.D.5.a(2), the permittee shall apply any such payment received to a public stormwater project, and all projects must be in compliance with Part III.D.5.a(4)(a)-(e). Yes No

5. **Long-term maintenance of structural stormwater BMPs:** The permittee's regulatory mechanism(s) shall provide for the establishment of legal mechanisms between the permittee and owners or operators responsible for the long-term maintenance of structural stormwater BMPs not owned or operated by the permittee, that have been implemented to meet the conditions for post-construction stormwater management in the Permit (Part III.D.5.a(2)). This only includes structural stormwater BMPs constructed after the effective date of this permit and that are directly connected to the permittee's MS4, and that are in the permittee's jurisdiction. The legal mechanism shall include provisions that, at a minimum:

- a. Allow the permittee to conduct inspections of structural stormwater BMPs not owned or operated by the permittee, perform necessary maintenance, and assess costs for those structural stormwater BMPs when the permittee determines that the owner and/or operator of that structural stormwater BMP has not conducted maintenance. Yes No
- b. Include conditions that are designed to preserve the permittee's right to ensure maintenance responsibility, for structural stormwater BMPs not owned or operated by the permittee, when those responsibilities are legally transferred to another party. Yes No
- c. Include conditions that are designed to protect/preserve structural stormwater BMPs and site features that are implemented to comply with the Permit (Part III.D.5.a(2)). If site configurations or structural stormwater BMPs change, causing decreased structural stormwater BMP effectiveness, new or improved structural stormwater BMPs must be implemented to ensure the conditions for post-construction stormwater management in the Permit (Part III.D.5.a(2)) continue to be met. Yes No

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within twelve (12) months of the date permit coverage is extended, these permit requirements are met:

B.2.a, B.2.b. Review and Amend current post-construction stormwater ordinance and City Design Standards, which includes goals for reducing post-development TSS and TP on an annual basis, to include volume-control and be more consistent with permit language for new and redevelopment sites. The City Engineer will draft these amendments they will be placed on the City Council's meeting agenda for approval within 12 months following the date permit coverage is extended.

B.3.a.1: The City will review and amend the ordinance and City Design Standards to include prohibiting the use of infiltration techniques for post-construction stormwater management as described in the Permit (PartIII.D.5.a(3)(a).1). The ordinance will be amended on the same schedule as the items in B.2.a and B.2.b.

B.3.a.2: The City will review and amend the ordinance and City Design Standards to include restricting the use of infiltration techniques for post-construction stormwater management as described in the Permit (PartIII.D.5.a(3)(a).2). This will occur on the same schedule as the items above.

B.3.a.3: The City will review and amend the ordinance and City Design Standards to include the exceptions for linear projects as described in the Permit (PartIII.D.5.a(3)(b)). This will occur on the same schedule as the items above.

B.4.a.: The City will review and amend the ordinance and City Design Standards to include order of preference for selecting mitigation project areas as described in the Permit (PartIII.D.5.a(4)(a)). This will occur on the same schedule as the items above.

B.4.b.: The City will review and amend the ordinance and City Design Standards to include requirements for the creation of mitigation projects as described in the Permit (PartIII.D.5.a(4)(b)). This will occur on the same schedule as the items above.

B.4.c.: The City will review and amend the ordinance and City Design Standards to include the restriction from using routine maintenance of structural BMPs to meet the requirements for mitigation projects as described in the Permit (PartIII.D.5.a(4)(c)). This will occur on the same schedule as the items above.

B.4.d.: The City will review and amend the ordinance and City Design Standards to include the requirement to complete mitigation projects within 24 months after the start of the original construction activity as described in the Permit (PartIII.D.5.a(4)(d)). This will occur on the same schedule as the items above.

B.4.e.: The City will review and amend the ordinance and City Design Standards to include requirement for identifying the person responsible for long-term maintenance of mitigation projects as described in the Permit (PartIII.D.5.a(4)(e)). This will occur on the same schedule as the items above.

B.5.b.: The City will review and amend the ordinance and City Design Standards to mandate that money received from an owner/operator of construction activity, in lieu of meeting the conditions for post-construction stormwater management, shall be used for a public stormwater project as described in the Permit (PartIII.D.5.a(4)(f)). This will occur on the same schedule as the items above.

B.4.f.: The City will amend the ordinance and City Design Standards to include conditions that require maintenance responsibility for structural stormwater BMPs through transfer of ownership as described in the Permit (PartIII.D.5.a(5)(b)). This will occur on the same schedule as the items above.

B.5.c.: The City will review and amend the ordinance and City Design Standards to include conditions to address BMP modification in the future as described in the Permit (PartIII.D.5.a(5)(c)). This will occur on the same schedule as the items above.

III. Enforcement Response Procedures (ERPs): (Part II.D.3)

A. Do you have existing ERPs that satisfy the requirements of the Permit (Part III.B.)? Yes No

1. If **yes**, attach them to this form as an electronic document, with the following file naming convention: *MS4NameHere_ERPs*.
2. If **no**, describe the tasks and corresponding schedules that will be taken to assure that, with twelve (12) months of the date permit coverage is extended, these permit requirements are met:

B. Describe your ERPs:

Sec. 30-43. Enforcement.

(a) Notice of violation.

(1) Upon discovering that a person has violated a prohibition or failed to meet a requirement of this section, under the provisions of this article the city administrator or designee shall serve a notice upon the owner of the property upon which the nuisance exists. Such notice shall be given by certified mail at the last known address as shown on the

property tax records of the county. Such notice shall advise that a nuisance exists and require the property owner to abate the nuisance within a reasonable time, as established by the city administrator or designee and stated in the notice. Such time shall not be less than 14 days. Such notice may require without limitation:

- a. The performance of monitoring, analyses, and reporting;
- b. The elimination of illicit connections or discharges;
- c. That violating discharges, practices, or operations shall cease and desist;
- d. The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property; and
- e. Payment of a fine to cover administrative and remediation costs; and
- f. The implementation of source control or treatment BMPs.

(2) Such notice shall also advise the property owner of the right to request a hearing before the city administrator or designee to contest the contents of the notice.

(3) If requested by the person upon whom the notice is served under subsection (a) of this section, a hearing before the city administrator or designee shall be held at which the person may contest the contents of the notice. The request for such a hearing must be made within five days after receipt of the notice provided for in subsection (a) of this section. After such hearing the city administrator or designee may affirm the notice, modify the notice or quash the notice.

(4) If the property owner does not abate the nuisance as required by the notice provided for in subsection (a) of this section and has not requested a hearing before the city administrator or designee under subsection (2) of this section, authorized agents of the city shall abate the nuisance. The cost of such abatement shall be collected as a special assessment against the property upon which the nuisance was located.

(5) If the property owner requests a hearing before the city administrator or designee under subsection (2) of this section, no abatement actions shall be taken until the hearing is held. If after the hearing the city administrator or designee affirms or modifies the notice and the nuisance is not abated as provided in the notice as affirmed or modified, authorized agents of the city shall abate the nuisance. The cost of such abatement shall be collected as a special assessment against the property upon which the nuisance was located.

(6) Nothing in this section prevents abatement by the city of a public nuisance without notice and hearing in the case of an emergency in which there is an immediate and direct threat to the public health or safety. The expense of such an emergency abatement shall be collected as a special assessment against the property upon which the nuisance was located.

IV. Storm Sewer System Map and Inventory: (Part II.D.4.)

A. Describe how you manage your storm sewer system map and inventory:

Storm Sewer system map is scheduled to be updated during the next permit cycle. City is currently in the process of updating data to a GIS based system.

B. Answer **yes** or **no** to indicate whether your storm sewer system map addresses the following requirements from the Permit (Part III.C.1.a-d), as listed below:

1. The permittee's entire small MS4 as a goal, but at a minimum, all pipes 12 inches or greater in diameter, including stormwater flow direction in those pipes. Yes No
2. Outfalls, including a unique identification (ID) number assigned by the permittee, and an associated geographic coordinate. Yes No
3. Structural stormwater BMPs that are part of the permittee's small MS4. Yes No
4. All receiving waters. Yes No

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

Inventory will be updated within 12 months of the date permit coverage is extended.

C. Answer **yes** or **no** to indicate whether you have completed the requirements of 2009 Minnesota Session Law, Ch. 172. Sec. 28: with the following inventories, according to the specifications of the Permit (Part III.C.2.a.-b.), including:

1. All ponds within the permittee's jurisdiction that are constructed and operated for purposes of water quality treatment, stormwater detention, and flood control, and that are used for the collection of stormwater via constructed conveyances. Yes No
2. All wetlands and lakes, within the permittee's jurisdiction, that collect stormwater via constructed conveyances. Yes No

D. Answer **yes** or **no** to indicate whether you have completed the following information for each feature inventoried.

1. A unique identification (ID) number assigned by the permittee. Yes No
2. A geographic coordinate. Yes No
3. Type of feature (e.g., pond, wetland, or lake). This may be determined by using best professional judgment. Yes No

If you have answered **yes** to all above requirements, and you have already submitted the Pond Inventory Form to the MPCA, then you do not need to resubmit the inventory form below.

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

B.2. The City GIS specialist will update the storm sewer map to include a unique identification number for each stormwater feature inventoried as described in the Permit (Part III.C.2.b). This task will be completed by the submittal date given by the agency. Within 12 months of permit reissuance.

B.3. The City GIS specialist will update the storm sewer map to include a type of feature for each stormwater feature inventoried as described in the Permit (Part III.C.2.b.) This task will be completed by the submittal date given by the agency. Within 12 months of permit reissuance.

- E. Answer **yes** or **no** to indicate if you are attaching your pond, wetland and lake inventory to the MPCA on the form provided on the MPCA website at: <http://www.pca.state.mn.us/ms4> , according to the specifications of Permit (Part III.C.2.b.(1)-(3)). Attach with the following file naming convention: *MS4NameHere_inventory*. Yes No

If you answered **no**, the inventory form must be submitted to the MPCA MS4 Permit Program within 12 months of the date permit coverage is extended.

V. Minimum Control Measures (MCMs) (Part II.D.5)

A. MCM1: Public education and outreach

1. The Permit requires that, within 12 months of the date permit coverage is extended, existing permittees revise their education and outreach program that focuses on illicit discharge recognition and reporting, as well as other specifically selected stormwater-related issue(s) of high priority to the permittee during this permit term. Describe your **current** educational program, including **any high-priority topics included**:

The City of Excelsior is comprised of a mix of commercial business districts, established and new residential developments. Therefore the educational focus rotates through residential issues, construction activities, and illicit discharges around commercial business districts. When able the City partners with Minnehaha Creek Watershed District MCWCD to provide education to our residents and contractors. Newsletter distributed to residents includes stormwater section discussing proper practices for activities such as fall yard practices and winter deicing.

2. List the categories of BMPs that address your public education and outreach program, including the distribution of educational materials and a program implementation plan. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. Refer to the U.S. Environmental Protection Agency's (EPA) *Measurable Goals Guidance for Phase II Small MS4s* (<http://www.epa.gov/npdes/pubs/measurablegoals.pdf>).

If you have more than five categories, hit the tab key after the last line to generate a new row.

Established BMP categories	Measurable goals and timeframes
<i>Education Activity Implementation Plan</i>	<i>Complete outline of education activity implementation program and implementation schedule for the upcoming permit year by June 30th.</i>
<i>Meeting with Building Contractors, Developers, and Excavators</i>	<i>Hold meetings as needed to inform these professionals of stormwater related issues.</i>
<i>Meetings with Educational Professionals</i>	<i>Work with Minnehaha Creek Watershed District to make effective use of stormwater education programs. The goal is 1 partnership per year. Those partnerships will be documented during the next 5 years</i>
<i>Presentations to City Council</i>	<i>Report on yearly NPDES regulations and activities in Annual Report, urban storm water impacts to water bodies, current SWPPP status during an annual presentation each year of permit cycle. Additionally we will provide a specific review of</i>

	<i>SWPPP when considering zoning request.</i>
<i>City Staff Meetings</i>	<i>Provide a presentation at City Department meetings to generate Staff awareness of SWPPP regulations and to develop projects with appropriate BMPs applied.</i>
<i>Newsletter</i>	<i>Published Annual Newsletter to spread awareness of stormwater related issues and distributed about 1,400 copies</i>

BMP categories to be implemented	Measurable goals and timeframes
<i>Citizen Survey</i>	<i>City will look to use the Cities Web page to survey citizen's about Stormwater issues.</i>
<i>City Stormwater Information Link</i>	<i>Measure hits to the web page.</i>

3. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

Public Works Director- Suggest Delegating to Support Staff

City Admin staff

B. MCM2: Public participation and involvement

1. The Permit (Part III.D.2.a.) requires that, within 12 months of the date permit coverage is extended, existing permittees shall revise their current program, as necessary, and continue to implement a public participation/involvement program to solicit public input on the SWPPP. Describe your current program:

An opportunity to hear comments on the SWPPP is provided each year during an annual meeting held in combination with a City Council Meeting.

2. List the categories of BMPs that address your public participation/involvement program, including solicitation and documentation of public input on the SWPPP. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. Refer to the EPA's *Measurable Goals Guidance for Phase II Small MS4s* (<http://www.epa.gov/npdes/pubs/measurablegoals.pdf>). **If you have more than five categories**, hit the tab key after the last line to generate a new row.

Established BMP categories	Measurable goals and timeframes
<i>Annual Meeting</i>	<i>Hold annual public meeting combined with City Council Meeting</i>
<i>Volunteer Storm Drain Stenciling Program</i>	<i>Engage community groups in a storm drain stenciling effort to increase awareness that the drains are connect to lakes and rivers. Program has been completed as part of an eagle/boy scout project during the past permit cycle and will continue as long as there is a want from organizations.</i>

BMP categories to be implemented	Measurable goals and timeframes
Online Availability of Stormwater Pollution Prevention Program Document	Provide an electronic document of Stormwater Pollution Prevention Program document online, to allow anytime, easier access to these documents.
Coordination Meeting	Hold a coordination meeting involving other MS4 permittees, regulatory agencies, and interested stakeholders to discuss progress of the stormwater management program and the next year's activities.
Receive Citizen Input through Website	Incorporate to the City Website a stormwater page which allows residents to provide comments to City Staff for a number of topics. The goal will be to provide a link to one of the high priority topics identified in MCM1

3. Do you have a process for receiving and documenting citizen input? Yes No

If you answered **no** to the above permit requirement, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, this permit requirement is met:

B.3. The City will develop written procedures for receiving, documenting and storing citizen input as described in the permit (Part III.C.2.b). Procedures will be in place within 12 months following the date permit coverage is extended.

4. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

City Engineer - Suggest Delegating to Support Staff

C. MCM 3: Illicit discharge detection and elimination

1. The Permit (Part III.D.3.) requires that, within 12 months of the date permit coverage is extended, existing permittees revise their current program as necessary, and continue to implement and enforce a program to detect and eliminate illicit discharges into the small MS4. Describe your current program:

The City has an ordinance that prohibits illicit discharges and connections. City Staff and public works employees are trained to look for any signs of an illicit discharge while on the job. ERPs (attached) guide what actions the City can take after an illicit discharge has been identified.

2. Does your Illicit Discharge Detection and Elimination Program meet the following requirements, as found in the Permit (Part III.D.3.c.-g.)?

- a. Incorporation of illicit discharge detection into all inspection and maintenance activities conducted under the Permit (Part III.D.6.e.-f.) Where feasible, illicit discharge inspections shall be conducted during dry-weather conditions (e.g., periods of 72 or more hours of no precipitation). Yes No
- b. Detecting and tracking the source of illicit discharges using visual inspections. The permittee may also include use of mobile cameras, collecting and analyzing water samples, and/or other detailed procedures that may be effective investigative tools. Yes No
- c. Training of all field staff, in accordance with the requirements of the Permit (Part III.D.6.g.(2)), in illicit discharge recognition (including conditions which could cause illicit discharges), and reporting illicit discharges for further investigation. Yes No
- d. Identification of priority areas likely to have illicit discharges, including at a minimum, evaluating land use associated with business/industrial activities, areas where illicit discharges have been identified in the past, and areas with storage of large quantities of significant materials that could result in an illicit discharge. Yes No
- e. Procedures for the timely response to known, suspected, and reported illicit discharges. Yes No
- f. Procedures for investigating, locating, and eliminating the source of illicit discharges. Yes No
- g. Procedures for responding to spills, including emergency response procedures to prevent spills from entering the small MS4. The procedures shall also include the immediate notification of the Minnesota Department of Public Safety Duty Officer, if the source of the illicit discharge is a spill or leak as defined in Minn. Stat. § 115.061. Yes No
- h. When the source of the illicit discharge is found, the permittee shall use the ERPs required by the Permit (Part III.B.) to eliminate the illicit discharge and require any needed corrective action(s). Yes No

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

C.2.b., The City will develop written procedures for detecting and tracking source of illicit discharges as described in the permit (Part III.D.3.d). Procedures will be in place within 12 months following the date permit coverage is extended.

C.2.d., The City will develop written procedures for identification of priority areas likely to have illicit discharges as described in the Permit (Part III.D.3.f). Procedures will be in place within 12 months following the date permit coverage is extended.

C.2.e., The City will develop written procedures for a timely response to known, suspected, and reported illicit discharges as described in the permit (Part III.D.3.g). Procedures will be in place within 12 months following the date permit coverage is extended.

C.2.f., The City will develop written procedures for investigating, locating and eliminating the source of illicit discharges as described in the Permit (Part III.D.3.f). Procedures will be in place within 12 months following the date permit coverage is extended.

3. List the categories of BMPs that address your illicit discharge, detection and elimination program. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. Refer to the EPA's *Measurable Goals Guidance for Phase II Small MS4s* (<http://www.epa.gov/npdes/pubs/measurablegoals.pdf>).

If you have more than five categories, hit the tab key after the last line to generate a new row.

Established BMP categories	Measurable goals and timeframes
----------------------------	---------------------------------

Ordinance	Review Ordinance yearly to ensure that it continues to meet the needs of the City and legal requirements.
Training	Conduct an educational seminar to educate the Public and City Employees about the hazards associated with illicit discharges. Invite one member of City Council, County SWCD or other regulatory agency to attend.
BMP categories to be implemented	Measurable goals and timeframes
Illicit Discharge Detection and Elimination (IDDE) Program	Review annually the illicit discharge written procedures, detection, and response procedures connection test performed within. Utilize information document about the IDDE program as described in the Permit (Part III.3.h) to make adjustments to written procedures as necessary.
Inspections	Annually inspect locations identified as high-priority outfalls and around high-risk establishments (fast food restaurants, dumpster, car washes, mechanics, oil changes.)
Illicit Discharge Investigation	If needed hire a consultant to televise a section of our sewer system, collect grab samples or perform other effective testing procedures to find illicit connection in the system.
Community Reporting Options and Documentation Procedures	IT department will update Request Tracker on City webpage to include a link to report Illicit Discharges. This will allow the city to receive, document, and respond to citizen reports of illicit discharges.

4. Do you have procedures for record-keeping within your Illicit Discharge Detection and Elimination (IDDE) program as specified within the Permit (Part III.D.3.h.)? Yes No

If you answered **no**, indicate how you will develop procedures for record-keeping of your Illicit Discharge, Detection and Elimination Program, within 12 months of the date permit coverage is extended:

C.4., The City will develop written procedures for receiving, documenting and storing citizen input as described in the permit (Part III.D.3.h). Procedures will be in place within 12 months following the date permit coverage is extended.

5. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

Public Works Director - Suggest Delegating to public works staff

D. MCM 4: Construction site stormwater runoff control

1. The Permit (Part III.D.4) requires that, within 12 months of the date permit coverage is extended, existing permittees shall revise their current program, as necessary, and continue to implement and enforce a construction site stormwater runoff control program. Describe your current program:

The City requires review of construction site erosion and sediment control (ESC) plans before projects begin, and work with contractors to ensure appropriate and correct use of erosion and sediment control BMPs on sites. The building inspection department is who primarily checks for compliancy with construction site ESC plans.

2. Does your program address the following BMPs for construction stormwater erosion and sediment control as required in the Permit (Part III.D.4.b.):
- Have you established written procedures for site plan reviews that you conduct prior to the start of construction activity? Yes No
 - Does the site plan review procedure include notification to owners and operators proposing construction activity that they need to apply for and obtain coverage under the MPCA's general permit to *Discharge Stormwater Associated with Construction Activity No. MN R10001*? Yes No
 - Does your program include written procedures for receipt and consideration of reports of noncompliance or other stormwater related information on construction activity submitted by the public to the permittee? Yes No
 - Have you included written procedures for the following aspects of site inspections to determine compliance with your regulatory mechanism(s):
 - Does your program include procedures for identifying priority sites for inspection? Yes No
 - Does your program identify a frequency at which you will conduct construction site inspections? Yes No
 - Does your program identify the names of individual(s) or position titles of those responsible for conducting construction site inspections? Yes No
 - Does your program include a checklist or other written means to document construction site inspections when determining compliance? Yes No

- e. Does your program document and retain construction project name, location, total acreage to be disturbed, and owner/operator information? Yes No
- f. Does your program document stormwater-related comments and/or supporting information used to determine project approval or denial? Yes No
- g. Does your program retain construction site inspection checklists or other written materials used to document site inspections? Yes No

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met.

D.2.a., The city uses the MPCA SWPPP Checklist for site plan reviews but does not have any established written procedures. The City will develop written procedures for site plan reviews as described in the Permit (Part III.D.4.b). Procedures will be in place within 12 months following the date permit coverage is extended.

D.2.b., The City will include a notification to owners and operators proposing construction activity to apply for and obtain coverage under the MPCA's construction activity permit into the written procedures from (D.2.a) as described in the Permit (Part III.D.4.b). Notification will be included in the procedures within 12 months following the date permit coverage is extended.

D.2.c., The City will develop written procedures for receipt and consideration of reports of noncompliance or other stormwater related information on construction activity submitted by the public as described in the Permit (Part III.D.4.c). Procedures will be in place within 12 months following the date permit coverage is extended.

D.2.d., City will develop written procedures for conducting site ESC inspections as described in the Permit (Part III.D.4.d). Procedures will be in place within 12 months following the date permit coverage is extended.

3. List the categories of BMPs that address your construction site stormwater runoff control program. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. Refer to the EPA's *Measurable Goals Guidance for Phase II Small MS4s* (<http://www.epa.gov/npdes/pubs/measurablegoals.pdf>). **If you have more than five categories**, hit the tab key after the last line to generate a new row.

Established BMP categories	Measurable goals and timeframes
Site Plan Review	City Engineering Staff utilizes SWPPP Checklist (wq-strm2-47) for review of NPDES Erosion Control Permits submitted to the department for review.
Erosion Protection Maintenance Memo to Builders	Update the erosion control handout when needed, handout explains how to properly install a silt fence and other erosion control BMPs is given to the application when a building permit is picked up.
BMP categories to be implemented	Measurable goals and timeframes
Permit Update	Update the City Grading, Building, and ROW permits and Construction Site Stormwater Runoff ordinance to meet MPCA General Permit to Discharge Stormwater Associate with Construction Activity within 12 months following the date permit coverage is extended
Checklist for Site Plan Review	Update procedures for site plan review annually and incorporate changes into the review process.
Prioritize Inspections	Ensure at least 10% of inspections conducted annually are performed at deemed high priority inspection sites (e.g., near sensitive receiving waters, projects larger than 5 acres)
Permit Application System	Develop written procedures to track and archive all plan review and inspection documents within 12 months following the date permit coverage is extended.

4. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

City Engineer / City Staff

E. MCM 5: Post-construction stormwater management

1. The Permit (Part III.D.5.) requires that, within 12 months of the date permit coverage is extended, existing permittees shall revise their current program, as necessary, and continue to implement and enforce a post-construction stormwater

management program. Describe your current program:

The City has a post-construction stormwater management ordinance to encourage the utilization of BMPs for stormwater runoff from new and redevelopment projects, as well as to ensure the maintenance and operation of the stormwater BMPs.

2. Have you established written procedures for site plan reviews that you will conduct prior to the start of construction activity? Yes No
3. Answer **yes** or **no** to indicate whether you have the following listed procedures for documentation of post-construction stormwater management according to the specifications of Permit (Part III.D.5.c.):
- a. Any supporting documentation that you use to determine compliance with the Permit (Part III.D.5.a), including the project name, location, owner and operator of the construction activity, any checklists used for conducting site plan reviews, and any calculations used to determine compliance? Yes No
- b. All supporting documentation associated with mitigation projects that you authorize? Yes No
- c. Payments received and used in accordance with Permit (Part III.D.5.a.(4)(f))? Yes No
- d. All legal mechanisms drafted in accordance with the Permit (Part III.D.5.a.(5)), including date(s) of the agreement(s) and names of all responsible parties involved? Yes No

If you answered **no** to any of the above permit requirements, describe the steps that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met.

E.2., The City uses the MPCA SWPPP Checklist for site plan reviews but does not have any established written procedures. The City will develop written procedures for site plan reviews as described in the Permit (Part III.D.5.b.). Procedures will be in place within 12 months following the date permit coverage is extended.

E.3., The City will develop written procedures for documentation of post-construction stormwater management as described in the Permit (Part III.D.5.c.). Procedures will be in place within 12 months following the date permit coverage is extended.

4. List the categories of BMPs that address your post-construction stormwater management program. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. Refer to the EPA's *Measurable Goals Guidance for Phase II Small MS4s* (<http://www.epa.gov/npdes/pubs/measurablegoals.pdf>). **If you have more than five categories**, hit the tab key after the last line to generate a new row.

Established BMP categories	Measurable goals and timeframes
<i>Site Plan Review</i>	<i>Completed plan review process and documentation procedures for sites qualifying as a land disturbance in accordance with definition set in the City Ordinance.</i>
<i>Encourage the use of structural and non-structural BMPs during review of new and redevelopment projects</i>	<i>Implement Stormwater retention/detention ponds as a BMP immediately in areas where it is appropriate Developers encouraged to install rain gardens Possible implantation of sand and organic filters into plan review process</i>
<i>Stormwater Retention/Detention</i>	<i>Implement Stormwater retention/detention ponds as a BMP immediately in areas where it is appropriate</i>
<i>Outlet Structure stabilization</i>	<i>Number of structures stabilized</i>
<i>Land Development Ordinance</i>	<i>Complete Ordinance including illicit discharges, erosion and sediment control at construction sites, and post construction runoff from new development and redevelopment</i>
<i>Inspections to verify proper maintenance of stormwater BMPs</i>	<i>Annual inspections of 20% of completed City-Owned BMPs</i>

BMP categories to be implemented	Measurable goals and timeframes
<i>Update ordinance to meet new permit requirements</i>	<i>Within 12 months of extension of permit coverage, revise ordinance to meet permit requirements</i>
<i>Develop Written Procedures for Site Plan Review</i>	<i>Within 12 months of extension of permit coverage, develop site plan review procedures that must be completed prior to the start of construction activity</i>
<i>Document Pertinent Project Information</i>	<i>Maintain all related documents pertaining to each new or</i>

redeployment project in more user-friendly filing system for better records management. Implement within 6 months.

BMP Construction Guidance

Develop BMP Construction Guidance document for developers and contractors within 12 months of permit coverage extension.

5. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

Public Works Director / City Staff - Consider additional options for coordination.

F. MCM 6: Pollution prevention/good housekeeping for municipal operations

1. The Permit (Part III.D.6.) requires that, within 12 months of the date permit coverage is extended, existing permittees shall revise their current program, as necessary, and continue to implement an operations and maintenance program that prevents or reduces the discharge of pollutants from the permittee owned/operated facilities and operations to the small MS4. Describe your current program:

The City currently inspects its structural pollution control devices on an annual basis and inspects all of its outfalls, sediment basins and ponds every 5 years. The City inspects stockpiles, storage and material handling areas at the maintenance yard for potential discharges and maintenance of BMPs. The City is evaluating the use of road salt for winter road maintenance activities to reduce chlorides entering our water resources. The City sweeps streets on a regular basis. Maintenance staff is trained annually on various topics related to pollution prevention during maintenance activities.

2. Do you have a facilities inventory as outlined in the Permit (Part III.D.6.a.)? Yes No

3. If you answered **no** to the above permit requirement in question 2, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, this permit requirement is met:

The city will create a facilities inventory as outline in the permit within 12 months of the date permit coverage is extended.

4. List the categories of BMPs that address your pollution prevention/good housekeeping for municipal operations program. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. For an explanation of measurable goals, refer to the EPA's *Measurable Goals Guidance for Phase II Small MS4s* (<http://www.epa.gov/npdes/pubs/measurablegoals.pdf>).

If you have more than five categories, hit the tab key after the last line to generate a new row.

Established BMP categories	Measurable goals and timeframes
<i>Park and Open Space Training Program</i>	<i>Training focused on fertilizer application, pesticide/herbicide application, and mowing discharge.</i>
<i>Fleet and Building Maintenance Training Program</i>	<i>Training focused on automotive maintenance program (automotive inspections and washing), spill cleanup training, hazardous materials training, building leak prevention and inspection training.</i>
<i>Stormwater Systems Maintenance Training Program</i>	<i>Training focused on parking lot and street cleaning, storm drain systems cleaning, road salt materials management</i>
<i>Parking Lots & Street Cleaning</i>	<i>Train Employees and document number of times each street is swept annual.</i>
<i>Storm Drain Cleaning System</i>	<i>Document Number of Sumps cleaned per year.</i>
<i>Road Salt Materials Management Program</i>	<i>Document amount of salt applied each year and train employees in road salt management and application rates.</i>
<i>Strom Sewer Inspection Program</i>	<i>Annual inspection of 20% of completed City-Owned BMPs</i>
<i>Evaluate Inspection Frequency</i>	<i>Annual inspection of 100% of pollution control devices</i>
<i>Evaluate Inspection Frequency</i>	<i>Evaluate inspection records and determine if inspection frequency needs to increase or decrease.</i>
BMP categories to be implemented	Measurable goals and timeframes
<i>Develop Spill Prevention & Control Plans for Municipal Facilities</i>	<i>Develop plans describing spill prevention and control procedures by the end of Year 1. Conduct annual spill prevention and response training sessions to all municipal</i>

	<i>employees. Distribute education materials, i.e. posters and pamphlets, to each municipal facility by the end of year 2.</i>
<i>Increase Inspection Frequency of Maintenance Yard</i>	<i>Once weekly and after all rain events utilizing a checklist for the inspection that documents findings and allows staff to compare to previous inspections</i>
<i>Facility Inventory</i>	<i>Continue to develop facilities inventory to include potential pollutants. Create a map of all identified facilities.</i>
<i>Pond Assessment Procedures & Schedule</i>	<i>In year 1, develop procedures for determining TSS and TP treatment effectiveness of city owned ponds use for treatment of stormwater. Implement schedule in year 2-5</i>

5. Does discharge from your MS4 affect a Source Water Protection Area (Permit Part III.D.6.c.)? Yes No
- a. If **no**, continue to 6.
- b. If **yes**, the Minnesota Department of Health (MDH) is in the process of mapping the following items. Maps are available at <http://www.health.state.mn.us/divs/eh/water/swp/maps/index.htm>. Is a map including the following items available for your MS4:
- 1) Wells and source waters for drinking water supply management areas identified as vulnerable under Minn. R. 4720.5205, 4720.5210, and 4720.5330? Yes No
- 2) Source water protection areas for surface intakes identified in the source water assessments conducted by or for the Minnesota Department of Health under the federal Safe Drinking Water Act, U.S.C. §§ 300j – 13? Yes No
- c. Have you developed and implemented BMPs to protect any of the above drinking water sources? Yes No
6. Have you developed procedures and a schedule for the purpose of determining the TSS and TP treatment effectiveness of all permittee owned/operated ponds constructed and used for the collection and treatment of stormwater, according to the Permit (Part III.D.6.d.)? Yes No
7. Do you have inspection procedures that meet the requirements of the Permit (Part III.D.6.e.(1)-(3)) for structural stormwater BMPs, ponds and outfalls, and stockpile, storage and material handling areas? Yes No
8. Have you developed and implemented a stormwater management training program commensurate with each employee's job duties that:
- a. Addresses the importance of protecting water quality? Yes No
- b. Covers the requirements of the permit relevant to the duties of the employee? Yes No
- c. Includes a schedule that establishes initial training for new and/or seasonal employees and recurring training intervals for existing employees to address changes in procedures, practices, techniques, or requirements? Yes No
9. Do you keep documentation of inspections, maintenance, and training as required by the Permit (Part III.D.6.h.(1)-(5))? Yes No

If you answered **no** to any of the above permit requirements listed in **Questions 5 – 9**, then describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

F.5.c. As part of the regulatory mechanism updates for (II.B.3.a.1) the City will provide a BMP to protect drinking water sources that the MS4 discharges may affect as described in the Permit (Part III.D.6.c). The amended ordinance will be placed on the City Council's meeting agenda for approval within 12 months following the date permit coverage is extended.

F.6. The City will develop a procedure for assessing ponds to determine TSS and TP effectiveness as described in the Permit (Part III.D.6.d) This study will develop procedures for determining TSS and TP treatment effectiveness of city-owned ponds used for treatment of stormwater. A schedule will be implemented in years 2 thru 5.

F.7., The City will develop written procedures for inspection of structural stormwater BMPs, ponds and outfalls, and stockpile, storage and material handling areas as described in the Permit (Part III.D.6.f.). Procedures will be in place within 12 months following the date permit coverage is extended.

F.8., The City will develop and implement a stormwater management training program commensurate with each employees job duties as described in the Permit (Part III.D.6.g.). Procedures will be in place within 12 months following the date permit coverage is extended.

F.8., The City will develop witten procedures to document inspections, mainenance, and training as described in the

Permit (Part III.D.6.h.). Procedures will be in place within 12 months following the date permit coverage is extended.

10. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

Public works Director - evaluate assign to additional staff.

VI. Compliance Schedule for an Approved Total Maximum Daily Load (TMDL) with an Applicable Waste Load Allocation (WLA) (Part II.D.6.)

- A. Do you have an approved TMDL with a Waste Load Allocation (WLA) prior to the effective date of the Permit? Yes No

1. If **no**, continue to section VII.
2. If **yes**, fill out and attach the MS4 Permit TMDL Attachment Spreadsheet with the following naming convention: *MS4NameHere_TMDL*.

This form is found on the MPCA MS4 website: <http://www.pca.state.mn.us/ms4>.

VII. Alum or Ferric Chloride Phosphorus Treatment Systems (Part II.D.7.)

- A. Do you own and/or operate any Alum or Ferric Chloride Phosphorus Treatment Systems which are regulated by this Permit (Part III.F.)? Yes No

1. If **no**, this section requires no further information.
2. If **yes**, you own and/or operate an Alum or Ferric Chloride Phosphorus Treatment System within your small MS4, then you must submit the Alum or Ferric Chloride Phosphorus Treatment Systems Form supplement to this document, with the following naming convention: *MS4NameHere_TreatmentSystem*.

This form is found on the MPCA MS4 website: <http://www.pca.state.mn.us/ms4>.

VIII. Add any Additional Comments to Describe Your Program

City of Excelsior Facility Inventory

FID	Name	Address	POC Present?	Coordinates	
1	City Hall	339 3rd Street	N	44.90279	-93.56826
2	Band Shell	135 Lake Street	N	44.90729	-93.56701
3	Baseball Concession	135 Lake Street	N	44.90729	-93.56701
4	Sewer Lift Station #1	831 3rd Ave	N	44.90004	-93.55656
5	Sewer Lift Station #2	433 Lafayette Street	N	44.90386	-93.57579
6	Sewer Lift Station #3	38 West Lake Street	N	44.90767	-93.56885
7	Sewer Lift Station #4	601 Hwy 7	N	44.90019	-93.56239
8	Sewer Lift Station #5	860 Excelsior Blvd	N	44.90242	-93.55684
9	Sewer Lift Station #6	680 Excelsior Blvd	N	44.90284	-93.55981
10	Library	343 3rd Street	N	44.90257	-93.56818
11	Bath House, Storage	99 Lake Street	N	44.90719	-93.56778
12	Gazebo (near Municipal Dock)	399 Lake Street	N	44.90459	-93.56514
13	Park	299-399 Lake Street	N	44.90487	-93.56556
14	Holland Center	810 Excelsior Blvd	N	44.90192	-93.55702
15	Well Pump House	Three Rivers Park/Maple Street	N		
16	Grandstand	135 Lake Street	N	44.90688	-93.56761
17	Memorial Fountain	600 Lake Street	N	44.90261	-93.56298
18	Public Works	171 Oak Street	Y	44.90244	-93.57411
19	Water Tower	151 Oak Street	N	44.902155	-93.57369
20	Plant Generator	151 Oak Street	N	44.902155	-93.57369
21	Storage/Water Tank	159 Oak Street	Y	44.90247	-93.57588

APPENDIX F – FISH AND WILDLIFE INFORMATION

RARE SPECIES AND ANIMAL AGGREGATIONS

★ Plants, federally- or state-listed

Fernleaf false foxglove *	†	(<i>Aureolaria pedicularia</i>)
White wild indigo		(<i>Baptisia alba</i>)
Kitten-tails		(<i>Besseyia bullii</i>)
Handsome sedge *	†	(<i>Carex formosa</i>)
Plantain-leaved sedge *		(<i>Carex plantaginea</i>)
Sterile sedge		(<i>Carex sterilis</i>)
Hill's thistle		(<i>Cirsium hillii</i>)
Twig-rush		(<i>Cladium mariscoides</i>)
Ram's-head lady's-slipper *	†	(<i>Cypripedium arietinum</i>)
Small white lady's-slipper		(<i>Cypripedium candidum</i>)
Waterwillow *		(<i>Decodon verticillatus</i>)
Big tick-trefoil *		(<i>Desmodium cuspidatum</i> var. <i>longifolium</i>)
Goldie's fern		(<i>Dryopteris goldiana</i>)
Beaked spike-rush		(<i>Eleocharis rostellata</i>)
Rattlesnake-master		(<i>Eryngium yuccifolium</i>)
Rock clubmoss *		(<i>Huperzia porophila</i>)
Rhombic-petaled evening primrose		(<i>Oenothera rhombipetala</i>)
Clustered broomrape *	†	(<i>Orobanche fasciculata</i>)
American ginseng		(<i>Panax quinquefolius</i>)
Club-spur orchid *	†	(<i>Platanthera clavellata</i>)
Hair-like beak-rush		(<i>Rhynchospora capillacea</i>)
Sessile-flowered cress *	†	(<i>Rorippa sessiliflora</i>)
Tooth-cup *	†	(<i>Rotala ramosior</i>)
Tall nut-rush	†	(<i>Scleria triglomerata</i>)
Whorled nut-rush		(<i>Scleria verticillata</i>)
Snow trillium		(<i>Trillium nivale</i>)
Valerian		(<i>Valeriana edulis</i> var. <i>ciliata</i>)
Narrow-leaved vervain *	†	(<i>Verbena simplex</i>)
Lance-leaved violet *	†	(<i>Viola lanceolata</i>)
Twisted yellow-eyed grass *	†	(<i>Xyris torta</i>)

★ Plants, previously state-listed *

Dragon's-mouth *	(<i>Arethusa bulbosa</i>)
Halberd-leaved tearthumb	(<i>Polygonum arifolium</i>)
Marsh arrow-grass	(<i>Triglochin palustris</i>)

■ Colonial waterbird nesting site

Western grebe	(<i>Aechmophorus occidentalis</i>)
Great egret	(<i>Ardea albus</i>)
Great blue heron	(<i>Ardea herodias</i>)
Green heron	(<i>Butorides virescens</i>)
Black-crowned night-heron	(<i>Nycticorax nycticorax</i>)
Double-crested cormorant	(<i>Phalacrocorax auritus</i>)
Eared grebe	(<i>Podiceps nigricollis</i>)
Forster's tern	(<i>Sterna forsteri</i>)

■ Bat concentration

Big brown bat	(<i>Eptesicus fuscus</i>)
Little brown myotis	(<i>Myotis lucifugus</i>)
Eastern pipistrelle	(<i>Pipistrellus subflavus</i>)

♠ Animals, federally- or state-listed

Mammals		
Prairie vole *	(<i>Microtus ochrogaster</i>)	
Plains pocket mouse	(<i>Perognathus flavescens</i>)	
Eastern pipistrelle	(<i>Pipistrellus subflavus</i>)	
Eastern spotted skunk *	†	(<i>Spylogale putorius</i>)

Birds	
Henslow's sparrow	(<i>Ammodramus henslowii</i>)
Red-shouldered hawk	(<i>Buteo lineatus</i>)
Cerulean warbler	(<i>Dendroica cerulea</i>)
Acadian flycatcher	(<i>Empidonax virescens</i>)
Peregrine falcon	(<i>Falco peregrinus</i>)
Common moorhen	(<i>Gallinula chloropus</i>)
Bald eagle	(<i>Haliaeetus leucocephalus</i>)
Loggerhead shrike	(<i>Lanius ludovicianus</i>)
Hooded warbler	(<i>Wilsonia citrina</i>)

Reptiles	
Smooth softshell	(<i>Apalone mutica</i>)
Blanding's turtle	(<i>Emydoidea blandingii</i>)
Western hognose snake	(<i>Heterodon nasicus</i>)
Gopher snake	(<i>Pituophis catenifer</i>)

Fish	
Skipjack herring *	(<i>Alosa chrysochloris</i>)
Blue sucker	(<i>Cypleptus elongatus</i>)
Least darter	(<i>Etheostoma microperca</i>)
Pugnose shiner	(<i>Notropis anogenus</i>)

Mussels	
Mucket mussel	(<i>Actinonaias ligamentina</i>)
Elktoe mussel	(<i>Alasmodonta marginata</i>)
Rock pocketbook mussel	(<i>Arcidens confragosus</i>)
Ebonyshell mussel	(<i>Fusconia ebena</i>)
Higgins eye mussel	(<i>Lampsilis higginsii</i>)
Yellow sandshell mussel	(<i>Lampsilis teres</i>)
Creek heelsplitter mussel	(<i>Lasmigona compressa</i>)
Fluted-shell mussel	(<i>Lasmigona costata</i>)
Black sandshell mussel	(<i>Ligumia recta</i>)
Hickorynut mussel	(<i>Obovaria olivaria</i>)
Round pigtoe mussel	(<i>Pleurobema coccineum</i>)
Monkeyface mussel	(<i>Quadrula metacra</i>)
Wartyback mussel	(<i>Quadrula nodulata</i>)
Pistolgrip mussel	(<i>Tritogonia verrucosa</i>)

♠ Animals, previously state-listed *

Birds	
Upland sandpiper	(<i>Bartramia longicauda</i>)
American bittern	(<i>Botaurus lentiginosus</i>)
Osprey	(<i>Pandion haliaetus</i>)

Reptiles	
Fox snake	(<i>Elaphe vulpina</i>)
Eastern hognose snake	(<i>Heterodon platyrhinos</i>)
Milk snake	(<i>Lampropeltis triangulum</i>)

Fish	
American brook lamprey	(<i>Lampetra appendix</i>)
Shovelnose sturgeon	(<i>Scaphirhynchus platyrhynchus</i>)

APPENDIX G – POLLUTANT SOURCE INFORMATION

RCRA Investigation/Cleanup Sites

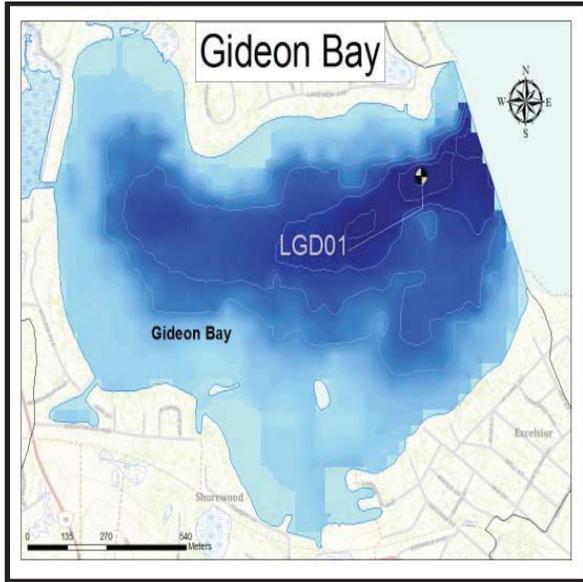
MPCA ID:	Entity Name:	SITE CATEGORY
VP28530	Barrett Retail Development 348, 368, & 374 George St 440 & 470 Water St Excelsior, MN 55331	VIC
BF0000160	Bayview Event Center 687 Excelsior Boulevard Excelsior, MN 55331	VIC/ PETROLEUM BROWNFIELD
VP24230	Excelsior City Park See location description Excelsior, MN 55331	VIC
LS0007589	Former Tom Thumb 5660 County Road 19 Shorewood, MN 55331	BROWNFIELD
VP31190	7 & 41 Crossing 2401-2497 State Hwy 7 Chanhassen, MN 55331	VIC
VP31191	7 & 41 Crossing #2 426 Lake St Chanhassen, MN 55331	VIC
MND982068215	Excelsior Gas Mfg Site 152 Morse Ave Excelsior, MN 55331	CERCLIS
PB4342	Lyman Lumber Co - Excelsior Library 337 Water St Excelsior, MN 55331	PETROLEUM BROWNFIELD
SR0000325	One Hour Cleaners Excelsior 426 Lake St Excelsior, MN 55331	SUPERFUND INVESTIGATION
SR0001430	Pure Oil Bulk Facility 352 3rd St Excelsior, MN 55331	SUPERFUND INVESTIGATION

Excelsior Aboveground / Underground Storage Tanks

Leak ID	Site Name
10881	Excelsior Union 76
11596	Excelsior Community Center
12706	Residential Property
13215	First Class Car Care
13871	Former EZ Stop Bulk Site
13962	Former Pure Oil Company
15028	Amoco Station No 7361
15049	Aghelnejad Commerical Property
15283	Lowe Residence
16177	Hance Building 200
16482	Manning Property
16858	Bruce Gniffke Property
16940	Excelsior Lift Station L-19
17103	Tonk Away
17212	Minnewashta Elementary School
18151	Knapp Residence
18715	Former Mason Motors
19105	Former Minnesota Inboard Water Sports
19273	Parking Area/Brandow Properties LLC
19644	Excelsior Promenade
19647	Harrod Residence
19841	Primeau Residence
2317	Clark Oil Company
4215	Steve Chase Residence
4304	Tonka Building
4375	City Of Excelsior-utility Project
4890	Saint Albans Bay Marina
5404	Minnewashta Elementary School
5422	Saint John Baptist Catholic School
5423	Saint John The Baptist Catholic Church
559	Crown Oil EZ Stop
581	Excelsior Car Wash
5905	Red Wing Mobil Station
6204	Lyman Lumber Company
643	Marcus Development
8794	Apartment At 500 Linden St
8869	Gilbertson Residence
9385	Excelsior Manor Apartments
9911	Poe Residence

APPENDIX H – LAKE AND WATER QUALITY INFORMATION

Gideon Bay (DNR ID: 27-0133-02)



General Characteristics

MCWD Site ID: LGD01
 Sampling GPS Coordinates: N 44.9117, W -93.5746
 Town/City: Tonka Bay/Excelsior
 County: Hennepin
 Ecoregion: North Central Hardwood Forest
 Public Access: Yes (Lake Minnetonka)

Physical Characteristics

Surface Area: 332 acres
 Littoral Area: N/A
 Max. Depth: 66 ft
 Mean Depth: N/A
 Depth Classification: Deep
 % Littoral Area: N/A
 Watershed Area: N/A
 Watershed to Lake Area Ratio: N/A

Impairments

Aquatic consumption:
 Mercury in fish tissue

Aquatic Invasive Species

Eurasian watermilfoil, Zebra mussels
 Flowering Rush

Fishery Information

<http://www.dnr.state.mn.us/lakefind/showreport.html?downum=27013300>

Ten Year Historic Lake Grades Based on May-September Averages

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Gideon Bay		A							A-	A

2012 MPCA Ecoregion Water Quality Guidelines and State Standards

North Central Hardwood Forest Ecoregion	Water Quality Lake Guidelines (25 th -75 th percentile)	Water Quality State Standards Deep Lakes	Gideons Bay (June-Sept)	
			Means	TSI Score
Secchi Depth (m)	1.5 - 3.2	> 1.4	5.24	36
Chlorophyll- <i>a</i> (µg/L)	5 - 22	< 14	2.00	37
Total Phosphorus (µg/L)	23 - 50	< 40	16.13	44
Total TSI Score				39

2012 MPCA Water Quality State Standards

Secchi Depth: Meets Standards

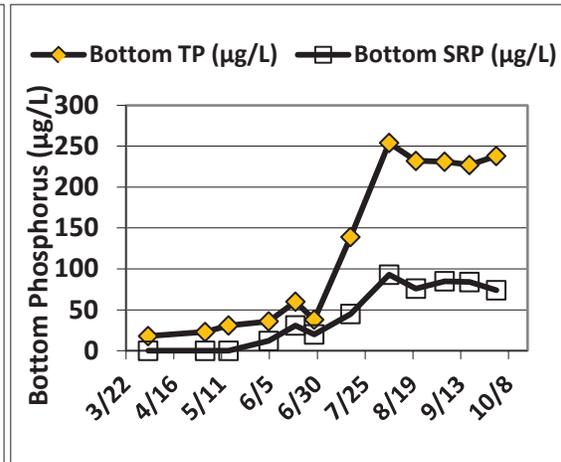
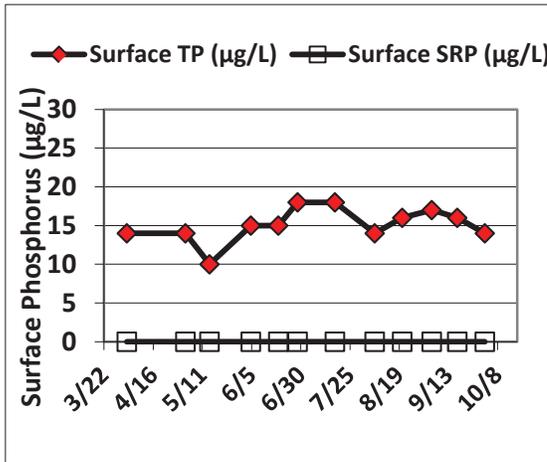
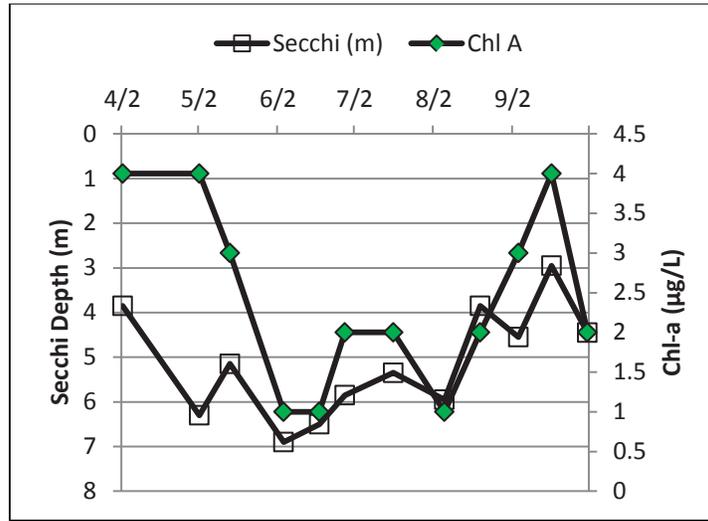
Chlorophyll-a: Meets Standards

Total Phosphorus: Meets Standards

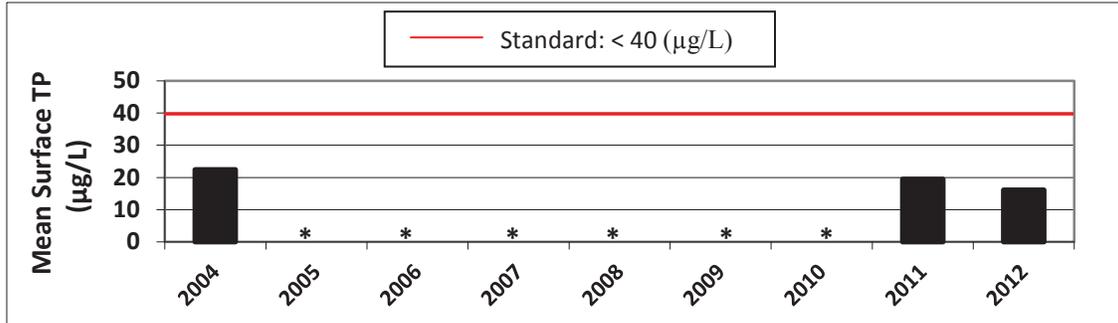
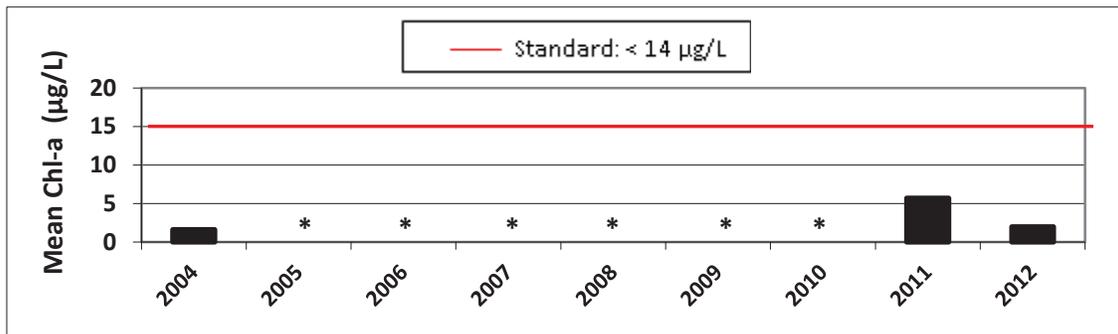
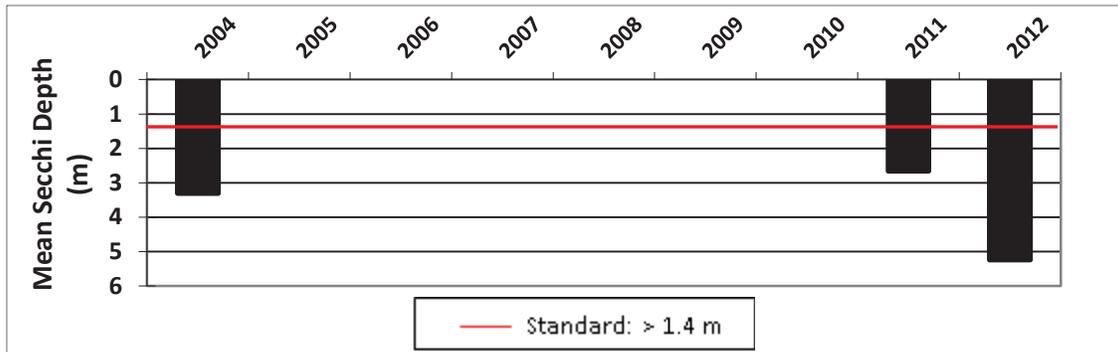
2012 Water Quality Summary

Parameter	Mean	Min	Max	Lake Grade
Months	May - September			
Secchi Depth (m)	5.34	2.95	6.9	A
Chlorophyll- <i>a</i> (µg/L)	2.30	1	4	A
Total Phosphorus (µg/L)	15.30	10	18	A
	Overall Grade			A

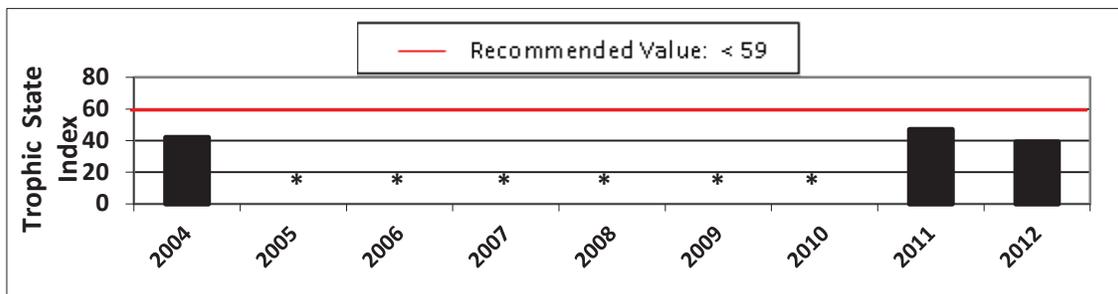
2012 Water Quality Data



Annual Means Based on June – September Averages



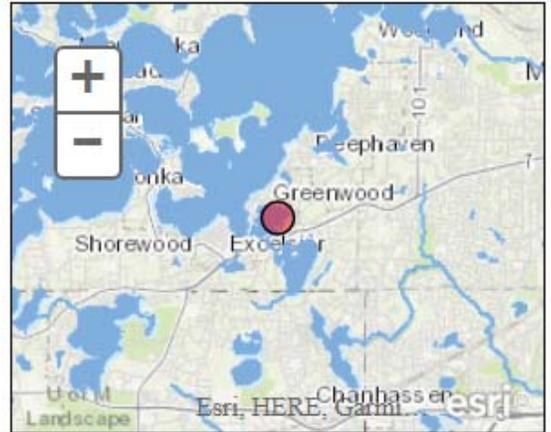
Trophic State Index Based on the Average of the Three Parameters Above



* Indicates that there was insufficient data to calculate a mean for the year

Lake Station Information

Station Name: MINNETONKA (ST. ALBANS BAY)
 Waterbody Name: Minnetonka-St. Albans Bay
 Data Steward Org: MPCA
 Station ID: (Lake ID) 27-0133-04-302
 Hydrologic Unit Code (HUC): 07010206
 Assessment Unit: 27-0133-04
 Period of Record: 2001 through 2017
 Lat/Lon 44.908001,-93.549494



Year 2016 Data																	
Station Data																	
Sample Date	Type	Depth	BOD	Chl-a	Trans	DO	TKN	NO2	NO3	pH	Pheo	TP	TSS	Turb	FC	Ecoli	Secchi
09-19-16	QC-FR	0 m		3.56								0.019					
09-19-16	Routine	0 m		3.56		8.77						0.021					4
09-19-16	Routine	1 m				8.73											
09-19-16	Routine	2 m				8.73											
09-19-16	Routine	3 m				8.70											
09-19-16	Routine	4 m				8.65											
09-19-16	Routine	5 m				8.55											
09-19-16	Routine	6 m				8.39											
09-19-16	Routine	7 m				7.04											
09-19-16	Routine	8 m				6.19											
09-19-16	Routine	9 m				2.21											
09-19-16	Routine	9.5 m										0.055					
09-19-16	Routine	10 m				0.99											
09-19-16	Routine	10.5 m				0.61											
08-09-16	Routine	0 m		1.78		8.45						0.02					2.9
08-09-16	Routine	1 m				8.43											
08-09-16	Routine	2 m				8.42											
08-09-16	Routine	3 m				8.40											
08-09-16	Routine	4 m				8.39											
08-09-16	Routine	5 m				8.16											
08-09-16	Routine	6 m				5.05											
08-09-16	Routine	7 m				2.53											
08-09-16	Routine	8 m				2.18											
08-09-16	Routine	9 m				1.19						0.03					
08-09-16	Routine	10 m				0.88											
07-05-16	Routine	0 m		2.67		8.61						0.021					3
07-05-16	Routine	1 m				8.48											
07-05-16	Routine	2 m				8.45											
07-05-16	Routine	3 m				8.44											
07-05-16	Routine	4 m				8.44											
07-05-16	Routine	5 m				7.60											
07-05-16	Routine	6 m				6.21											
07-05-16	Routine	7 m				5.46											
07-05-16	Routine	8 m				3.27											
07-05-16	Routine	9 m				2.27											
07-05-16	Routine	9.5 m										0.02					

APPENDIX I – WETLAND FUNCTIONAL ASSESSMENT

**Minnehaha Creek Watershed District - Functional Assessment of Wetlands
Wetland Management Classification**

Wetland ID Number	Management Classification	Circular 39 Classification	Vegetative Diversity	Wildlife Habitat Quality	Fishery Habitat Quality	Wetland Water Quality	Aesthetic Quality
D-117-23-34-001	Manage 3	Type 7, Type 2	Not Applicable	Not Applicable	Not Assessed	Not Applicable	Not Applicable
D-117-23-34-003	Manage 3	Type 2	Low	Low	Low	High	Moderate
D-117-23-34-003	Manage 3	Type 2	Low	Low	Low	Low	Moderate
D-117-23-34-003	Manage 3	Type 2	Low	Low	Low	Moderate	Moderate
D-117-23-34-004	Not Classified						
D-117-23-34-005	Not Classified						
D-117-23-34-006	Not Classified						
D-117-23-34-007	Not Classified					Moderate	
D-117-23-34-009	Manage 2	Type 2	Low	Moderate	Low	Moderate	Moderate
D-117-23-34-011	Manage 2	Type 2	Moderate	Moderate	Low	Low	Moderate
D-117-23-34-012	Manage 2	Type 3	Low	Low	Low		Low
D-117-23-35-001	Not Classified						
D-117-23-35-002	Not Classified						
D-117-23-35-003	Manage 1	Type 6	Moderate	Low	Low	Low	Moderate
D-117-23-35-004	Manage 3	Type 5, Type 4	Low	Low	Low		Low
D-117-23-35-005	Manage 2	Type 3, Type 1	Low	Moderate	Low	Moderate	Moderate
D-117-23-35-011	Preserve	Type 3, Type 4	Moderate	Moderate	Exceptional	Low	Exceptional
D-117-23-35-022	Not Classified					Moderate	
D-117-23-35-023	Not Classified					Moderate	
E-117-23-34-002	Manage 1	Type 5	Low	Moderate	Moderate	Moderate	Exceptional
E-117-23-34-003	Manage 1	Type 4, Type 5	Moderate	Moderate	Moderate		Exceptional
E-117-23-34-004	Manage 1	Type 3, Type 5	High	Moderate	Moderate	Low	Exceptional
E-117-23-34-005	Manage 2	Type 5	Moderate	Low	Not Assessed	Low	Moderate
E-117-23-34-006	Manage 1	Type 4	Moderate	Moderate	Moderate	Low	Exceptional

See Figure III-4 for wetland locations

Data from January 2003 Functional Assessment Report from MCWD

APPENDIX J – ORDINANCES

Sec. 30-150. - Erosion and sediment control.

- (a) The development shall conform to the natural limitations presented by topography and soil so as to create the least potential for soil erosion. All erosion sediment control measures and land disturbing activities shall comply with the subdivision design standards, the City's Engineering Design Standards, Article 36 of the Zoning Code, and as required by the city engineer.
- (b) Erosion and siltation control measures shall be coordinated with the different stages of construction. Appropriate control measures shall be installed prior to development when necessary to control erosion.
- (c) Land shall be developed in increments of workable size such that adequate erosion and siltation controls can be provided as construction progresses. The smallest practical area of land shall be exposed at any one period of time.
- (d) In the event that permanent stabilization cannot be feasibly obtained within 14 days after construction activity in that portion of the site has temporarily or permanently ceased, and seven days if discharge points are located within one-mile of an impaired or special waterbody, temporary soil stabilization BMPs must be implemented within the timeframe.
- (e) Where the topsoil is removed, sufficient arable soil shall be set aside for respreading over the developed area. The soil shall be restored to a depth of four inches and shall be of a quality at least equal to the soil quality prior to development.

(Code 1982, § 350:20, subd. 10; Ord. No. 522, § 1, 5-4-2015)

Cross reference— Environment, ch. 16.

ARTICLE II. - SEWER SERVICE^[2]

Footnotes:

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Editor's note— Ord. No. 522, § 2, adopted May 4, 2015, repealed former Art. II, §§ 34-31—34-38, in its entirety and enacted new provisions as herein set out. Former Art. II pertained to similar subject matter and derived from Ord. No. 434, § 1, adopted Dec. 15, 2008.

Sec. 34-31. - Purpose.

The purpose of this article is to provide for the health, safety, and general welfare of the citizens of the city through the regulation of the sanitary and stormwater sewer systems to the maximum extent possible as required by federal and state law. In addition to requirements relative to the city's sanitary sewer system, this article establishes methods for controlling the introduction of pollutants into the city's municipal separate storm sewer system (MS4) in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process and for controlling the introduction. The objectives of this article are:

- (1) To regulate the contribution of pollutants to the municipal separate storm sewer system (MS4) by stormwater discharges by any user; and
- (2) To prohibit illicit connections and discharges to the municipal separate storm sewer system; and
- (3) To establish legal authority to carry out all inspection, surveillance, enforcement, and monitoring procedures necessary to ensure compliance with this article.
- (4) This article is adopted pursuant to the authorization and policies contained in Minnesota Statutes and Rules.

(Ord. No. 522, § 2, 5-4-2015)

Sec. 34-32. - Sewer and water connection required.

Every owner or occupant with any property having a dwelling, house, or business building situated thereon, which property abuts upon a public street along which a municipal water or sewer main shall have been constructed, shall install a toilet in such dwelling or business property and connect the same with the water or sewer in the street adjacent thereto, within one year from the date of acceptance of the work of constructing the water or sewer main by the council.

(Ord. No. 522, § 2, 5-4-2015)

Sec. 34-33. - Definitions.

For the purposes of this article, the following shall mean:

Authorized enforcement agency. The city or its designee.

Best management practices (BMPs). Schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

Clean Water Act. The federal Water Pollution Control Act, and any subsequent amendments thereto.

Construction activity. Any activity subject to NPDES construction permits. Currently these include construction projects resulting in land disturbance of one acre or more. Such activities include, but are not limited to, clearing and grubbing, grading, excavating and demolition.

Hazardous materials. Any materials, including any substance, waste, or combination thereof, which because of their quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Illegal discharge. Any direct or indirect nonstormwater discharge to the storm drain system.

Illicit connections. An illicit connection is defined as either of the following: Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including but not limited to any conveyances which allow any nonstormwater discharge including sewage, process wastewater, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency or; any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

Municipal separate storm sewer system (MS4). The system of conveyances (including sidewalks, roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) owned and operated by the city and designed or used for collecting or conveying stormwater, and is not used for collecting or conveying sewage.

National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit. A permit issued by EPA (or by a state under authority delegated pursuant to federal law) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area.

Nonstormwater discharge. Any discharge to the storm drain system that is not composed entirely of stormwater.

Pollutant. Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; nonhazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

Storm drainage system. Publicly-owned facilities by which stormwater is collected and/or conveyed, including, but not limited to, any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.

Stormwater. Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation and resulting from such precipitation.

Stormwater pollution prevention plan (SWPPP). A document which describes the best management practices and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to stormwater, stormwater conveyance systems, and/or receiving waters to the maximum extent practicable.

Wastewater. Any water or other liquid, other than uncontaminated stormwater, discharged from a facility.

(Ord. No. 522, § 2, 5-4-2015)

Sec. 34-34. - Compatibility with other regulations.

This article is not intended to modify or repeal any other ordinance, rule, regulation, or other provision of law. The requirements of this ordinance are in addition to the requirements of any other ordinance, rule, regulation, or other provision of law, and where any provision of this ordinance imposes restrictions different from those imposed by any other ordinance, rule, regulation, or other provision of law, whichever provision is more restrictive or imposes higher protective standards for human health or the environment shall control.

(Ord. No. 522, § 2, 5-4-2015)

Sec. 34-35. - Sanitary sewer.

- (a) *Foreign matter restrictions.* No person shall knowingly permit grit, dirt, oil, grease, petroleum, combustibles, toxic substances, acids, dyes, radioactive substances, heavy substances, sewage of quality exceeding 500 parts per million, five-day biological oxygen demand, or any other substance harmful to the treatment process to be introduced into any part of the sanitary sewer system. If any such substance is introduced into such system, the public works superintendent shall immediately notify the owner or occupant in writing specifying the substance, the extent of the spill, the source of the spill, or the probable source.
- (b) *Interception; catchbasins; traps.* Every building or premises used or occupied where any operations are conducted or permitted which could result in the discharge into the municipal sanitary sewer system any of the products, waste products, or other substances in the manner and to the extent prohibited in this article shall be equipped with an adequate and suitable catchbasin, grease trap, filter, or other interceptor, installed in such a manner that the products, waste products, or other substances set forth in this section will not flow into or be discharged into the sanitary sewer system. No person shall knowingly permit the flow of waste from such building or premises into the sanitary sewer system unless such interceptor is installed and in good working order.
- (c) *Prohibition on introduction of stormwater.* No person shall discharge or cause to be discharged directly or indirectly into the sanitary sewer collection system, any stormwater, surface water, groundwater, roof runoff, or subsurface drainage. Any person having a roof drain, foundation drain, sump pump, unauthorized swimming pool discharge, cistern overflow pipe or surface drain connected and/or discharging into the sanitary sewer shall disconnect and remove any piping or system conveying the water to the sanitary sewer system by July 1, 2006.
- (d) *Inspection; compliance required.* Compliance with this section shall be assured through inspection by authorized employees of the city, or its agents, or by a licensed plumber who can certify compliance with the requirements of this section, of all properties or structures connected to the sanitary sewer system to confirm there is no sump pump or other prohibited discharge into the sanitary sewer system. Any owner of any property found to violate this section shall make the necessary changes to comply with this subchapter by July 1, 2006, and the change shall be verified by authorized employees of the city or its agents. Any property or structure not inspected or not in compliance by July 1, 2006, shall, following notification from the city, comply within 21 days or be subject to the surcharge hereinafter provided for.

(Ord. No. 522, § 2, 5-4-2015)

Sec. 34-36. - Stormwater sewer.

- (a) *General discharge prohibitions.*
- (1) *Prohibition of illegal discharges.* No person shall discharge or cause to be discharged into the MS4 or watercourses any materials, including, but not limited to, pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than

stormwater.

- (2) The following discharges are exempt from discharge prohibitions established by this article:
 - a. Water line flushing or other potable water sources, landscape irrigation or lawn watering, diverted stream flows, rising groundwater, groundwater infiltration to storm drains, uncontaminated pumped groundwater, foundation or footing drains (not including active groundwater dewatering systems), crawl space pumps, air conditioning condensation, springs, noncommercial washing of vehicles, natural riparian habitat or wetland flows, swimming pools (if dechlorinated—typically less than one PPM chlorine, or if discharged nondirectly to a public waterbody through a vegetative swale or grass way a minimum of 300 feet as to provide pretreatment prior to entering the city stormwater system), firefighting activities, and any other water source not containing pollutants.
 - b. Discharges specified in writing by the authorized enforcement agency as necessary to protect public health and safety.
 - c. Discharges associated with dye testing; however this activity requires a verbal notification to the city prior to the time of the test.
- (b) *Exceptions.* The general discharge prohibitions provided in subsection (a) above shall not apply to any nonstormwater discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the storm drain system.
- (c) *Prohibition of illicit connections.*
 - (1) The construction, use, maintenance or continued existence of illicit connections to the storm drain system is prohibited.
 - (2) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.
 - (3) A person is considered to be in violation of this article if the person connects a line conveying sewage to the MS4, or allows such a connection to continue.
 - (4) Improper connections in violation of this ordinance must be disconnected and redirected, if necessary, to an approved onsite wastewater management system or the sanitary sewer system upon approval of the city.
 - (5) Any drain or conveyance that has not been documented in plans, maps or equivalent, and which may be connected to the storm sewer system, shall be located by the owner or occupant of that property upon receipt of written notice of violation from the city requiring that such locating be completed. Such notice will specify a reasonable time period within which the location of the drain or conveyance is to be determined, that the drain or conveyance be identified as storm sewer,

sanitary sewer or other, and that the outfall location or point of connection to the storm sewer system, sanitary sewer system or other discharge point be identified. Results of these investigations are to be documented and provided to the city.

(Ord. No. 522, § 2, 5-4-2015)

Sec. 34-37. - Sump and other pumps.

All sump and other pumps designed to remove water from basements, crawl spaces, or other places on a property shall have a discharge pipe installed to the outside wall of the building or location being drained. The pipe must be of a rigid permanent-type pipe such as PVC, copper or galvanized pipe. The discharge of such pumps as well as swimming pools, hot tubs and other such water sources, shall extend at least three feet beyond the foundation or location being drained and may not be pumped directly onto or within five feet of the public right-of-way unless approved by the public works superintendent or an agent thereof. Any disconnects or openings in the sanitary sewer shall be closed and repaired in compliance with applicable codes.

(Ord. No. 522, § 2, 5-4-2015)

Sec. 34-38. - Watercourse protection.

Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.

Sec. 34-39. - Industrial or construction activity discharges.

- (a) Any person subject to an industrial or construction activity NPDES storm water discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the city prior to the allowing of discharges to the MS4.
- (b) The operator of a facility, including construction sites, required to have an NPDES permit to discharge storm water associated with industrial activity shall submit a copy of the notice of intent (NOI) to the city at the same time the operator submits the original notice of intent to the EPA as applicable.
- (c) The copy of the notice of intent may be delivered to the city either in person or by mailing it to:

Notice of Intent to Discharge Stormwater

City of Excelsior

339 Third Street

Excelsior, MN 55331

- (d) A person commits an offense if the person operates a facility that is discharging storm water associated with industrial activity without having submitted a copy of the Notice of intent to do so to the city.

(Ord. No. 522, § 2, 5-4-2015)

Sec. 34-40. - Notification of spills.

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into storm water, the storm drain system, or waters of the United States, said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, said person shall notify the city in person or by phone or facsimile no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the city within three business days of the phone notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least four years.

(Ord. No. 522, § 2, 5-4-2015)

Sec. 34-41. - Enforcement and waivers.

- (a) *Warning notice.* When the city finds that any person has violated, or continues to violate, any provision of this article, or any order issued hereunder, the city may serve upon that person a written warning notice, specifying the particular violation believed to have occurred and requesting the discharger to immediately investigate the matter and to seek a resolution whereby any offending discharge will cease. Investigation and/or resolution of the matter in response to the warning notice in no way relieves the alleged violator of liability for any violations occurring before or after receipt of the warning notice. Nothing in this subsection shall limit the authority of the city to take any action, including emergency action or any other enforcement action, without first issuing a warning notice.

- (b) *Notice of violation.*

- (1) Whenever the city finds that a person has violated a prohibition or failed to meet a requirement of this ordinance, the City may order compliance by written notice of violation to the responsible person. The Notice of Violation shall contain:
- a. The name and address of the alleged violator;
 - b.

The address when available or a description of the building, structure or land upon which the violation is occurring, or has occurred;

- c. A statement specifying the nature of the violation;
- d. A description of the remedial measures necessary to restore compliance with this article and a time schedule for the completion of such remedial action;
- e. A statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed;
- f. A statement that the determination of violation may be appealed to the city by filing a written notice of appeal within three days of service of notice of violation; and
- g. A statement specifying that, should the violator fail to restore compliance within the established time schedule, the work will be done by a designated governmental agency or a contractor and the expense thereof shall be charged to the violator.

(2) Such notice may require without limitation:

- a. The performance of monitoring, analyses, and reporting;
- b. The elimination of illicit connections or discharges;
- c. That violating discharges, practices, or operations shall cease and desist;
- d. The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property;
- e. Payment of a fine or notice of special assessment to cover administrative and remediation costs; and
- f. The implementation of source control or treatment BMPs.

(c) *Suspension of MS4 access.* When the city finds that any person has violated, or continues to violate, any provision of this article, or any order issued hereunder, or that the person's past violations are likely to recur, and that the person's violation(s) has (have) caused or contributed to an actual or threatened discharge to the MS4 or waters of the United States which reasonably appears to present an imminent or substantial endangerment to the health or welfare of persons or to the environment, the city may issue an order to the violator directing it immediately to cease and desist all such violations and directing the violator to:

- (1) Immediately comply with all ordinance requirements; and
- (2) Take such appropriate preventive action as may be needed to properly address a continuing or threatened violation, including immediately halting operations and/or terminating the discharge.

Any person notified of an emergency order directed to it under this subsection shall immediately comply and stop or eliminate its endangering discharge. In the event of a discharger's failure to immediately comply voluntarily with the emergency order, the city may take such steps as deemed necessary to prevent or minimize harm to the MS4 or waters of the United States, and/or endangerment to persons or to the environment, including immediate termination of a facility's water supply, sewer connection, or other municipal utility services.

- (d) *Requests for waivers.* If a property owner is in dispute with the assessment of their stormwater, surface water, groundwater, roof runoff or subsurface drainage, the city will facilitate an appeal process in which a property owner may request a waiver from the provisions of this article where strict enforcement would cause undue hardship because of circumstances unique to the individual property under consideration. Any request for waiver shall be submitted to the city manager in writing. A grievance hearing will be held and a final decision will be determined by a panel appointed by the city council consisting of two city council members and one planning commissioner. The public works superintendent shall participate in the hearing, as an ex-officio member of the panel, to provide information regarding the assessment and any other relevant issues.
- (e) *Additional fees.* Upon approval of a waiver from the provisions of this article, the property owner shall agree to pay an additional fee for sanitary sewer services based on the number of gallons discharged into the sanitary system as estimated by the city.
- (f) *Access to premises.* The city shall be entitled to utilize any lawful authority available to it to gain access to premises for the purposes of enforcing the requirements of this article including, but not limited to, making access at reasonable times a condition of some commercial permits and seeking, where appropriate, judicial assistance.
- (g) *Injunction.* The imposition of the surcharge referred to in section 34-36 shall not limit the right of city to seek an injunction in district court or from pursuing any other legal remedies available.
- (h) *Surcharge.* A nonrefundable surcharge of \$75.00 is hereby established and shall be added to every utility billing mailed on or after July 1, 2006, to any property not in compliance with this subchapter until the property is in compliance. If, after six months, any property is still found to be in violation of the article, the surcharge shall increase to \$150.00.

(Ord. No. 522, § 2, 5-4-2015)

Secs. 34-42—34-60. - Reserved.

ARTICLE 36. - GENERAL STORMWATER MANAGEMENT^[9]*Footnotes:**--- (9) ---**Editor's note— Ord. No. 522, § 3, adopted May 4, 2015, repealed former Art. 36, §§ 36-1—36-9, in its entirety and enacted new provisions as herein set out. Former Art. 36 pertained to similar subject matter and derived from Ord. No. 441, § 2, 7-20-2009; Ord. No. 495, § 3, 4-1-2013.**Cross reference— Subdivision general standards and requirements, § 30-141 et seq.; Sewer service, § 34-31 et seq.*

Sec. 36-1. - Statutory authorization.

This article is adopted pursuant to the authorization and policies contained in Minnesota Statutes and Rules.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-2. - Findings.

The city hereby finds that uncontrolled and inadequately planned use of wetlands, woodlands, natural habitat areas, areas subject to soil erosion and areas containing restrictive soils adversely affects the public health, safety and general welfare by impacting water quality and contributing to other environmental problems, creating nuisances, impairing other beneficial uses of environmental resources and hindering the ability of the city to provide adequate water, sewage, flood control, and other community services. In addition, extraordinary public expenditures may be required for the protection of persons and property in such areas and in areas which may be affected by unplanned land usage.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-3. - Purpose.

The purpose of this article is to promote, preserve and enhance the natural resources within the city and protect them from adverse effects occasioned by poorly sited development or incompatible activities by regulating land disturbing or development activities that would have an adverse and potentially irreversible impact on water quality and unique and fragile environmentally sensitive land; by minimizing conflicts and encouraging compatibility between land disturbing and development activities and water quality and environmentally sensitive lands; and by requiring detailed review standards and procedures for land disturbing or development activities proposed for such areas, thereby achieving a balance between urban growth and development and protection of water quality and natural areas.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-4. - Scope and effect.

- (a) *Applicability.* Every applicant for a building permit, subdivision approval, or a permit to allow land disturbing activities must submit a stormwater management plan to the city. No building permit, subdivision approval, or permit to allow land disturbing activities shall be issued until approval of the stormwater management plan or a variance of the approval requirement has been obtained in strict conformance with section 36-4(f) of this article.
- (b) *Minnesota Pollution Control Agency (MPCA).* The MPCA is the permitting authority for land disturbing activities requiring an NPDES permit for construction activity, including the requirements for developing and implementing a SWPPP. Where required, the NPDES permit is in addition to permits required by the City of Excelsior.
- (c) *Exemptions.* The provisions of this article do not apply to:
- (1) Installation of fence, sign, telephone, and electric poles and other kinds of posts or poles;
 - (2) Interior remodeling;
 - (3) Any activity requiring a building permit which does not disturb any land and does not increase the area of impervious surface of the subject parcel;
 - (4) Emergency work to protect life, limb, or property;
 - (5) A proposed addition or the construction of an accessory structure when the plans have been reviewed and the site has been inspected by the zoning administrator and/or the city engineer and it has been determined that the land is flat and/or drainage will not have an impact on neighboring property(s) or any body of water.
- (d) *Incorporation by reference.* The city's engineering design standards are hereby incorporated into this article by reference. The Standards shall serve as the official guide for stormwater principles methods, and practices for proposed development activities for the City of Excelsior.
- (e) *Variance.* The city council, upon recommendation of the planning commission, may grant a variance to any requirement of this article upon making a finding that compliance with the requirement will involve an unnecessary hardship and the variance of such requirement will not adversely affect the standards and requirements set forth in section 36-5. The city council may require, as a condition of the variance, such dedication or construction or agreement to dedicate or construct as may be necessary to adequately meet said standards and requirements.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-5. - Stormwater management—General and specific standards.

- (a) *Stormwater management.* The following general and specific standards shall apply:
- (1) *General standards.*
 - a. When possible, existing natural drainageways, wetlands, and vegetated soil surfaces must be used to convey, store, filter, and retain stormwater runoff before discharge to public waters.
 - b.

Development must be planned and conducted in a manner that will minimize the extent of disturbed areas, runoff velocities, erosion potential, and reduce and delay runoff volumes. Disturbed areas must be stabilized and protected as soon as possible and facilities or methods used to retain sediment on the site.

- c. When development density, topographic features, and soil and vegetation conditions are not sufficient to adequately handle stormwater 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. Preference must be given to designs using surface drainage, vegetation, and infiltration rather than buried pipes and man-made materials and facilities.

(2) *Specific standards.*

- a. Stormwater management shall be performed according to the policies outlined in the most recent version of the city's surface water management plan.
- b. In addition to the city's policies, stormwater management shall be performed according to the policies of the Minnehaha Creek Watershed District.
- c. For land disturbing activities that require an NPDES general stormwater construction permit, activities shall be performed according to the NPDES permit requirements in addition to the policies of the city.
- d. Maximum impervious surface coverage and green space requirements of lots shall be as follows or as otherwise provided within this article.
- e. New constructed stormwater outfalls to public waters must provide for filtering or settling of suspended solids and skimming of surface debris before discharge.
- f. New constructed stormwater outfalls to public waters must provide for filtering or settling of suspended solids and skimming or surface debris before discharge.

(Ord. No. 522, § 3, 5-4-2015; Ord. No. 558, § 1, 4-17-2017)

Sec. 36-6. - Stormwater management plan approval procedures.

- (a) *Application.* A written application for stormwater management plan approval, along with the proposed stormwater management plan, shall be filed with the city and shall include a statement indicating the grounds upon which the approval is requested, that the proposed use is permitted by right or as an exception in the underlying zoning district, and adequate evidence showing that the proposed use will conform to the standards set forth in this article. Two sets of clearly legible blue or black lined copies of drawings and required information shall be submitted to the zoning administrator. Drawings shall be prepared to a scale appropriate to the site of the project and suitable for the review to be performed. At a minimum the scale shall be one inch equals 100 feet.

The applicant is responsible to apply for, and obtain any necessary permits or approvals required by other agencies, including, but not limited to, permits required by the Minnehaha Creek Watershed District, the Minnesota Pollution Control Agency, the Minnesota Department of Natural Resources, and the [U.S.] Army Corps of Engineers. For stormwater management plans submitted as a part of a preliminary plat application, the applicant must provide copies of the preliminary plat and stormwater management plan to the Minnehaha Creek Watershed District.

(b) Unless otherwise exempted by this Code, an application for stormwater management approval shall include the following as a condition for its consideration:

- (1) A stormwater management plan;
- (2) A maintenance agreement.

The stormwater management plan shall be prepared to meet the requirements of section 36-6, and section 36-8 of this article, as well as the requirements within the city's engineering design standards; the maintenance agreement shall be prepared to meet the requirements of section 36-9 of this article.

(c) *Stormwater management plan.* At a minimum, the stormwater management plan shall contain the following information.

- (1) *Existing site map.* A map of existing site conditions showing the site and immediately adjacent areas, including:
 - a. The name and address of the applicant, the section, township and range, north point, date and scale of drawing and number of sheets;
 - b. Location of the tract by an insert map at a scale sufficient to clearly identify the location of the property and giving such information as the names and numbers of adjoining roads, railroads, utilities, subdivisions, towns and districts or other landmarks;
 - c. Existing topography with a contour interval appropriate to the topography of the land but in no case having a contour interval greater than two feet;
 - d. A delineation of all streams, rivers, public waters and wetlands located on and immediately adjacent to the site and any classification given to the water body or wetland by the Minnesota Department of Natural Resources, Minnesota Pollution Control Agency, and/or the United States Army Corps of Engineers.
 - e. Location and dimensions of existing stormwater drainage systems and natural drainage patterns on and immediately adjacent to the site delineating in which direction stormwater is conveyed from the site, identifying the receiving stream, river, public water, or wetland, and setting forth those areas of the unaltered site where stormwater collects;
 - f. 100-year floodplains, flood fringes and floodways.
 - g. Ordinary high water level of surface waters as established by the Minnesota Department of Natural Resources, normal water level and 100-year high water level of surface waters and detention facilities.

- (2) *Site construction plan.* A site construction plan including:
- a. Locations and dimensions of all proposed land disturbing activities and any phasing of those activities;
 - b. Locations and dimensions of all temporary soil or dirt stockpiles;
 - c. Locations and dimensions of all construction site erosion control measures necessary to meet the requirements of this Appendix E;
 - d. Schedule of anticipated starting and completion date of each land disturbing activity including the installation of construction site erosion control measures needed to meet the requirements of this article; and
 - e. Provisions for maintenance of the construction site erosion control measures during construction, including a stormwater pollution prevention plan (SWPPP) for activities that require an NPDES general construction stormwater permit issued by the Minnesota Pollution Control Agency.
- (3) *Plan of final site conditions.* A plan of final site conditions on the same scale as the existing site map showing the site changes including:
- a. Finished grading shown at contours at the same interval as provided above or as required to clearly indicate the relationship of proposed changes to existing topography and remaining features;
 - b. A drainage plan of the developed site delineating in which direction and at what rate stormwater will be conveyed from the site and setting forth the areas of the site where stormwater will be allowed to collect;
 - c. The proposed size, alignment, low floor elevation, low building opening elevation, and intended use of any structures to be erected on the site;
 - d. A clear delineation and tabulation of all areas which shall be paved or surfaced, including a description of the surfacing material to be used; and
 - e. Ordinary high water level of surface waters as established by the Minnesota Department of Natural Resources, normal water level and 100-year high water level of surface waters and detention facilities.
- (4) *Additional information.* Any other information pertinent to the particular project which in the opinion of the zoning administrator is necessary for the review of the project.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-7. - Plan review procedure.

- (a) *Process.* Stormwater management plans meeting the requirements of section 36-5 shall be submitted to the zoning administrator for review in accordance with the standards of section 36-7. The zoning administrator shall approve, approve with conditions, or deny the stormwater management plan. The decision by the zoning administrator may be appealed in accordance with article 7 of this Appendix E.

- (b) *Duration.* Approval of a plan submitted under the provisions of this article shall expire one year after the date of approval unless construction has commenced in accordance with the plan. However, if prior to the expiration of the approval, the applicant makes a written request to the zoning administrator for an extension of time to commence construction setting forth the reasons for the requested extension, the zoning administrator may grant one extension of not greater than one single year. Receipt of any request for an extension shall be acknowledged by the zoning administrator within 15 days. The zoning administrator shall make a decision on the extension within 30 days of receipt. Any plan may be revised in the same manner as originally approved.
- (c) *Conditions.* A stormwater management plan may be approved subject to compliance with conditions reasonable and necessary to insure that the requirements contained in this article are met. Such conditions may, among other matters, limit the size, kind or character of the proposed development, require the construction of structures, drainage facilities, storage basins and other facilities, require replacement of vegetation, establish required monitoring procedures, stage the work over time, require alteration of the site design to insure buffering and require the conveyance to the city or other public entity of certain lands or interests therein.
- (d) *Financial guarantee.* Prior to approval of any stormwater management plan, the applicant shall submit an agreement to construct such required physical improvements, to dedicate property or easements, or to comply with such conditions as may have been agreed to. Such agreement shall be accompanied by a financial guarantee to cover the amount of the established cost of complying with the agreement. The agreement and guarantee shall insure completion and compliance with conditions within a specific time, which may be extended in accordance with section 36-6(b) of this article.

(Ord. No. 522, § 3, 5-4-2015; Ord. No. 558, § 1, 4-17-2017)

Sec. 36-8. - Approval standards.

- (a) *Standards.* No stormwater management plan which fails to meet the standards contained in this section shall be approved by the zoning administrator.
- (b) All land disturbing activities are required to follow the construction site stormwater runoff control standards set within this Code and the city's engineering design Standards. The standards should follow the following requirements:
- (1) Erosion control;
 - (2) Sediment control practices;
 - (3) Temporary sediment basins;
 - (4) Dewatering and basin draining;
 - (5) Inspection and maintenance;
 - (6) Pollution management measures/construction site waste control;
 - (7) Final stabilization;
 - (8) Training.

- (c) *Design standards.* Stormwater detention facilities constructed in the City of Excelsior shall be designed according to the most current technology as reflected in this code and the city's engineering design standards.
- (d) *Stormwater management criteria for permanent facilities.*
- (1) An applicant shall install or construct, on or for the proposed land disturbing or development activity, all stormwater management facilities necessary to manage increased runoff so that peak discharge rates leaving the site are not increased for the two-year, ten-year, and 100-year critical-duration rainfall events. Accelerated channel erosion shall not occur as a result of the proposed land disturbing or development activity. At the discretion of the city, an applicant may also make an in-kind or monetary contribution to the development and maintenance of community stormwater management facilities designed to serve multiple land disturbing and development activities undertaken by one or more persons, including the applicant.
 - (2) The applicant shall give consideration to reducing the need for stormwater management facilities by incorporating the use of natural topography and land cover such as wetlands, ponds, natural swales and depressions as they exist before development to the degree that they can accommodate the additional flow of water without compromising the integrity or quality of the wetland or pond.
 - (3) Drainage systems shall be designed to convey runoff from contributing drainage areas under fully developed conditions. Capacities of drainage systems shall be designed to meet the following standards:
 - a. Local storm sewer shall convey runoff from the five-year, critical-duration, and rainfall event.
 - b. Trunk storm sewer shall convey runoff from the ten-year, critical-duration, and rainfall event.
 - c. Ponds and open channels shall convey runoff from the 100-year, critical-duration, and rainfall event.
 - (4) Special attention shall be given to existing residential developments which do not currently comply with the 35 percent impervious cover limitation of article 60 of this Appendix E. When installing sidewalk and driveways, adding decks and building additions or constructing garages and storage buildings, the following methods are suggested as solutions to the problem of managing stormwater runoff from impervious surfaces:
 - a. Building additions and decks shall be constructed to direct runoff to more pervious grassed filter strips, such as lawns and gardens.
 - b. Runoff from garages or storage buildings can be separated from impervious surfaces by different roof designs and/or use of gutters and down spouts directing water to pervious areas.
 - c. Sidewalks and driveways shall be sloped to drain towards pervious surfaces, such as lawns or gardens.
 - (5) The following stormwater management practices shall be investigated in developing a stormwater management plan in the following descending order of preference:

- a. Natural infiltration of precipitation on-site;
 - b. Flow attenuation by use of open vegetated swales and natural depressions;
 - c. Stormwater retention facilities; and
 - d. Stormwater detention facilities.
- (6) A combination of successive practices may be used to achieve the applicable minimum control requirements specified in subsection (a) above. Justification shall be provided by the applicant for the method selected.
- (e) *Water quality treatment standards.* Stormwater treatment facilities shall be provided to remove 50 percent of phosphorus and 85 percent of total suspended solids, or a detention pond designed to NURP standards.
- (f) *Volume control standards.* Abstraction via infiltration, evapotranspiration, capture and/or reuse of one inch of rainfall from the site on a regional or site-specific basis is required for development or redevelopment for projects that increase stormwater runoff volume, provided that past and existing land use practices, groundwater elevations, and soil characteristics are suitable for infiltration.
- (g) *Flood control.* Development and land disturbing activities must meet the following criteria:
- (1) The basement floor elevation of any new building shall be placed at least two feet above the elevation of any known historic high groundwater elevations for the area and at least two feet above the 100-year high surfacewater elevation in the area.
 - (2) The low building opening elevation of any new building shall be at least three feet above the projected 100-year high water elevation for the area. If this standard is considered a hardship, the standard may be lowered to placing the low building opening elevation at least two feet above the projected 100-year high water elevation if the following can be demonstrated:
 - a. That within the two-foot freeboard area above the 100-year high water elevation, stormwater storage is at least 50 percent of the stormwater storage capacity below the 100-year high water elevation; and
 - b. That a 25 percent obstruction of the basin outlet for a 100-year critical-duration rainfall event would not result in a high water elevation greater than one foot above the 100-year high water elevation; and
 - c. An adequate overflow route from the basin will assure that water levels, even for extreme rainfall events, will be greater than one foot below the low building opening elevation.
 - (3) An emergency spillway from ponding areas shall be installed a minimum of one foot below the lowest building opening and shall be designed to have a capacity to overflow water at an elevation below the lowest building opening at a rate not less than three times the 100-year peak discharge rate from the basin or the 100-year inflow rate to the basin, whichever is higher.
- (h) *Wetlands.* Minnehaha Creek Watershed District is the local government unit with jurisdictional control for enforcement of the Wetland Conservation Act. For most activities that could affect wetlands, the rules of the Minnehaha Creek Watershed District will apply. In addition to the rules of the district, the

following standards shall apply:

- (1) Runoff shall not be discharged directly into wetlands without presettlement of the runoff.
- (2) A protective buffer strip of natural vegetation shall surround all wetlands. Buffer dimensions shall be as required by the Minnehaha Creek Watershed District, or the City's Engineering Design Standards, whichever is greater.
- (3) Wetlands must not be drained or filled, wholly or partially, unless replaced by restoring or creating wetland areas of at least equal public and natural value. Replacement must be guided by the following principles in descending order of priority:
 - a. Avoiding the direct or indirect impact of the activity that may destroy or diminish the wetland;
 - b. Minimizing the impact by limiting the degree or magnitude of the wetland activity and its implementation;
 - c. Rectifying the impact by repairing, rehabilitating, or restoring the affected wetland environment;
 - d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the activity; and
 - e. Compensating for the impact by replacing or providing substitute wetland resources or environments.
- (i) *Bluffs*. No land disturbing or development activities shall be allowed on bluffs as defined under definitions in article 2 of this Appendix E.
- (j) *Structures*. In a newly constructed or rehabilitated storm sewer system, the last downstream structure before discharge to a receiving water body shall be provided with a sump area for the collection of coarse-grained material. Such sumps shall be cleaned when they are half-filled with material.
- (k) *Drain leaders*. All newly constructed and reconstructed buildings will route drain leaders to pervious areas wherein the runoff can be allowed to infiltrate. The flow rate of water exiting the leaders shall be controlled so no erosion occurs in the pervious areas.
- (l) *Models/methodologies/computations*. Hydrologic models and design methodologies used for the determination of runoff and analysis of stormwater management structures shall be approved by the city engineer. Plans, specifications and computations for stormwater management facilities submitted for review shall be sealed and signed by a registered professional engineer. All computations shall appear on the plans submitted for review, unless otherwise approved by the city engineer.
- (m) *Watershed management plans/groundwater management plans*. Stormwater management plans shall be consistent with adopted watershed management plans and groundwater management plans prepared in accordance with applicable Minnesota Statutes and as approved by the Minnesota Board of Water and Soil Resources in accordance with state law.
- (n) *Easements*. If a stormwater management plan involves direction of some or all runoff off of the site, it shall be the responsibility of the applicant to obtain from adjacent property owners any necessary easements or other property interests concerning flowage of water.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-9. - Stormwater treatment maintenance plan and agreement.

- (a) *Maintenance agreement.* The responsible party shall enter into a maintenance agreement with the city that documents all responsibilities for operation and maintenance of all stormwater treatment practices. Such responsibility shall be documented in a maintenance plan and executed through a maintenance agreement. The maintenance agreement shall be executed and recorded against the parcel. The maintenance agreement shall be in a form approved by the city shall describe the inspection and maintenance obligations of this section and shall, at a minimum:
- (1) Designate the responsible party, which shall be permanently responsible for maintenance of the structural or nonstructural measures.
 - (2) Pass responsibility for such maintenance to successors in title.
 - (3) Grant the city and its representatives the right of entry for the purposes of inspecting all stormwater treatment practices.
 - (4) Allow the city the right to repair and maintain the facility, if necessary maintenance is not performed after proper and reasonable notice to the responsible party.
 - (5) Include a maintenance plan that contains, but is not limited to the following:
 - a. Identification of all structural stormwater treatment practices.
 - b. A schedule for regular inspection, monitoring, and maintenance for each practice. Monitoring shall verify whether the practice is functioning as designed and may include, but is not limited to quality, temperature, and quantity of runoff.
 - c. Identification of the responsible party for conducting the inspection, monitoring, and maintenance for each practice.
 - (6) Identify a schedule and format for reporting compliance with the maintenance plan to the city.
- (b) *Inspection of stormwater facility.* Inspection programs shall be established on any reasonable basis, including but not limited to: routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; inspection of drainage basins or areas identified as higher than typical sources of sediment or other contaminants or pollutants; inspections of businesses or industries of a type associated with higher than usual discharges of contaminants or pollutants or with discharges of a type which are more likely than the typical discharge to cause violations of state or federal water or sediment quality standards or the National Pollutant Discharge Elimination System (NPDES) stormwater permit; and joint inspections with other agencies inspecting under environmental or safety laws. Inspections may include, but are not limited to, reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in drainage control facilities; and evaluating the condition of drainage control facilities and other stormwater treatment practices.

As a part of an approved stormwater treatment plan and agreement, when any new stormwater treatment practice is installed on private property, or when any new connection is made between private property and a public drainage control system, or sanitary sewer; the property owner shall grant to the city the right to enter the property at reasonable times and in a reasonable manner for the purpose of inspection. This includes the right to enter a property when the city has a reasonable basis to believe that a violation of this article is occurring or has occurred, and to enter when necessary for abatement of a public nuisance or correction of a violation of this article.

The director of public works, or designated representative, shall inspect all stormwater management facilities during construction, during the first year of operation, and at least once every five years thereafter. The inspection records will be kept on file at the public works department for a period of six years. It shall be responsibility of the applicant to dedicate or obtain any necessary easements or other property interests to allow the city access to the stormwater management facilities for inspection and maintenance purposes.

- (c) *Records of installation and maintenance activities.* The responsible party shall make records of the installation and of all maintenance and repairs of the stormwater treatment practices, and shall retain the records for at least three years. These records shall be made available to the city during inspection of the stormwater treatment practice and at other reasonable times upon request.
- (d) *Failure to maintain practices.* If a responsible party fails or refuses to meet the requirements of the maintenance agreement, the city, after reasonable notice, may correct a violation of the design standards or maintenance needs by performing all necessary work to place the stormwater treatment practice in proper working condition. In the event that the stormwater treatment practice becomes a danger to public safety or public health, the city shall notify the responsible party in writing. Upon receipt of that notice, the Responsible Party shall have thirty days to perform maintenance and repair of the facility in an approved manner. After proper notice, the city may specially assess the owner(s) of the stormwater treatment practice for the cost of repair work and any penalties; and the cost of the work shall be assessed against the property and collected along with ordinary taxes by the county.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-10. - Lawn fertilizer regulations.

- (a) *Use of impervious surfaces.* No person shall apply fertilizer to or deposit grass clippings, leaves or other vegetative materials on impervious surfaces, or within stormwater drainage systems, natural drainageways, or within wetland buffer areas.
- (b) *Unimproved land areas.* Except for driveways, sidewalks, patios, areas occupied by structures or areas which have been improved by landscaping, all areas shall be covered by plants or vegetative growth.
- (c) *Fertilizer content.* No person shall apply any lawn fertilizer, liquid or granular, that contains any amount of phosphorous or other compounds containing phosphorous, such as phosphate, except small quantities when a soil text indicates added phosphorous is needed to support healthy turf growth, or during the first year when new area of turf is being established.

- (d) *Buffer zone.* Fertilizer applications shall not be made within one rod (16.5 feet) of any wetland or water resource.
- (e) *Sale and display of lawn fertilizer.* No person, firm, corporation, franchise, or commercial establishment shall sell or display for sale any lawn fertilizer, liquid or granular, within the city that contains any amount of phosphorous or other compound containing phosphorous, such as phosphate, unless:
- (1) Phosphorous-free fertilizer is also available for sale.
 - (2) Phosphorous-free fertilizer and fertilizer with phosphorous are separately displayed which each display being clearly marked as to whether or not the fertilizer contains phosphorous.
 - (3) Displays of phosphorous-free fertilizer are of equal or greater size and prominence.
 - (4) A sign or brochure is on prominent display next to any fertilizer display containing the city's regulations concerning the use of fertilizer with phosphorous.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-11. - Right-of-entry.

The issuance of a building permit or a permit to allow land disturbing activities constitutes a right-of-entry for the city or its contractor to enter the construction site. The applicant shall allow the city and its authorized representatives to:

- (a) Enter the permitted site for the purpose of obtaining information, examining records, conducting investigations or surveys;
- (b) Bring such equipment on the Site as is necessary to conduct such surveys and investigations;
- (c) Examine and copy any books, papers, or digital files pertaining to activities or records required to be kept under the terms and conditions of the permitted site;
- (d) Inspect the stormwater treatment practices;
- (e) Sample and monitor any items or activities pertaining to stormwater pollution control measures;
- (f) Correct deficiencies in stormwater and erosion and sediment control measures consistent with this Code and the city's engineering design standards.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-12: - Search warrants.

If city employees have been refused access to any part of the premises from which stormwater is discharged, and he/she is able to demonstrate probable cause to believe that there may be a violation of this ordinance, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this Code or any order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then the city may seek issuance of a search warrant from any court of competent jurisdiction.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-13: - Penalty.

Any violation of this Article 36 may be enforced via the procedures outlined in Article 10 of this Appendix E.

- (a) *Notice of violation.* When the city determines that an activity is not being carried out in accordance with the requirements of the stormwater management regulations of this Code, it shall issue a written notice of violation to the owner of the property. The notice of violation shall contain:
- (1) The name and address of the owner of applicant;
 - (2) The address when available or a description of the land upon which the violation is occurring;
 - (3) A statement specifying the nature of the violation;
 - (4) A description of the remedial measures necessary to bring the development activity into compliance with this ordinance and a time schedule for the completion of such remedial action;
 - (5) A statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed; and
 - (6) A statement that the determination of violation may be appealed to the city by filing a written notice of appeal within 15 days of services notice of violation.
- (b) *Stop work orders.* Persons receiving a notice of violation will be required to halt all construction activities. This stop work order will be in effect until the city confirms that the land disturbance activity is in compliance and the violation has been satisfactorily addressed. Failure to address a notice of violation in a timely manner may result in civil, criminal, or monetary penalties in accordance with the enforcement measures authorized in this Code.
- (c) *Civil and criminal penalties.* In addition to or as an alternative to any penalty provided herein or by law, any person who violates the provisions of the stormwater management regulations of this Code shall be guilty of a misdemeanor and subject to prosecution. Such person shall be guilty of a separate offense for each day during which the violation occurs or continues.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-14. - Appeals.

Any person aggrieved by the action of any official charged with the enforcement of the stormwater management regulations of this Code, as the result of the disapproval of a properly filed application for approval, issuance of a written notice of violation, or an alleged failure to properly enforce the ordinance in regard to a specific application, shall have the right to appeal the action pursuant to the procedures outlined in Article 7 of this Appendix E.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-15. - Other controls.

In the event of any conflict between the provisions of the stormwater management regulations of this Code and the provisions of an erosion control or shoreland protection ordinance adopted by the city council, the more restrictive standard prevails.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-16. - Severability.

The provisions of the stormwater management regulations of this Code are severable. If any provision of these stormwater management regulations or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applicants of these stormwater management regulations which can be given effect without the invalid provision or application.

(Ord. No. 522, § 3, 5-4-2015)

ARTICLE 60. - SHORELAND MANAGEMENT DISTRICT

Sec. 60-1. - Statutory authorization and policy.

- (1) *Statutory authorization.* The shoreland regulations contained in this section are adopted pursuant to the authorization and policies contained in Minn. Stats. ch. 103F, Minnesota Regulations, Parts 6120.2500 through 6120.3900, and the planning and zoning enabling legislation in Minn. Stats. ch. 462.
- (2) *Policy.* The uncontrolled use of shorelands of the city affects the public health, safety and general welfare not only by contributing to pollution of public waters, but also by impairing the local tax base. Therefore, it is in the best interests of the public health, safety and welfare to provide for the wise subdivision, use and development of shorelands of public waters. The Legislature of Minnesota has mandated responsibility to local governments of the State to regulate the subdivision, use and development of the shorelands of public waters and thus preserve and enhance the quality of surface waters, conserve the economic and natural environmental values of shorelands, and provide for the wise use of waters and related land resources. This responsibility is hereby recognized by the city.
- (3) *Jurisdiction.* The provisions of this Appendix E shall apply to the shorelands of the public water bodies as classified in section 60-3.

Sec. 60-2. - Administration.

- (a) *Permits required.* In addition to building permits required by section 9-11, a permit shall be required for those grading and filling activities not exempted by [sub]section 60-4(d). Application for a permit shall be made to the zoning administrator on the forms provided. The application shall include the necessary information so that the zoning administrator can determine the site's suitability for the intended use.
- (b) *Variances.*
 - (1) Variances may only be granted in accordance with Minn. Stats., chapter 462 and as prescribed by article 6. No variance may be granted that would allow any use that is prohibited in the zoning district in which the subject property is located.
 - (2) When a variance is approved after the department of natural resources has formally recommended denial in the hearing record, the notification of the approved variance required in [sub]section 60-2(c)(2) below shall also include the city council's summary of the public record/testimony and the findings of facts and conclusions which supported the issuance of the variance.
- (c) *Notifications to the department of natural resources.*
 - (1)

Copies of all notices of any public hearings to consider variances, amendments, or conditional uses under Excelsior's shoreland management controls must be sent to the commissioner or the commissioner's designated representative and postmarked at least ten days before the hearings. Notices of hearings to consider proposed subdivisions/plats must include copies of the subdivision/plat.

- (2) A copy of approved amendments and subdivisions/plats, and final decisions granting variances or conditional uses under Excelsior's shoreland management controls must be sent to the commissioner or the commissioner's designated representative and postmarked within ten days of final action.
- (d) *[Shoreland management district.]* Activities within and adjacent to the shoreland management district shall be performed in accordance with the rules of the Minnesota Creek Watershed District.
- (Ord. No. 441, § 3, 7-20-2009)

Sec. 60-3. - Shoreland classification system.

The public waters within and adjacent to Excelsior have been classified below consistent with the criteria found in Minnesota Regulations, part 6120.3300, and the Protected Waters Inventory Map for Hennepin County, Minnesota.

<u>General Development Lake</u>	<u>DNR I.D. #</u>
Lake Minnetonka	27-133P
Sections 27, 34, 35	
T117 R23	
<u>Recreational Development Lake</u>	
Galpin Lake	27-144P
Sections 34, 35	
T117 R23	

The shoreland area to which the regulations of this article apply is as shown on the official zoning map. The area includes land located within 1,000 feet of the ordinary high water level of the above lakes, or a lesser distance if the topographic divide is less than 1,000 feet. In the area where Lake Minnetonka shoreland overlaps Galpin Lake shoreland, the regulations pertaining to Lake Minnetonka shall apply.

(Ord. No. 441, § 3, 7-20-2009)

Sec. 60-4. - Zoning provisions.

- (a) *Lot area and width standards.* The minimum lot area (in square feet) and lot width standards (in feet) for residential lots created after the date of enactment of this Appendix E are as found in the individual district standards of this Appendix E.
- (b) *Additional special provisions.* Minimum lot area requirements within shoreland areas may be calculated on an average lot area basis, so long as the overall net density requirements of subsection 60-4(a) above are met. The absolute minimum lot area shall be as permitted by the underlying zoning district. Residential subdivisions with dwelling unit densities exceeding those in the above tables can only be allowed if designed and approved as a conditional use permit under subsection 60-4(h) of this Appendix E. Only land above the ordinary high water level of public waters can be used to meet lot area standards, and lot width standards must be met at both the ordinary high water level and at the building line.
- (c) *Placement, design, and height of structures.*
 - (1) *Placement of structures on lots.* Where structures exist on the adjoining lots on both sides of a proposed building site, structure setbacks may be altered in accordance with section 17-6 of this Appendix E, provided the proposed building site is not located in a shore impact zone or in a bluff impact zone. Principal and accessory structures shall be located as follows.
 - a. The minimum setback of principal and accessory structures from the ordinary high water level of Minnetonka and Galpin Lakes shall be 50 feet.
 - b. *Additional structure setbacks.*

<u>Setback From:</u>		<u>Setback (feet)</u>
1.	Top of bluff;	30
2.	Unplatted cemetery;	50
3.	Right-of-way line of federal, state or county highway; and	30

4.	Right-of-way line of city streets or other roads or streets not classified.	As regulated by articles 41 through <u>52</u> of this Appendix E
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- c. *Bluff impact zones.* Structures and accessory facilities, except stairways and landings, must not be placed within bluff impact zones.
- d. *Uses without water-oriented needs.* Uses without water-oriented needs that are located on lots or parcels with public waters frontage must either be set back double the normal ordinary high water level setback or be substantially screened from view from the water by vegetation or topography, assuming summer, leaf-on conditions.

(2) *Design criteria for structures.*

- a. *High water elevations.* Structures must be placed in accordance with any floodplain regulations applicable to the site. Where these controls do not exist, the elevation to which the lowest floor, including basement, is placed or flood-proofed must be determined:
 1. By placing the lowest floor at a level at least three feet above the highest known water level, or three feet above the ordinary high water level, whichever is higher.
 2. Water-oriented accessory structures may have the lowest floor placed lower than the elevation determined in this item if the structure is constructed of flood-resistant materials to the elevation, electrical and mechanical equipment is placed above the elevation and, if long duration flooding is anticipated, the structure is built to withstand ice action and wind-driven waves and debris.
- b. *Accessory structures.* Accessory structures shall be permitted as regulated by article 18 of this Appendix E. Detached decks must not exceed eight feet above grade at any point.
- c. *Stairways, lifts, and landings.* Stairways and lifts are the preferred alternative to major topographic alterations for achieving access up and down bluffs and steep slopes to shore areas. Stairways and lifts must meet the following design requirements:
 1. Stairways and lifts must not exceed four feet in width on residential lots. Wider stairways may be used for commercial properties, public open-space recreational properties, and planned unit developments;
 2. Landings for stairways and lifts on residential lots must not exceed 32 square feet in area. Landings larger than 32 square feet may be used for commercial properties, public open-space recreational properties, and conditional use permit allowances for development;
 3. Canopies or roofs are not allowed on stairways, lifts, or landings;
 4. Stairways, lifts, and landings may be either constructed above the ground on posts or pilings, or placed into the ground, provided they are designed and built in a manner that ensures control of soil erosion;

5. Stairways, lifts, and landings must be located in the most visually inconspicuous portions of lots, as viewed from the surface of the public water assuming summer, leaf-on conditions, whenever practical; and
 6. Facilities such as ramps, lifts, or mobility paths for physically handicapped persons are also allowed for achieving access to shore areas, provided that the dimensional and performance standards of subsection 60-4(c)(2)c.1. through 60-4(c)(2)c.5. are complied with in addition to the requirements of Minnesota Regulations, chapter 1340.
- d. *Historic buildings and sites.* No structure may be placed on a historic building or site in a manner that affects the values of the site unless adequate information about the site has been removed and documented in a public repository.
- e. *Steep slopes.* The city engineer must evaluate possible soil erosion impacts and development visibility from public waters before issuing a permit for construction of roads, driveways, structures, or other improvements on steep slopes. When determined necessary, conditions must be attached to issued permits to prevent erosion and to preserve existing vegetation screening of structures, vehicles, and other facilities as viewed from the surface of public waters, assuming summer, leaf-on vegetation.
- (3) *Height of structures.* All structures shall comply with the height standards of this Appendix E.
- (d) *Shoreland alterations.* Alterations of vegetation and topography will be regulated to prevent erosion into public waters, fix nutrients, preserve shoreland aesthetics, preserve historic values, prevent bank slumping, and protect fish and wildlife habitat.
- (1) *Vegetation alterations.*
- a. Vegetation alteration necessary for the construction of structures and the construction of roads and parking areas regulated by subsection 60-4(e) below are exempt from the vegetation alteration standards that follow.
 - b. Removal or alteration of vegetation is allowed subject to the following standards:
 1. Intensive vegetation clearing within the shore and bluff impact zones and on steep slopes is not allowed.
 2. In shore and bluff impact zones and on steep slopes, limited clearing of trees and shrubs and cutting, pruning, and trimming of trees is allowed to provide a view to the water from the principal dwelling site and to accommodate the placement of stairways and landings, picnic areas, access paths, beach and watercraft access areas, and permitted water-oriented accessory structures or facilities, provided that:
 - i. The general character of the shoreline is not changed as viewed from the water, assuming summer, leaf-on conditions, is not substantially reduced;
 - ii. The above provisions are not applicable to the removal of trees, limbs, or branches that are dead, diseased, or pose safety hazards.

c.

Use of fertilizers and pesticides shall be strongly discouraged, but at the very least, shall be done in such a way as to minimize runoff into the shore impact zone or public water by the use of earth, vegetation or both.

(2) *Topographic alterations/grading and filling.*

- a. Grading and filling and excavations necessary for the construction of structures and driveways under validly issued construction permits for these facilities do not require the issuance of a separate grading and filling permit; however, the grading and filling standards in this section must be incorporated into the issuance of such permits.
- b. Public roads and parking areas are regulated by subsection 60-4(e) below.
- c. Notwithstanding subsection 60-4(d)(2)a. and b. above, a grading and filling permit will be required for:
 1. The movement of more than ten cubic yards of material on steep slopes or within shore or bluff impact zones; and
 2. The movement of more than 50 cubic yards of material outside of steep slopes and shore and bluff impact zones shall require a conditional use permit pursuant to article 4 and subsection 60-4(h).
- d. The following considerations and conditions must be adhered to during the issuance of construction permits, grading and filling permits, conditional use permits, variances and subdivision approvals:
 1. In addition to requirements of the State of Minnesota Wetland Conservation Act of 1991, grading or filling in any type 2 through 8 wetland must be evaluated to determine how extensively the proposed activity would affect the following functional qualities of the wetland*:
 - i. Sediment and pollutant trapping and retention;
 - ii. Storage of surface runoff to prevent or reduce flood damage;
 - iii. Fish and wildlife habitat;
 - iv. Recreational use;
 - v. Shoreline or bank stabilization; and
 - vi. Noteworthiness, including special qualities such as historic significance, critical habitat for endangered plants and animals, or others.

* This evaluation must also include a determination of whether the wetland alteration being proposed requires permits, reviews, or approvals by other local, state, or federal agencies such as the Minnehaha Creek Watershed District, the Minnesota Department of Natural Resources, or the United States Army Corps of Engineers. The applicant will be so advised.

2. Alterations must be designed and conducted in a manner that ensures only the smallest amount of bare ground is exposed for the shortest time possible;

3. Mulches or similar materials must be used, where necessary, for temporary bare soil coverage, and a permanent vegetation cover must be established as soon as possible;
 4. Methods to minimize soil erosion and to trap sediments before they reach any surface water feature must be used;
 5. Altered areas must be stabilized to acceptable erosion control standards consistent with the field office technical guides of the local soil and water conservation districts and the United States Soil Conservation Service;
 6. Fill or excavated material must not be placed in a manner that creates an unstable slope;
 7. Plans to place fill or excavated material on steep slopes must be reviewed by qualified professionals for continued slope stability and must not create finished slopes of 30 percent or greater;
 8. Fill or excavated material must not be placed in bluff impact zones;
 9. Any alterations below the ordinary high water level of public waters must first be authorized by the commissioner under Minn. Stats. § 103G.245;
 10. Alterations of topography must only be allowed if they are accessory to permitted or conditional uses and do not adversely affect adjacent or nearby properties; and
 11. Placement of natural rock riprap, including associated grading of the shoreline and placement of a filter blanket, is permitted if the finished slope does not exceed three feet horizontal to one foot vertical, the landward extent of the riprap is within ten feet of the ordinary high water level, and the height of the riprap above the ordinary high water level does not exceed three feet.
- e. *Connections to public waters.* Excavations where the intended purpose is connection to a public water, such as boat slips, canals, lagoons, and harbors, must be controlled by local shoreland controls. Permission for excavations may be given only after the commissioner has approved the proposed connection to public waters.
- (e) *Placement and design of roads, driveways, and parking areas:*
- (1) Public and private roads and parking areas must be designed to take advantage of natural vegetation and topography to achieve maximum screening from view from public waters. Documentation must be provided by a qualified individual that all roads and parking areas are designed and constructed to minimize and control erosion to public waters consistent with the field office technical guides of the local soil and water conservation district, or other applicable technical materials.
 - (2) Roads, driveways, and parking areas must meet structure setbacks and must not be placed within bluff and shore impact zones, when other reasonable and feasible placement alternatives exist. If no alternatives exist, they may be placed within these areas, and must be designed to minimize adverse impacts.
 - (3)

Public and private watercraft access ramps, approach roads, and access-related parking areas may be placed within shore impact zones provided the vegetative screening and erosion control conditions of this subpart are met. For private facilities, the grading and filling provisions of subsection 60-4(d)(2) above must be met.

(f) *Reserved.*

(g) *Special provisions for commercial, and public/semipublic uses.*

- (1) Surface water-oriented commercial uses and industrial, public, or semipublic uses with similar needs to have access to and use of public waters may be located on parcels or lots with frontage on public waters. Those uses with water-oriented needs must meet the following standards:
 - a. In addition to meeting impervious coverage limits, setbacks, and other zoning standards in this Appendix E, the uses must be designed to incorporate topographic and vegetative screening of parking areas and structures;
 - b. Uses that require short-term watercraft mooring for patrons must centralize these facilities and design them to avoid obstructions of navigation and to be the minimum size necessary to meet the need; and
 - c. Uses that depend on patrons arriving by watercraft may use signs and lighting to convey needed information to the public, subject to the following general standards:
 1. No advertising signs or supporting facilities for signs may be placed in or upon public waters. Signs conveying information or safety messages may be placed in or on public waters by a public authority or under a permit issued by the county sheriff;
 2. Signs may be placed, when necessary, within the shore impact zone if they are designed and sized to be the minimum necessary to convey needed information. The signs must not be located higher than ten feet above the ground, and must not exceed 32 square feet in size. If illuminated by artificial lights, the lights must be shielded or directed to prevent illumination out across public waters; and
 3. Other outside lighting may be located within the shore impact zone or over public waters if it is used primarily to illuminate potential safety hazards and is shielded or otherwise directed to prevent direct illumination out across public waters. This does not preclude use of navigational lights.
 - (2) Uses without water-oriented needs must be located on lots or parcels without public waters frontage, or, if located on lots or parcels with public waters frontage, must either be set back double the normal ordinary high water level setback or be substantially screened from view from the water by vegetation or topography, assuming summer, leaf-on conditions.
- (h) *Conditional use criteria and conditions.* Conditional uses allowable within shoreland areas shall be subject to the review and approval procedures, and criteria and conditions for review of conditional uses established community-wide. The following additional evaluation criteria and conditions apply within shoreland areas:

- (1) *Evaluation criteria.* A thorough evaluation of the waterbody and the topographic, vegetation, and soils conditions on the site must be made to ensure:
 - a. The prevention of soil erosion or other possible pollution of public waters, both during and after construction;
 - b. The visibility of structures and other facilities as viewed from public waters is limited;
 - c. The types, uses, and numbers of watercraft that the project will generate are compatible in relation to the suitability of public waters to safely accommodate these watercraft.
- (2) *Conditions attached to conditional use permits.* The city council, upon consideration of the criteria listed above and the purposes of this section, may attach such conditions to the issuance of the conditional use permits as it deems necessary to fulfill the purposes of this Appendix E. Such conditions may include, but are not limited to, the following:
 - a. Increased setbacks from the ordinary high water level;
 - b. Limitations on the natural vegetation to be removed or the requirement that additional vegetation be planted; and
 - c. Special provisions for the location, design, and use of structures, watercraft launching and docking areas, and vehicle parking areas.

(Ord. No. 401, 10-2-2006; Ord. No. 441, § 4, 7-20-2009; Ord. No. 495, § 10, 4-1-2013; Ord. No. 558, § 2, 4-17-2017)

Sec. 60-5. - Nonconformities.

All legally established nonconformities as of the date of this Appendix E may continue as provided in article 15. In addition, the following standards will also apply in shoreland areas:

- (1) *Construction on nonconforming lots of record.*
 - a. Lots of record in the office of the county recorder on the date of enactment of article 60 that do not meet the requirements of subsection 60-4(a) may be allowed as building sites without variances from lot size requirements provided the use is permitted in the zoning district, the lot has been in separate ownership from abutting lands at all times since it became substandard, was created compliant with official controls in effect at the time, setback requirements of this Appendix E are met, and the requirements of section 15-5 of this Appendix E are met.
 - b. A variance from setback requirements must be obtained before any use or building permit is issued for a lot. In evaluating the variance, the city council shall consider capabilities or constraints of the lot and shall deny the variance if adequate facilities cannot be provided.
 - c. If, in a group of two or more contiguous lots which have come under the same ownership after February 9, 2003, any individual lot does not meet the requirements of section 60-4(a) of this Appendix E, the lot must not be considered as a separate parcel of land for the purposes of

sale or development. The lot must be combined with one or more contiguous lots so they equal one or more parcels of land, each meeting the requirements of subsection 60-4(a) as much as possible.

(2) *Additions/expansions to nonconforming structures.*

- a. All additions or expansions to the outside dimensions of an existing nonconforming structure must meet the setback, height, and other requirements of subsection 60-4(a) of this Appendix E. Any deviation from these requirements must be authorized by a variance pursuant to article 6 of this Appendix E.
- b. Deck additions which do not extend above the ground level of the principal building shall be permitted as provided by section 17-6, but shall be located no closer than ten feet from the OHWL.
- c. Deck additions which extend above the height of the ground level of the principal building may be allowed without a variance to a structure not meeting the required setback from the ordinary high water level, if all of the following criteria and standards are met:
 1. The structure existed on the date the structure setbacks were established;
 2. A thorough evaluation of the property and structure reveals no reasonable location for a deck meeting or exceeding the existing ordinary high water level setback of the structure;
 3. The deck encroachment toward the ordinary high water level does not exceed 15 percent of the existing setback of the structure from the ordinary high water level or does not encroach closer than 30 feet, whichever is more restrictive; and
 4. The deck is constructed primarily of wood, and is not roofed or screened.

ARTICLE 61. - GENERAL FLOODPLAIN DISTRICT^[14]

Footnotes:

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Editor's note— Ord. No. 547, adopted Oct. 17, 2016, amended former Art. 61, §§ 61-1—61-13, in its entirety to read as herein set out. Former Art. 61 pertained to similar subject matter and derived from Ord. of 2-9-2003; Ord. No. 380, 8-16-2004; Ord. No. 441, § 5, 7-20-2009.

Sec. 61-1. - Statutory authorization and purpose.

- (a) *Statutory authorization:* The legislature of the State of Minnesota has, in Minnesota Statutes Chapter 103F and Chapter 462 delegated the responsibility to local government units to adopt regulations designed to minimize flood losses. Therefore, the city council of Excelsior, Minnesota, does ordain as follows.
- (b) *Purpose:*
- (1) This article regulates development in the flood hazard areas of the city. These flood hazard areas are subject to periodic inundation, which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base. It is the purpose of this article to promote the public health, safety, and general welfare by minimizing these losses and disruptions.
 - (2) National Flood Insurance Program compliance. This article is adopted to comply with the rules and regulations of the National Flood Insurance Program codified as 44 Code of Federal Regulations Parts 59—78, as amended, so as to maintain the community's eligibility in the National Flood Insurance Program.
 - (3) This article is also intended to preserve the natural characteristics and functions of watercourses and floodplains in order to moderate flood and stormwater impacts, improve water quality, reduce soil erosion, protect aquatic and riparian habitat, provide recreational opportunities, provide aesthetic benefits and enhance community and economic development.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-2. - General provisions.

- (a) *How to use this article.* This article adopts the floodplain maps applicable to the City of Excelsior and includes three floodplain districts: floodway, flood fringe, and general floodplain.
- (1) Where floodway and flood fringe districts are delineated on the floodplain maps, the standards in sections 61-4 or 61-5 will apply, depending on the location of a property.
 - (2) Locations where floodway and flood fringe districts are not delineated on the floodplain maps are considered to fall within the general floodplain district. Within the general floodplain district, the floodway district standards in section 61-4 apply unless the floodway boundary is determined,

according to the process outlined in section 61-6. Once the floodway boundary is determined, the flood fringe district standards in section 61-5 may apply outside the floodway.

- (b) *Lands to which this article applies:* This article applies to all lands within the jurisdiction of the City of Excelsior shown on the official zoning map and/or the attachments to the map as being located within the boundaries of the floodway, flood fringe, or general floodplain districts.
- (1) The floodway, flood fringe and general floodplain districts are overlay districts that are superimposed on all existing zoning districts. The standards imposed in the overlay districts are in addition to any other requirements in this article. In case of a conflict, the more restrictive standards will apply.
- (c) *Incorporation of maps by reference:* The following maps together with all attached material are hereby adopted by reference and declared to be a part of the official zoning map and this article. The attached material includes the Flood Insurance Study for Hennepin County, Minnesota, and Incorporated Areas, dated November 4, 2016 and the Flood Insurance Rate Map panels enumerated below, dated November 4, 2016, all prepared by the Federal Emergency Management Agency. These materials are on file at City Hall.

Effective Flood Insurance Rate Map panels:

27053C031F

27053C031F

27053C031F

- (d) *Regulatory flood protection elevation:* The regulatory flood protection elevation (RFPE) is an elevation no lower than one foot above the elevation of the regional flood plus any increases in flood elevation caused by encroachments on the floodplain that result from designation of a floodway.
- (e) *Interpretation:* The boundaries of the zoning districts are determined by scaling distances on the flood insurance rate map.
- (1) Where a conflict exists between the floodplain limits illustrated on the official zoning map and actual field conditions, the flood elevations shall be the governing factor. The zoning administrator must interpret the boundary location based on the ground elevations that existed on the site on the date of the first National Flood Insurance Program map showing the area within the regulatory floodplain, and other available technical data.
- (2) Persons contesting a determination on the location of the district boundaries will be given a reasonable opportunity to present their case to the zoning administrator and to submit technical evidence.
- (f) *Abrogation and greater restrictions:* It is not intended by this article to repeal, abrogate, or impair any existing easements, covenants, or other private agreements. However, where this article imposes greater restrictions, the provisions of this ordinance prevail. All other ordinances inconsistent with this article are hereby repealed to the extent of the inconsistency only.

- (g) *Warning and disclaimer of liability:* This article does not imply that areas outside the floodplain districts or land uses permitted within such districts will be free from flooding or flood damages. This article does not create liability on the part of the city or its officers or employees for any flood damages that result from reliance on this article or any administrative decision lawfully made hereunder.
- (h) *Severability:* If any section, clause, provision, or portion of this article is adjudged unconstitutional or invalid by a court of law, the remainder of this article shall not be affected and shall remain in full force.
- (i) *Definitions:* Unless specifically defined below, words or phrases used in this article must be interpreted according to common usage and so as to give this article its most reasonable application.

Accessory use or structure. A use or structure on the same lot with, and of a nature customarily incidental and subordinate to, the principal use or structure.

Base flood elevation. The elevation of the "regional flood." The term "base flood elevation" is used in the flood insurance survey.

Basement. Any area of a structure, including crawl spaces, having its floor or base subgrade (below ground level) on all four sides, regardless of the depth of excavation below ground level.

Conditional use. A specific type of structure or land use listed in the official control that may be allowed but only after an in-depth review procedure and with appropriate conditions or restrictions as provided in the official zoning controls or building codes and upon a finding that:

- (1) Certain conditions as detailed in the zoning ordinance exist.
- (2) The structure and/or land use conform to the comprehensive land use plan if one exists and are compatible with the existing neighborhood.

Critical facilities. Facilities necessary to a community's public health and safety, those that store or produce highly volatile, toxic or water-reactive materials, and those that house occupants that may be insufficiently mobile to avoid loss of life or injury. Examples of critical facilities include hospitals, correctional facilities, schools, daycare facilities, nursing homes, fire and police stations, wastewater treatment facilities, public electric utilities, water plants, fuel storage facilities, and waste handling and storage facilities.

Development. Any manmade change to improved or unimproved real estate, including buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.

Equal degree of encroachment. A method of determining the location of floodway boundaries so that floodplain lands on both sides of a stream are capable of conveying a proportionate share of flood flows.

Farm fence. A fence as defined by Minn. Statutes Section 344.02, Subd. 1(a)—(d). An open type fence of posts and wire is not considered to be a structure under this ordinance. Fences that have the potential to obstruct flood flows, such as chain link fences and rigid walls, are regulated as structures under this article.

Flood. A temporary increase in the flow or stage of a stream or in the stage of a wetland or lake that results in the inundation of normally dry areas.

Flood frequency. The frequency for which it is expected that a specific flood stage or discharge may be equaled or exceeded.

Flood fringe. The portion of the special flood hazard area (one percent annual chance flood) located outside of the floodway. Flood fringe is synonymous with the term "floodway fringe" used in the Flood Insurance Study for Hennepin County, Minnesota.

Flood insurance rate map. Consistent with 44 CFR Section 59.1.

Flood prone area. Any land susceptible to being inundated by water from any source (see "flood").

Floodplain. The beds proper and the areas adjoining a wetland, lake or watercourse which have been or hereafter may be covered by the regional flood.

Floodproofing. A combination of structural provisions, changes, or adjustments to properties and structures subject to flooding, primarily for the reduction or elimination of flood damages.

Floodway. The bed of a wetland or lake and the channel of a watercourse and those portions of the adjoining floodplain which are reasonably required to carry or store the regional flood discharge.

Lowest floor. The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, used solely for parking of vehicles, building access, or storage in an area other than a basement area, is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of 44 Code of Federal Regulations, Part 60.3.

Manufactured home. A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured home" does not include the term "recreational vehicle."

New construction. Structures, including additions and improvements, and placement of manufactured homes, for which the start of construction commenced on or after the effective date of the ordinance from which this article derives.

Obstruction. Any dam, wall, wharf, embankment, levee, dike, pile, abutment, projection, excavation, channel modification, culvert, building, wire, fence, stockpile, refuse, fill, structure, or matter in, along, across, or projecting into any channel, watercourse, or regulatory floodplain which may impede, retard, or change the direction of the flow of water, either in itself or by catching or collecting debris carried by such water.

One hundred-year floodplain. Lands inundated by the "regional flood" (see definition).

Principal use or structure. All uses or structures that are not accessory uses or structures.

Reach. A hydraulic engineering term to describe a longitudinal segment of a stream or river influenced by a natural or man-made obstruction. In an urban area, the segment of a stream or river between two consecutive bridge crossings would most typically constitute a reach.

Recreational vehicle. A vehicle that is built on a single chassis, is 400 square feet or less when measured at the largest horizontal projection, is designed to be self-propelled or permanently towable by a light duty truck, and is designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use. For the purposes of this ordinance, the term recreational vehicle is synonymous with the term "travel trailer/travel vehicle."

Regional flood. A flood which is representative of large floods known to have occurred generally in Minnesota and reasonably characteristic of what can be expected to occur on an average frequency in the magnitude of the 1% chance or 100-year recurrence interval. Regional flood is synonymous with the term "base flood" used in a flood insurance study.

Regulatory flood protection elevation (RFPE). An elevation not less than one foot above the elevation of the regional flood plus any increases in flood elevation caused by encroachments on the floodplain that result from designation of a floodway.

Repetitive loss: Flood related damages sustained by a structure on two separate occasions during a ten-year period for which the cost of repairs at the time of each such flood event on the average equals or exceeds 25 percent of the market value of the structure before the damage occurred.

Special flood hazard area. A term used for flood insurance purposes synonymous with "one hundred-year floodplain."

Start of construction. Includes substantial improvement, and means the actual start of construction, repair, reconstruction, rehabilitation, addition, placement or other improvement that occurred before the permit's expiration date. The actual start is either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, foundations, or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

Structure. Anything constructed or erected on the ground or attached to the ground or on-site utilities, including, but not limited to, buildings, factories, sheds, detached garages, cabins, manufactured homes, recreational vehicles not meeting the exemption criteria specified in subsection 61-9(b)(2) and other similar items.

Substantial damage means damage of any origin sustained by a structure where the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

Substantial improvement. Within any consecutive 365-day period, any reconstruction, rehabilitation (including normal maintenance and repair), repair after damage, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures that have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either:

- (1) Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions.
 - (2) Any alteration of a "historic structure," provided that the alteration will not preclude the structure's continued designation as a "historic structure." For the purpose of this ordinance, "historic structure" is as defined in 44 Code of Federal Regulations, Part 59.1.
- (j) *Annexations:* The flood insurance rate map panels adopted by reference into subsection 61-2(c) above may include floodplain areas that lie outside of the corporate boundaries of the city at the time of adoption of the ordinance from which this article derives. If any of these floodplain land areas are annexed into the city after the date of adoption of the ordinance from which this article derives, the newly annexed floodplain lands will be subject to the provisions of this article immediately upon the date of annexation.
- (k) *Detachments.* The flood insurance rate map panels adopted by reference into subsection 61-2(c) above will include floodplain areas that lie inside the corporate boundaries of municipalities at the time of adoption of the ordinance from which this article derives. If any of these floodplain land areas are detached from a municipality and come under the jurisdiction of the city after the date of adoption of the ordinance from which this article derives, the newly detached floodplain lands will be subject to the provisions of this article immediately upon the date of detachment.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-3. - Establishment of zoning districts.

(a) *Districts:*

(1)

Floodway district. The floodway district includes those areas within zones AE that have a floodway delineated as shown on the flood insurance rate map adopted in subsection 61-2(c) as well as portions of other lakes, wetlands, and basins within zones AE (that do not have a floodway delineated) that are located at or below the ordinary high water level as defined in Minnesota Statutes, Section 103G.005, subdivision 14.

(2) Flood fringe district. The flood fringe district includes areas within Zones AE that have a floodway delineated on the flood insurance rate map adopted in subsection 61-2(c), but are located outside of the floodway. For lakes, wetlands and other basins within zones AE that do not have a floodway delineated, the flood fringe district also includes those areas below the 1% annual chance (100-year) flood elevation but above the ordinary high water level as defined in Minnesota Statutes, Section 103G.005, subdivision 14.

(3) Reserved for general floodplain district (GF).

(b) *Applicability:* Within the floodplain districts established in this ordinance, the use, size, type and location of development must comply with the terms of this ordinance and other applicable regulations. In no cases shall floodplain development adversely affect the efficiency or unduly restrict the capacity of the channels or floodways of any tributaries to the main stream, drainage ditches, or any other drainage facilities or systems. All uses not listed as permitted uses or conditional uses in sections 61-4, 61-5 and 61-6 are prohibited. In addition, critical facilities, as defined in subsection 61-2(i), are prohibited in all floodplain districts.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-4. - Floodway district (FW).

- (a) *Permitted uses:* The following uses, subject to the standards set forth in subsection 61-4(b), are permitted uses if otherwise allowed in the underlying zoning district or any applicable overlay district:
- (1) Open space uses, including but not limited to picnic grounds, boat launching ramps, swimming areas, parks, wildlife and nature preserves, hunting and fishing areas
 - (2) Residential lawns, gardens.
 - (3) Railroads, streets, bridges, utility transmission lines and pipelines, provided that the Department of Natural Resources' area hydrologist is notified at least ten days prior to issuance of any permit.
- (b) *Standards for floodway permitted uses:*
- (1) The use must have a low flood damage potential.
 - (2) The use must not obstruct flood flows or cause any increase in flood elevations and must not involve structures, obstructions, or storage of materials or equipment.
- (c) *Conditional uses:* The following uses may be allowed as conditional uses following the standards and procedures set forth in subsection 61-10(d) and further subject to the standards set forth in subsection 61-10(d), if otherwise allowed in the underlying zoning district or any applicable overlay district.

- (1) Marinas, boat rentals, permanent docks, piers, wharves, and water control structures.
 - (2) Storage yards for equipment, machinery, or materials.
 - (3) Placement of fill or construction of fences that obstruct flood flows.
- (d) *Standards for floodway conditional uses:*
- (1) All uses. A conditional use must not cause any increase in the stage of the one-percent chance or regional flood or cause an increase in flood damages in the reach or reaches affected.
 - (2) Fill; storage of materials:
 - a. The storage or processing of materials that are, in time of flooding, flammable, explosive, or potentially injurious to human, animal, or plant life is prohibited.
 - b. Fill, dredge spoil, and other similar materials deposited or stored in the floodplain must be protected from erosion by vegetative cover, mulching, riprap or other acceptable method.
 - c. Temporary placement of fill, other materials, or equipment which would cause an increase to the stage of the 1% percent chance or regional flood may only be allowed if the City of Excelsior has approved a plan that assures removal of the materials from the floodway based upon the flood warning time available.
 - (3) Structural works for flood control that will change the course, current or cross section of protected wetlands or public waters are subject to the provisions of Minnesota Statutes, Section 103G.245.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-5. - Flood fringe district (FF).

- (a) *Permitted uses:* Permitted uses are those uses of land or structures allowed in the underlying zoning district(s) that comply with the standards in subsection 61-5(b). If no pre-existing, underlying zoning districts exist, then any residential or nonresidential structure or use of a structure or land is a permitted use provided it does not constitute a public nuisance.
- (b) *Standards for flood fringe permitted uses:*
- (1) All structures, including accessory structures, must be elevated on fill so that the lowest floor, as defined, is at or above the regulatory flood protection elevation. The finished fill elevation for structures must be no lower than one foot below the regulatory flood protection elevation and the fill must extend at the same elevation at least 15 feet beyond the outside limits of the structure.
 - (2) Accessory structures. As an alternative to the fill requirements of subsection 61-5(b)(1), structures accessory to the uses identified in subsection 61-55(a) may be permitted to be internally/wet floodproofed to the FP3 or FP4 floodproofing classifications in the State Building Code, provided that:
 - a. The accessory structure constitutes a minimal investment, does not exceed 576 square feet in size, and is only used for parking and storage.
 - b.

All portions of floodproofed accessory structures below the regulatory flood protection elevation must be: (i) adequately anchored to prevent flotation, collapse or lateral movement and designed to equalize hydrostatic flood forces on exterior walls, (ii) be constructed with materials resistant to flood damage, and (iii) must have all service utilities be water-tight or elevated to above the regulatory flood protection elevation.

- c. Designs for meeting this requirement must either be certified by a registered professional engineer or meet or exceed the following criteria:
1. To allow for the equalization of hydrostatic pressure, there must be a minimum of two "automatic" openings in the outside walls of the structure, with a total net area of not less than one square inch for every square foot of enclosed area subject to flooding; and
 2. There must be openings on at least two sides of the structure and the bottom of all openings must be no higher than one foot above the lowest adjacent grade to the structure. Using human intervention to open a garage door prior to flooding will not satisfy this requirement for automatic openings.
- (3) The cumulative placement of fill or similar material on a parcel must not exceed 1,000 cubic yards, unless the fill is specifically intended to elevate a structure in accordance with subsection 61-5(b)(1) of this article, or if allowed as a conditional use under subsection 61-5(c)(3) below.
- (4) The storage of any materials or equipment must be elevated on fill to the regulatory flood protection elevation.
- (5) All service utilities, including ductwork, must be elevated or water-tight to prevent infiltration of floodwaters.
- (6) The storage or processing of materials that are, in time of flooding, flammable, explosive, or potentially injurious to human, animal, or plant life is prohibited.
- (7) All fill must be properly compacted and the slopes must be properly protected by the use of riprap, vegetative cover or other acceptable method.
- (8) All new principal structures must have vehicular access at or above an elevation not more than two feet below the regulatory flood protection elevation, or must have a flood warning /emergency evacuation plan acceptable to the city.
- (9) Accessory uses such as yards, railroad tracks, and parking lots may be at an elevation lower than the regulatory flood protection elevation. However, any facilities used by employees or the general public must be designed with a flood warning system that provides adequate time for evacuation if the area is inundated to a depth and velocity such that the depth (in feet) multiplied by the velocity (in feet per second) would exceed a product of four upon occurrence of the regional (one-percent chance) flood.
- (10) Interference with normal manufacturing/industrial plant operations must be minimized, especially along streams having protracted flood durations. In considering permit applications, due consideration must be given to the needs of industries with operations that require a floodplain

location.

(11) Manufactured homes and recreational vehicles must meet the standards of section 61-9.

(c) *Conditional uses:* The following uses and activities may be allowed as conditional uses, if allowed in the underlying zoning district(s) or any applicable overlay district, following the procedures in subsection 61-10(d).

(1) Any structure that is not elevated on fill or floodproofed in accordance with subsections 61-5(b)(1) and (2).

(2) Storage of any material or equipment below the regulatory flood protection elevation.

(3) The cumulative placement of more than 1,000 cubic yards of fill when the fill is not being used to elevate a structure in accordance with subsection 61-5(b)(1)e.

(d) *Standards for flood fringe conditional uses:*

(1) The standards listed in subsections 61-5(4) through 61-5(b)(10) apply to all conditional uses.

(2) Basements, as defined by Section 2.913 of this ordinance, are subject to the following:

a. Residential basement construction is not allowed below the regulatory flood protection elevation.

b. Non-residential basements may be allowed below the regulatory flood protection elevation provided the basement is structurally dry floodproofed in accordance with subsection 61-5(d) (3).

(3) All areas of nonresidential structures, including basements, to be placed below the regulatory flood protection elevation must be floodproofed in accordance with the structurally dry floodproofing classifications in the state building code. Structurally dry floodproofing must meet the FP1 or FP2 floodproofing classification in the state building code, which requires making the structure watertight with the walls substantially impermeable to the passage of water and with structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy.

(4) The placement of more than 1,000 cubic yards of fill or other similar material on a parcel (other than for the purpose of elevating a structure to the regulatory flood protection elevation) must comply with an approved erosion/sedimentation control plan.

a. The plan must clearly specify methods to be used to stabilize the fill on site for a flood event at a minimum of the regional (1% chance) flood event.

b. The plan must be prepared and certified by a registered professional engineer or other qualified individual acceptable to the city.

c. The plan may incorporate alternative procedures for removal of the material from the floodplain if adequate flood warning time exists.

(5) Storage of materials and equipment below the regulatory flood protection elevation must comply with an approved emergency plan providing for removal of such materials within the time available after a flood warning.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-6. - Reserved for general floodplain district (GF).

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-7. - Land development standards.

- (a) *In general:* Recognizing that flood prone areas may exist outside of the designated floodplain districts, the requirements of this section apply to all land within the city.
- (b) *Subdivisions:* No land may be subdivided which is unsuitable for reasons of flooding or inadequate drainage, water supply or sewage treatment facilities. Manufactured home parks and recreational vehicle parks or campgrounds are considered subdivisions under this article.
- (1) All lots within the floodplain districts must be able to contain a building site outside of the floodway district at or above the regulatory flood protection elevation.
 - (2) All subdivisions must have road access both to the subdivision and to the individual building sites no lower than two feet below the regulatory flood protection elevation, unless a flood warning emergency plan for the safe evacuation of all vehicles and people during the regional (one-percent chance) flood has been approved by the city. The plan must be prepared by a registered engineer or other qualified individual, and must demonstrate that adequate time and personnel exist to carry out the evacuation.
 - (3) For all subdivisions in the floodplain, the floodway and flood fringe district boundaries, the regulatory flood protection elevation and the required elevation of all access roads must be clearly labeled on all required subdivision drawings and platting documents.
 - (4) If a subdivision proposal or other proposed new development is in a flood prone area, any such proposal must be reviewed to assure that:
 - a. All such proposals are consistent with the need to minimize flood damage within the flood prone area;
 - b. All public utilities and facilities, such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damage; and
 - c. Adequate drainage is provided to reduce exposure of flood hazard.
- (c) *Building sites.* If a proposed building site is in a flood prone area, all new construction and substantial improvements (including the placement of manufactured homes) must be:
- (1) Designed (or modified) and adequately anchored to prevent floatation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;
 - (2) Constructed with materials and utility equipment resistant to flood damage;
 - (3) Constructed by methods and practices that minimize flood damage; and
 - (4)

Constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-8. - Public utilities, railroads, roads, and bridges.

- (a) *Public utilities:* All public utilities and facilities such as gas, electrical, sewer, and water supply systems to be located in the floodplain must be floodproofed in accordance with the state building code or elevated to the regulatory flood protection elevation.
- (b) *Public transportation facilities:* Railroad tracks, roads, and bridges to be located within the floodplain must comply with sections 61-4 and 61-5 of this article. These transportation facilities must be elevated to the regulatory flood protection elevation where failure or interruption of these facilities would result in danger to the public health or safety or where such facilities are essential to the orderly functioning of the area. Minor or auxiliary roads or railroads may be constructed at a lower elevation where failure or interruption of transportation services would not endanger the public health or safety.
- (c) *On-site water supply and sewage treatment systems:* Where public utilities are not provided: 1) On-site water supply systems must be designed to minimize or eliminate infiltration of flood waters into the systems and are subject to the provisions in Minnesota Rules Chapter 4725.4350, as amended; and 2) New or replacement on-site sewage treatment systems must be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters, they must not be subject to impairment or contamination during times of flooding, and are subject to the provisions in Minnesota Rules Chapter 7080.2270, as amended.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-9. - Manufactured homes, manufactured home parks, and recreational vehicles.

- (a) *Manufactured homes:* New manufactured home parks and expansions to existing manufactured home parks are prohibited in any floodplain district. For existing manufactured home parks or lots of record, the following requirements apply:
 - (1) Placement or replacement of manufactured home units is prohibited in the floodway district.
 - (2) If allowed in the flood fringe district, placement or replacement of manufactured home units is subject to the requirements of section 61-5 of this article and the following standards.
 - a. New and replacement manufactured homes must be elevated in compliance with section 61-55 and must be securely anchored to an adequately anchored foundation system that resists flotation, collapse and lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state or local anchoring requirements for resisting wind forces.

b.

New or replacement manufactured homes in existing manufactured home parks must meet the vehicular access requirements for subdivisions in subsection 61-7(b)(2).

- (b) *Recreational vehicles:* New recreational vehicle parks or campgrounds and expansions to existing recreational vehicle parks or campgrounds are prohibited in any floodplain district. Placement of recreational vehicles in existing recreational vehicle parks or campgrounds in the floodplain must meet the exemption criteria below or be treated as new structures meeting the requirements of this article.
- (1) Recreational vehicles are exempt from the provisions of this article if they are placed in any of the following areas and meet the criteria listed in subsection 61-9(b)(2):
- a. Individual lots or parcels of record.
 - b. Existing commercial recreational vehicle parks or campgrounds.
 - c. Existing condominium-type associations.
- (2) Criteria for exempt recreational vehicles:
- a. The vehicle must have a current license required for highway use.
 - b. The vehicle must be highway ready, meaning on wheels or the internal jacking system, attached to the site only by quick disconnect type utilities commonly used in campgrounds and recreational vehicle parks.
 - c. No permanent structural type additions may be attached to the vehicle.
 - d. The vehicle and associated use must be permissible in any pre-existing, underlying zoning district.
 - e. Accessory structures are not permitted within the Floodway District. Any accessory structure in the Flood Fringe District must be constructed of flood-resistant materials and be securely anchored, meeting the requirements applicable to manufactured homes in Section 9.22.
 - f. An accessory structure must constitute a minimal investment.
- (3) Recreational vehicles that are exempt in subsection 61-9(b)(2) lose this exemption when development occurs on the site that exceeds a minimal investment for an accessory structure such as a garage or storage building. The recreational vehicle and all accessory structures will then be treated as new structures subject to the elevation and floodproofing requirements of section 61-5 of this article. No development or improvement on the parcel or attachment to the recreational vehicle is allowed that would hinder the removal of the vehicle should flooding occur.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-10. - Administration.

- (a) *Zoning administrator:* A zoning administrator or other official designated by the city council must administer and enforce this article.
- (b) *Permit requirements:*
- (1)

Permit required. A permit must be obtained from the zoning administrator prior to conducting the following activities:

- a. The erection, addition, modification, rehabilitation, or alteration of any building, structure, or portion thereof. Normal maintenance and repair also requires a permit if such work, separately or in conjunction with other planned work, constitutes a substantial improvement as defined in this article.
 - b. The use or change of use of a building, structure, or land.
 - c. The construction of a dam, fence, or on-site septic system, although a permit is not required for a farm fence as defined in this article.
 - d. The change or extension of a nonconforming use.
 - e. The repair of a structure that has been damaged by flood, fire, tornado, or any other source.
 - f. The placement of fill, excavation of materials, or the storage of materials or equipment within the floodplain.
 - g. Relocation or alteration of a watercourse (including new or replacement culverts and bridges), unless a public waters work permit has been applied for.
 - h. Any other type of "development" as defined in this article.
- (2) *Application for permit.* Permit applications must be submitted to the zoning administrator on forms provided by the zoning administrator. The permit application must include the following as applicable:
- a. A site plan showing all pertinent dimensions, existing or proposed buildings, structures, and significant natural features having an influence on the permit.
 - b. Location of fill or storage of materials in relation to the stream channel.
 - c. Copies of any required municipal, county, state or federal permits or approvals.
 - d. Other relevant information requested by the zoning administrator as necessary to properly evaluate the permit application.
- (3) ***Certificate of zoning compliance for a new, altered, or nonconforming use.*** *No building, land or structure may be occupied or used in any manner until a certificate of zoning compliance has been issued by the zoning administrator stating that the use of the building or land conforms to the requirements of this article.*
- (4) *Certification.* The applicant is required to submit certification by a registered professional engineer, registered architect, or registered land surveyor that the finished fill and building elevations were accomplished in compliance with the provisions of this ordinance. Floodproofing measures must be certified by a registered professional engineer or registered architect.
- (5) *Record of First Floor Elevation.* The zoning administrator must maintain a record of the elevation of the lowest floor (including basement) of all new structures and alterations or additions to existing structures in the floodplain. The zoning administrator must also maintain a record of the elevation to which structures and alterations or additions to structures are floodproofed.

(6) *Notification to FEMA when physical changes increase or decrease base flood elevations.* As soon as is practicable, but not later than six months after the date such supporting information becomes available, the zoning administrator must notify the Chicago Regional Office of FEMA of the changes by submitting a copy of the relevant technical or scientific data.

(c) *Variances:*

- (1) *Variance applications.* An application for a variance to the provisions of this article will be processed and reviewed in accordance with applicable state statutes and Article 6 of this Appendix E of the City of Excelsior of the Code of Ordinances.
- (2) *Adherence to state floodplain management standards.* A variance must not allow a use that is not allowed in that district, permit a lower degree of flood protection than the regulatory flood protection elevation for the particular area, or permit standards lower than those required by state law.
- (3) *Additional variance criteria.* The following additional variance criteria of the Federal Emergency Management Agency must be satisfied:
 - a. Variances must not be issued by a community within any designated regulatory floodway if any increase in flood levels during the base flood discharge would result.
 - b. Variances may only be issued by a community upon (i) a showing of good and sufficient cause, (ii) a determination that failure to grant the variance would result in exceptional hardship to the applicant, and (iii) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
 - c. Variances may only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- (4) *Flood insurance notice.* The zoning administrator must notify the applicant for a variance that: 1) The issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance up to amounts as high as \$25.00 for \$100.00 of insurance coverage; and 2) Such construction below the base or regional flood level increases risks to life and property. Such notification must be maintained with a record of all variance actions.
- (5) *General considerations.* The community may consider the following factors in granting variances and imposing conditions on variances and conditional uses in floodplains:
 - a. The potential danger to life and property due to increased flood heights or velocities caused by encroachments;
 - b. The danger that materials may be swept onto other lands or downstream to the injury of others;
 - c. The proposed water supply and sanitation systems, if any, and the ability of these systems to minimize the potential for disease, contamination and unsanitary conditions;

- d. The susceptibility of any proposed use and its contents to flood damage and the effect of such damage on the individual owner;
 - e. The importance of the services to be provided by the proposed use to the community;
 - f. The requirements of the facility for a waterfront location;
 - g. The availability of viable alternative locations for the proposed use that are not subject to flooding;
 - h. The compatibility of the proposed use with existing development and development anticipated in the foreseeable future;
 - i. The relationship of the proposed use to the Comprehensive Land Use Plan and flood plain management program for the area;
 - j. The safety of access to the property in times of flood for ordinary and emergency vehicles;
 - k. The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters expected at the site.
- (6) *Submittal of hearing notices to the Department of Natural Resources (DNR).* The zoning administrator must submit hearing notices for proposed variances to the DNR sufficiently in advance to provide at least ten days' notice of the hearing. The notice may be sent by electronic mail or U.S. Mail to the respective DNR area hydrologist.
- (7) *Submittal of final decisions to the DNR.* A copy of all decisions granting variances must be forwarded to the DNR within ten days of such action. The notice may be sent by electronic mail or U.S. Mail to the respective DNR area hydrologist.
- (8) *Record-keeping.* The ZONING Administrator must maintain a record of all variance actions, including justification for their issuance, and must report such variances in an annual or biennial report to the Administrator of the National Flood Insurance Program, when requested by the Federal Emergency Management Agency.
- (d) *Conditional uses:*
- (1) *Administrative review.* An application for a conditional use permit under the provisions of this article will be processed and reviewed in accordance with Article 4 of Appendix E of City Code of Ordinances.
 - (2) *Factors used in decision-making.* In passing upon conditional use applications, the city council must consider all relevant factors specified in other sections of this article, and those factors identified in subsection 61-10(c)(5) of this article.
 - (3) *Conditions attached to conditional use permits.* The city council may attach such conditions to the granting of conditional use permits as it deems necessary to fulfill the purposes of this article. Such conditions may include, but are not limited to, the following:
 - a. Modification of waste treatment and water supply facilities.
 - b. Limitations on period of use, occupancy, and operation.
 - c. Imposition of operational controls, sureties, and deed restrictions.

- d. Requirements for construction of channel modifications, compensatory storage, dikes, levees, and other protective measures.
 - e. Floodproofing measures, in accordance with the state building code and this article. The applicant must submit a plan or document certified by a registered professional engineer or architect that the floodproofing measures are consistent with the regulatory flood protection elevation and associated flood factors for the particular area.
- (4) *Submittal of hearing notices to the Department of Natural Resources (DNR).* The zoning administrator must submit hearing notices for proposed conditional uses to the DNR sufficiently in advance to provide at least ten days' notice of the hearing. The notice may be sent by electronic mail or U.S. Mail to the respective DNR area hydrologist.
- (5) *Submittal of final decisions to the DNR.* A copy of all decisions granting conditional uses must be forwarded to the DNR within ten days of such action. The notice may be sent by electronic mail or U.S. Mail to the respective DNR area hydrologist.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-11. - Nonconformities.

- (a) *Continuance of nonconformities:* A use, structure, or occupancy of land which was lawful before the passage or amendment of the ordinance from which this article derives but which is not in conformity with the provisions of this article may be continued subject to the following conditions. Historic structures, as defined in subsection 61-2(i) of this article, are subject to the provisions of subsections 61-11(a)(1)–61-11(a)(6) of this article.
- (1) A nonconforming use, structure, or occupancy must not be expanded, changed, enlarged, or altered in a way that increases its flood damage potential or degree of obstruction to flood flows except as provided in subsection 61-11(a)(2) below. Expansion or enlargement of uses, structures or occupancies within the floodway district is prohibited.
 - (2) Any addition or structural alteration to a nonconforming structure or nonconforming use that would result in increasing its flood damage potential must be protected to the regulatory flood protection elevation in accordance with any of the elevation on fill or floodproofing techniques (i.e., FP1 thru FP4 floodproofing classifications) allowable in the State Building Code, except as further restricted in subsection 61-11-(a)(3) and 61-11(a)(7) below.
 - (3) If the cost of all previous and proposed alterations and additions exceeds 50 percent of the market value of any nonconforming structure, that shall be considered substantial improvement, and the entire structure must meet the standards of section 61-4 or 61-5 of this article for new structures, depending upon whether the structure is in the floodway or flood fringe district, respectively. The cost of all structural alterations and additions must include all costs such as construction materials and a reasonable cost placed on all manpower or labor.
 - (4)

If any nonconforming use, or any use of a nonconforming structure, is discontinued for more than one year, any future use of the premises must conform to this article. The assessor must notify the zoning administrator in writing of instances of nonconformities that have been discontinued for a period of more than one year.

- (5) If any nonconformity is substantially damaged, as defined in subsection 61-2(i) of this article, it may not be reconstructed except in conformity with the provisions of this ordinance. The applicable provisions for establishing new uses or new structures in sections 61-4 or 61-5 will apply depending upon whether the use or structure is in the floodway or flood fringe, respectively.
- (6) If any nonconforming use or structure experiences a repetitive loss, as defined in subsection 61-2(i) of this article, it must not be reconstructed except in conformity with the provisions of this article.
- (7) Any substantial improvement, as defined in subsection 61-2(i) of this article, to a nonconforming structure requires that the existing structure and any additions must meet the requirements of sections 61-4 or 61-5 of this article for new structures, depending upon whether the structure is in the floodway or flood fringe district.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-12. - Penalties and enforcement.

- (a) *Violation constitutes a misdemeanor:* Violation of the provisions of this article or failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with grants of variances or conditional uses) constitute a misdemeanor and will be punishable as defined by law.
- (b) *Other lawful action:* Nothing in this article restricts the city from taking such other lawful action as is necessary to prevent or remedy any violation. If the responsible party does not appropriately respond to the zoning administrator within the specified period of time, each additional day that lapses will constitute an additional violation of this ordinance and will be prosecuted accordingly.
- (c) *Enforcement:* Violations of the provisions of this article will be investigated and resolved in accordance with the provisions of Article 10 of Appendix E of the City Code of Ordinances. In responding to a suspected ordinance violation, the zoning administrator and city may utilize the full array of enforcement actions available to it including but not limited to prosecution and fines, injunctions, after-the-fact permits, orders for corrective measures or a request to the National Flood Insurance Program for denial of flood insurance availability to the guilty party. The city must act in good faith to enforce these official controls and to correct ordinance violations to the extent possible so as not to jeopardize its eligibility in the National Flood Insurance Program.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-13. - Amendments.

- (a) *Floodplain designation—Restrictions on removal:* The floodplain designation on the official zoning map must not be removed from floodplain areas unless it can be shown that the designation is in error or that the area has been filled to or above the elevation of the regulatory flood protection elevation and is contiguous to lands outside the floodplain. Special exceptions to this rule may be permitted by the Commissioner of the Department of Natural Resources (DNR) if the Commissioner determines that, through other measures, lands are adequately protected for the intended use.
- (b) *Amendments require DNR approval:* All amendments to this article must be submitted to and approved by the Commissioner of the Department of Natural Resources (DNR) prior to adoption. The commissioner must approve the amendment prior to community approval.
- (c) *Map revisions require ordinance amendments.* The floodplain district regulations must be amended to incorporate any revisions by the Federal Emergency Management Agency to the floodplain maps adopted in subsection 61-2(c) of this article.

(Ord. No. 547, § 1, 10-17-2016)

ARTICLE 36. - GENERAL STORMWATER MANAGEMENT^[9]*Footnotes:**--- (9) ---**Editor's note— Ord. No. 522, § 3, adopted May 4, 2015, repealed former Art. 36, §§ 36-1—36-9, in its entirety and enacted new provisions as herein set out. Former Art. 36 pertained to similar subject matter and derived from Ord. No. 441, § 2, 7-20-2009; Ord. No. 495, § 3, 4-1-2013.**Cross reference— Subdivision general standards and requirements, § 30-141 et seq.; Sewer service, § 34-31 et seq.*

Sec. 36-1. - Statutory authorization.

This article is adopted pursuant to the authorization and policies contained in Minnesota Statutes and Rules.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-2. - Findings.

The city hereby finds that uncontrolled and inadequately planned use of wetlands, woodlands, natural habitat areas, areas subject to soil erosion and areas containing restrictive soils adversely affects the public health, safety and general welfare by impacting water quality and contributing to other environmental problems, creating nuisances, impairing other beneficial uses of environmental resources and hindering the ability of the city to provide adequate water, sewage, flood control, and other community services. In addition, extraordinary public expenditures may be required for the protection of persons and property in such areas and in areas which may be affected by unplanned land usage.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-3. - Purpose.

The purpose of this article is to promote, preserve and enhance the natural resources within the city and protect them from adverse effects occasioned by poorly sited development or incompatible activities by regulating land disturbing or development activities that would have an adverse and potentially irreversible impact on water quality and unique and fragile environmentally sensitive land; by minimizing conflicts and encouraging compatibility between land disturbing and development activities and water quality and environmentally sensitive lands; and by requiring detailed review standards and procedures for land disturbing or development activities proposed for such areas, thereby achieving a balance between urban growth and development and protection of water quality and natural areas.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-4. - Scope and effect.

- (a) *Applicability.* Every applicant for a building permit, subdivision approval, or a permit to allow land disturbing activities must submit a stormwater management plan to the city. No building permit, subdivision approval, or permit to allow land disturbing activities shall be issued until approval of the stormwater management plan or a variance of the approval requirement has been obtained in strict conformance with section 36-4(f) of this article.
- (b) *Minnesota Pollution Control Agency (MPCA).* The MPCA is the permitting authority for land disturbing activities requiring an NPDES permit for construction activity, including the requirements for developing and implementing a SWPPP. Where required, the NPDES permit is in addition to permits required by the City of Excelsior.
- (c) *Exemptions.* The provisions of this article do not apply to:
- (1) Installation of fence, sign, telephone, and electric poles and other kinds of posts or poles;
 - (2) Interior remodeling;
 - (3) Any activity requiring a building permit which does not disturb any land and does not increase the area of impervious surface of the subject parcel;
 - (4) Emergency work to protect life, limb, or property;
 - (5) A proposed addition or the construction of an accessory structure when the plans have been reviewed and the site has been inspected by the zoning administrator and/or the city engineer and it has been determined that the land is flat and/or drainage will not have an impact on neighboring property(s) or any body of water.
- (d) *Incorporation by reference.* The city's engineering design standards are hereby incorporated into this article by reference. The Standards shall serve as the official guide for stormwater principles methods, and practices for proposed development activities for the City of Excelsior.
- (e) *Variance.* The city council, upon recommendation of the planning commission, may grant a variance to any requirement of this article upon making a finding that compliance with the requirement will involve an unnecessary hardship and the variance of such requirement will not adversely affect the standards and requirements set forth in section 36-5. The city council may require, as a condition of the variance, such dedication or construction or agreement to dedicate or construct as may be necessary to adequately meet said standards and requirements.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-5. - Stormwater management—General and specific standards.

- (a) *Stormwater management.* The following general and specific standards shall apply:
- (1) *General standards.*
 - a. When possible, existing natural drainageways, wetlands, and vegetated soil surfaces must be used to convey, store, filter, and retain stormwater runoff before discharge to public waters.
 - b.

Development must be planned and conducted in a manner that will minimize the extent of disturbed areas, runoff velocities, erosion potential, and reduce and delay runoff volumes. Disturbed areas must be stabilized and protected as soon as possible and facilities or methods used to retain sediment on the site.

- c. When development density, topographic features, and soil and vegetation conditions are not sufficient to adequately handle stormwater 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. Preference must be given to designs using surface drainage, vegetation, and infiltration rather than buried pipes and man-made materials and facilities.

(2) *Specific standards.*

- a. Stormwater management shall be performed according to the policies outlined in the most recent version of the city's surface water management plan.
- b. In addition to the city's policies, stormwater management shall be performed according to the policies of the Minnehaha Creek Watershed District.
- c. For land disturbing activities that require an NPDES general stormwater construction permit, activities shall be performed according to the NPDES permit requirements in addition to the policies of the city.
- d. Maximum impervious surface coverage and green space requirements of lots shall be as follows or as otherwise provided within this article.
- e. New constructed stormwater outfalls to public waters must provide for filtering or settling of suspended solids and skimming of surface debris before discharge.
- f. New constructed stormwater outfalls to public waters must provide for filtering or settling of suspended solids and skimming or surface debris before discharge.

(Ord. No. 522, § 3, 5-4-2015 ; Ord. No. 558, § 1, 4-17-2017)

Sec. 36-6. - Stormwater management plan approval procedures.

- (a) *Application.* A written application for stormwater management plan approval, along with the proposed stormwater management plan, shall be filed with the city and shall include a statement indicating the grounds upon which the approval is requested, that the proposed use is permitted by right or as an exception in the underlying zoning district, and adequate evidence showing that the proposed use will conform to the standards set forth in this article. Two sets of clearly legible blue or black lined copies of drawings and required information shall be submitted to the zoning administrator. Drawings shall be prepared to a scale appropriate to the site of the project and suitable for the review to be performed. At a minimum the scale shall be one inch equals 100 feet.

The applicant is responsible to apply for, and obtain any necessary permits or approvals required by other agencies, including, but not limited to, permits required by the Minnehaha Creek Watershed District, the Minnesota Pollution Control Agency, the Minnesota Department of Natural Resources, and the [U.S.] Army Corps of Engineers. For stormwater management plans submitted as a part of a preliminary plat application, the applicant must provide copies of the preliminary plat and stormwater management plan to the Minnehaha Creek Watershed District.

(b) Unless otherwise exempted by this Code, an application for stormwater management approval shall include the following as a condition for its consideration:

- (1) A stormwater management plan;
- (2) A maintenance agreement.

The stormwater management plan shall be prepared to meet the requirements of section 36-6, and section 36-8 of this article, as well as the requirements within the city's engineering design standards; the maintenance agreement shall be prepared to meet the requirements of section 36-9 of this article.

(c) *Stormwater management plan.* At a minimum, the stormwater management plan shall contain the following information.

- (1) *Existing site map.* A map of existing site conditions showing the site and immediately adjacent areas, including:
 - a. The name and address of the applicant, the section, township and range, north point, date and scale of drawing and number of sheets;
 - b. Location of the tract by an insert map at a scale sufficient to clearly identify the location of the property and giving such information as the names and numbers of adjoining roads, railroads, utilities, subdivisions, towns and districts or other landmarks;
 - c. Existing topography with a contour interval appropriate to the topography of the land but in no case having a contour interval greater than two feet;
 - d. A delineation of all streams, rivers, public waters and wetlands located on and immediately adjacent to the site and any classification given to the water body or wetland by the Minnesota Department of Natural Resources, Minnesota Pollution Control Agency, and/or the United States Army Corps of Engineers.
 - e. Location and dimensions of existing stormwater drainage systems and natural drainage patterns on and immediately adjacent to the site delineating in which direction stormwater is conveyed from the site, identifying the receiving stream, river, public water, or wetland, and setting forth those areas of the unaltered site where stormwater collects;
 - f. 100-year floodplains, flood fringes and floodways.
 - g. Ordinary high water level of surface waters as established by the Minnesota Department of Natural Resources, normal water level and 100-year high water level of surface waters and detention facilities.

- (2) *Site construction plan.* A site construction plan including:
- a. Locations and dimensions of all proposed land disturbing activities and any phasing of those activities;
 - b. Locations and dimensions of all temporary soil or dirt stockpiles;
 - c. Locations and dimensions of all construction site erosion control measures necessary to meet the requirements of this Appendix E;
 - d. Schedule of anticipated starting and completion date of each land disturbing activity including the installation of construction site erosion control measures needed to meet the requirements of this article; and
 - e. Provisions for maintenance of the construction site erosion control measures during construction, including a stormwater pollution prevention plan (SWPPP) for activities that require an NPDES general construction stormwater permit issued by the Minnesota Pollution Control Agency.
- (3) *Plan of final site conditions.* A plan of final site conditions on the same scale as the existing site map showing the site changes including:
- a. Finished grading shown at contours at the same interval as provided above or as required to clearly indicate the relationship of proposed changes to existing topography and remaining features;
 - b. A drainage plan of the developed site delineating in which direction and at what rate stormwater will be conveyed from the site and setting forth the areas of the site where stormwater will be allowed to collect;
 - c. The proposed size, alignment, low floor elevation, low building opening elevation, and intended use of any structures to be erected on the site;
 - d. A clear delineation and tabulation of all areas which shall be paved or surfaced, including a description of the surfacing material to be used; and
 - e. Ordinary high water level of surface waters as established by the Minnesota Department of Natural Resources, normal water level and 100-year high water level of surface waters and detention facilities.
- (4) *Additional information.* Any other information pertinent to the particular project which in the opinion of the zoning administrator is necessary for the review of the project.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-7. - Plan review procedure.

- (a) *Process.* Stormwater management plans meeting the requirements of section 36-5 shall be submitted to the zoning administrator for review in accordance with the standards of section 36-7. The zoning administrator shall approve, approve with conditions, or deny the stormwater management plan. The decision by the zoning administrator may be appealed in accordance with article 7 of this Appendix E.

- (b) *Duration.* Approval of a plan submitted under the provisions of this article shall expire one year after the date of approval unless construction has commenced in accordance with the plan. However, if prior to the expiration of the approval, the applicant makes a written request to the zoning administrator for an extension of time to commence construction setting forth the reasons for the requested extension, the zoning administrator may grant one extension of not greater than one single year. Receipt of any request for an extension shall be acknowledged by the zoning administrator within 15 days. The zoning administrator shall make a decision on the extension within 30 days of receipt. Any plan may be revised in the same manner as originally approved.
- (c) *Conditions.* A stormwater management plan may be approved subject to compliance with conditions reasonable and necessary to insure that the requirements contained in this article are met. Such conditions may, among other matters, limit the size, kind or character of the proposed development, require the construction of structures, drainage facilities, storage basins and other facilities, require replacement of vegetation, establish required monitoring procedures, stage the work over time, require alteration of the site design to insure buffering and require the conveyance to the city or other public entity of certain lands or interests therein.
- (d) *Financial guarantee.* Prior to approval of any stormwater management plan, the applicant shall submit an agreement to construct such required physical improvements, to dedicate property or easements, or to comply with such conditions as may have been agreed to. Such agreement shall be accompanied by a financial guarantee to cover the amount of the established cost of complying with the agreement. The agreement and guarantee shall insure completion and compliance with conditions within a specific time, which may be extended in accordance with section 36-6(b) of this article.

(Ord. No. 522, § 3, 5-4-2015; Ord. No. 558, § 1, 4-17-2017)

Sec. 36-8. - Approval standards.

- (a) *Standards.* No stormwater management plan which fails to meet the standards contained in this section shall be approved by the zoning administrator.
- (b) All land disturbing activities are required to follow the construction site stormwater runoff control standards set within this Code and the city's engineering design Standards. The standards should follow the following requirements:
- (1) Erosion control;
 - (2) Sediment control practices;
 - (3) Temporary sediment basins;
 - (4) Dewatering and basin draining;
 - (5) Inspection and maintenance;
 - (6) Pollution management measures/construction site waste control;
 - (7) Final stabilization;
 - (8) Training.

- (c) *Design standards.* Stormwater detention facilities constructed in the City of Excelsior shall be designed according to the most current technology as reflected in this code and the city's engineering design standards.
- (d) *Stormwater management criteria for permanent facilities.*
- (1) An applicant shall install or construct, on or for the proposed land disturbing or development activity, all stormwater management facilities necessary to manage increased runoff so that peak discharge rates leaving the site are not increased for the two-year, ten-year, and 100-year critical-duration rainfall events. Accelerated channel erosion shall not occur as a result of the proposed land disturbing or development activity. At the discretion of the city, an applicant may also make an in-kind or monetary contribution to the development and maintenance of community stormwater management facilities designed to serve multiple land disturbing and development activities undertaken by one or more persons, including the applicant.
 - (2) The applicant shall give consideration to reducing the need for stormwater management facilities by incorporating the use of natural topography and land cover such as wetlands, ponds, natural swales and depressions as they exist before development to the degree that they can accommodate the additional flow of water without compromising the integrity or quality of the wetland or pond.
 - (3) Drainage systems shall be designed to convey runoff from contributing drainage areas under fully developed conditions. Capacities of drainage systems shall be designed to meet the following standards:
 - a. Local storm sewer shall convey runoff from the five-year, critical-duration, and rainfall event.
 - b. Trunk storm sewer shall convey runoff from the ten-year, critical-duration, and rainfall event.
 - c. Ponds and open channels shall convey runoff from the 100-year, critical-duration, and rainfall event.
 - (4) Special attention shall be given to existing residential developments which do not currently comply with the 35 percent impervious cover limitation of article 60 of this Appendix E. When installing sidewalk and driveways, adding decks and building additions or constructing garages and storage buildings, the following methods are suggested as solutions to the problem of managing stormwater runoff from impervious surfaces:
 - a. Building additions and decks shall be constructed to direct runoff to more pervious grassed filter strips, such as lawns and gardens.
 - b. Runoff from garages or storage buildings can be separated from impervious surfaces by different roof designs and/or use of gutters and down spouts directing water to pervious areas.
 - c. Sidewalks and driveways shall be sloped to drain towards pervious surfaces, such as lawns or gardens.
 - (5) The following stormwater management practices shall be investigated in developing a stormwater management plan in the following descending order of preference:

- a. Natural infiltration of precipitation on-site;
 - b. Flow attenuation by use of open vegetated swales and natural depressions;
 - c. Stormwater retention facilities; and
 - d. Stormwater detention facilities.
- (6) A combination of successive practices may be used to achieve the applicable minimum control requirements specified in subsection (a) above. Justification shall be provided by the applicant for the method selected.
- (e) *Water quality treatment standards.* Stormwater treatment facilities shall be provided to remove 50 percent of phosphorus and 85 percent of total suspended solids, or a detention pond designed to NURP standards.
- (f) *Volume control standards.* Abstraction via infiltration, evapotranspiration, capture and/or reuse of one inch of rainfall from the site on a regional or site-specific basis is required for development or redevelopment for projects that increase stormwater runoff volume, provided that past and existing land use practices, groundwater elevations, and soil characteristics are suitable for infiltration.
- (g) *Flood control.* Development and land disturbing activities must meet the following criteria:
- (1) The basement floor elevation of any new building shall be placed at least two feet above the elevation of any known historic high groundwater elevations for the area and at least two feet above the 100-year high surfacewater elevation in the area.
 - (2) The low building opening elevation of any new building shall be at least three feet above the projected 100-year high water elevation for the area. If this standard is considered a hardship, the standard may be lowered to placing the low building opening elevation at least two feet above the projected 100-year high water elevation if the following can be demonstrated:
 - a. That within the two-foot freeboard area above the 100-year high water elevation, stormwater storage is at least 50 percent of the stormwater storage capacity below the 100-year high water elevation; and
 - b. That a 25 percent obstruction of the basin outlet for a 100-year critical-duration rainfall event would not result in a high water elevation greater than one foot above the 100-year high water elevation; and
 - c. An adequate overflow route from the basin will assure that water levels, even for extreme rainfall events, will be greater than one foot below the low building opening elevation.
 - (3) An emergency spillway from ponding areas shall be installed a minimum of one foot below the lowest building opening and shall be designed to have a capacity to overflow water at an elevation below the lowest building opening at a rate not less than three times the 100-year peak discharge rate from the basin or the 100-year inflow rate to the basin, whichever is higher.
- (h) *Wetlands.* Minnehaha Creek Watershed District is the local government unit with jurisdictional control for enforcement of the Wetland Conservation Act. For most activities that could affect wetlands, the rules of the Minnehaha Creek Watershed District will apply. In addition to the rules of the district, the

following standards shall apply:

- (1) Runoff shall not be discharged directly into wetlands without presettlement of the runoff.
- (2) A protective buffer strip of natural vegetation shall surround all wetlands. Buffer dimensions shall be as required by the Minnehaha Creek Watershed District, or the City's Engineering Design Standards, whichever is greater.
- (3) Wetlands must not be drained or filled, wholly or partially, unless replaced by restoring or creating wetland areas of at least equal public and natural value. Replacement must be guided by the following principles in descending order of priority:
 - a. Avoiding the direct or indirect impact of the activity that may destroy or diminish the wetland;
 - b. Minimizing the impact by limiting the degree or magnitude of the wetland activity and its implementation;
 - c. Rectifying the impact by repairing, rehabilitating, or restoring the affected wetland environment;
 - d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the activity; and
 - e. Compensating for the impact by replacing or providing substitute wetland resources or environments.
- (i) *Bluffs*. No land disturbing or development activities shall be allowed on bluffs as defined under definitions in article 2 of this Appendix E.
- (j) *Structures*. In a newly constructed or rehabilitated storm sewer system, the last downstream structure before discharge to a receiving water body shall be provided with a sump area for the collection of coarse-grained material. Such sumps shall be cleaned when they are half-filled with material.
- (k) *Drain leaders*. All newly constructed and reconstructed buildings will route drain leaders to pervious areas wherein the runoff can be allowed to infiltrate. The flow rate of water exiting the leaders shall be controlled so no erosion occurs in the pervious areas.
- (l) *Models/methodologies/computations*. Hydrologic models and design methodologies used for the determination of runoff and analysis of stormwater management structures shall be approved by the city engineer. Plans, specifications and computations for stormwater management facilities submitted for review shall be sealed and signed by a registered professional engineer. All computations shall appear on the plans submitted for review, unless otherwise approved by the city engineer.
- (m) *Watershed management plans/groundwater management plans*. Stormwater management plans shall be consistent with adopted watershed management plans and groundwater management plans prepared in accordance with applicable Minnesota Statutes and as approved by the Minnesota Board of Water and Soil Resources in accordance with state law.
- (n) *Easements*. If a stormwater management plan involves direction of some or all runoff off of the site, it shall be the responsibility of the applicant to obtain from adjacent property owners any necessary easements or other property interests concerning flowage of water.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-9. - Stormwater treatment maintenance plan and agreement.

- (a) *Maintenance agreement.* The responsible party shall enter into a maintenance agreement with the city that documents all responsibilities for operation and maintenance of all stormwater treatment practices. Such responsibility shall be documented in a maintenance plan and executed through a maintenance agreement. The maintenance agreement shall be executed and recorded against the parcel. The maintenance agreement shall be in a form approved by the city shall describe the inspection and maintenance obligations of this section and shall, at a minimum:
- (1) Designate the responsible party, which shall be permanently responsible for maintenance of the structural or nonstructural measures.
 - (2) Pass responsibility for such maintenance to successors in title.
 - (3) Grant the city and its representatives the right of entry for the purposes of inspecting all stormwater treatment practices.
 - (4) Allow the city the right to repair and maintain the facility, if necessary maintenance is not performed after proper and reasonable notice to the responsible party.
 - (5) Include a maintenance plan that contains, but is not limited to the following:
 - a. Identification of all structural stormwater treatment practices.
 - b. A schedule for regular inspection, monitoring, and maintenance for each practice. Monitoring shall verify whether the practice is functioning as designed and may include, but is not limited to quality, temperature, and quantity of runoff.
 - c. Identification of the responsible party for conducting the inspection, monitoring, and maintenance for each practice.
 - (6) Identify a schedule and format for reporting compliance with the maintenance plan to the city.
- (b) *Inspection of stormwater facility.* Inspection programs shall be established on any reasonable basis, including but not limited to: routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; inspection of drainage basins or areas identified as higher than typical sources of sediment or other contaminants or pollutants; inspections of businesses or industries of a type associated with higher than usual discharges of contaminants or pollutants or with discharges of a type which are more likely than the typical discharge to cause violations of state or federal water or sediment quality standards or the National Pollutant Discharge Elimination System (NPDES) stormwater permit; and joint inspections with other agencies inspecting under environmental or safety laws. Inspections may include, but are not limited to, reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in drainage control facilities; and evaluating the condition of drainage control facilities and other stormwater treatment practices.

As a part of an approved stormwater treatment plan and agreement, when any new stormwater treatment practice is installed on private property, or when any new connection is made between private property and a public drainage control system, or sanitary sewer; the property owner shall grant to the city the right to enter the property at reasonable times and in a reasonable manner for the purpose of inspection. This includes the right to enter a property when the city has a reasonable basis to believe that a violation of this article is occurring or has occurred, and to enter when necessary for abatement of a public nuisance or correction of a violation of this article.

The director of public works, or designated representative, shall inspect all stormwater management facilities during construction, during the first year of operation, and at least once every five years thereafter. The inspection records will be kept on file at the public works department for a period of six years. It shall be responsibility of the applicant to dedicate or obtain any necessary easements or other property interests to allow the city access to the stormwater management facilities for inspection and maintenance purposes.

- (c) *Records of installation and maintenance activities.* The responsible party shall make records of the installation and of all maintenance and repairs of the stormwater treatment practices, and shall retain the records for at least three years. These records shall be made available to the city during inspection of the stormwater treatment practice and at other reasonable times upon request.
- (d) *Failure to maintain practices.* If a responsible party fails or refuses to meet the requirements of the maintenance agreement, the city, after reasonable notice, may correct a violation of the design standards or maintenance needs by performing all necessary work to place the stormwater treatment practice in proper working condition. In the event that the stormwater treatment practice becomes a danger to public safety or public health, the city shall notify the responsible party in writing. Upon receipt of that notice, the Responsible Party shall have thirty days to perform maintenance and repair of the facility in an approved manner. After proper notice, the city may specially assess the owner(s) of the stormwater treatment practice for the cost of repair work and any penalties; and the cost of the work shall be assessed against the property and collected along with ordinary taxes by the county.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-10. - Lawn fertilizer regulations.

- (a) *Use of impervious surfaces.* No person shall apply fertilizer to or deposit grass clippings, leaves or other vegetative materials on impervious surfaces, or within stormwater drainage systems, natural drainageways, or within wetland buffer areas.
- (b) *Unimproved land areas.* Except for driveways, sidewalks, patios, areas occupied by structures or areas which have been improved by landscaping, all areas shall be covered by plants or vegetative growth.
- (c) *Fertilizer content.* No person shall apply any lawn fertilizer, liquid or granular, that contains any amount of phosphorous or other compounds containing phosphorous, such as phosphate, except small quantities when a soil text indicates added phosphorous is needed to support healthy turf growth, or during the first year when new area of turf is being established.

- (d) *Buffer zone.* Fertilizer applications shall not be made within one rod (16.5 feet) of any wetland or water resource.
- (e) *Sale and display of lawn fertilizer.* No person, firm, corporation, franchise, or commercial establishment shall sell or display for sale any lawn fertilizer, liquid or granular, within the city that contains any amount of phosphorous or other compound containing phosphorous, such as phosphate, unless:
 - (1) Phosphorous-free fertilizer is also available for sale.
 - (2) Phosphorous-free fertilizer and fertilizer with phosphorous are separately displayed which each display being clearly marked as to whether or not the fertilizer contains phosphorous.
 - (3) Displays of phosphorous-free fertilizer are of equal or greater size and prominence.
 - (4) A sign or brochure is on prominent display next to any fertilizer display containing the city's regulations concerning the use of fertilizer with phosphorous.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-11. - Right-of-entry.

The issuance of a building permit or a permit to allow land disturbing activities constitutes a right-of-entry for the city or its contractor to enter the construction site. The applicant shall allow the city and its authorized representatives to:

- (a) Enter the permitted site for the purpose of obtaining information, examining records, conducting investigations or surveys;
- (b) Bring such equipment on the Site as is necessary to conduct such surveys and investigations;
- (c) Examine and copy any books, papers, or digital files pertaining to activities or records required to be kept under the terms and conditions of the permitted site;
- (d) Inspect the stormwater treatment practices;
- (e) Sample and monitor any items or activities pertaining to stormwater pollution control measures;
- (f) Correct deficiencies in stormwater and erosion and sediment control measures consistent with this Code and the city's engineering design standards.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-12: - Search warrants.

If city employees have been refused access to any part of the premises from which stormwater is discharged, and he/she is able to demonstrate probable cause to believe that there may be a violation of this ordinance, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this Code or any order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then the city may seek issuance of a search warrant from any court of competent jurisdiction.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-13: - Penalty.

Any violation of this Article 36 may be enforced via the procedures outlined in Article 10 of this Appendix E.

- (a) *Notice of violation.* When the city determines that an activity is not being carried out in accordance with the requirements of the stormwater management regulations of this Code, it shall issue a written notice of violation to the owner of the property. The notice of violation shall contain:
- (1) The name and address of the owner of applicant;
 - (2) The address when available or a description of the land upon which the violation is occurring;
 - (3) A statement specifying the nature of the violation;
 - (4) A description of the remedial measures necessary to bring the development activity into compliance with this ordinance and a time schedule for the completion of such remedial action;
 - (5) A statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed; and
 - (6) A statement that the determination of violation may be appealed to the city by filing a written notice of appeal within 15 days of services notice of violation.
- (b) *Stop work orders.* Persons receiving a notice of violation will be required to halt all construction activities. This stop work order will be in effect until the city confirms that the land disturbance activity is in compliance and the violation has been satisfactorily addressed. Failure to address a notice of violation in a timely manner may result in civil, criminal, or monetary penalties in accordance with the enforcement measures authorized in this Code.
- (c) *Civil and criminal penalties.* In addition to or as an alternative to any penalty provided herein or by law, any person who violates the provisions of the stormwater management regulations of this Code shall be guilty of a misdemeanor and subject to prosecution. Such person shall be guilty of a separate offense for each day during which the violation occurs or continues.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-14. - Appeals.

Any person aggrieved by the action of any official charged with the enforcement of the stormwater management regulations of this Code, as the result of the disapproval of a properly filed application for approval, issuance of a written notice of violation, or an alleged failure to properly enforce the ordinance in regard to a specific application, shall have the right to appeal the action pursuant to the procedures outlined in Article 7 of this Appendix E.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-15. - Other controls.

In the event of any conflict between the provisions of the stormwater management regulations of this Code and the provisions of an erosion control or shoreland protection ordinance adopted by the city council, the more restrictive standard prevails.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-16. - Severability.

The provisions of the stormwater management regulations of this Code are severable. If any provision of these stormwater management regulations or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applicants of these stormwater management regulations which can be given effect without the invalid provision or application.

(Ord. No. 522, § 3, 5-4-2015)

ARTICLE 60. - SHORELAND MANAGEMENT DISTRICT

Sec. 60-1. - Statutory authorization and policy.

- (1) *Statutory authorization.* The shoreland regulations contained in this section are adopted pursuant to the authorization and policies contained in Minn. Stats. ch. 103F, Minnesota Regulations, Parts 6120.2500 through 6120.3900, and the planning and zoning enabling legislation in Minn. Stats. ch. 462.
- (2) *Policy.* The uncontrolled use of shorelands of the city affects the public health, safety and general welfare not only by contributing to pollution of public waters, but also by impairing the local tax base. Therefore, it is in the best interests of the public health, safety and welfare to provide for the wise subdivision, use and development of shorelands of public waters. The Legislature of Minnesota has mandated responsibility to local governments of the State to regulate the subdivision, use and development of the shorelands of public waters and thus preserve and enhance the quality of surface waters, conserve the economic and natural environmental values of shorelands, and provide for the wise use of waters and related land resources. This responsibility is hereby recognized by the city.
- (3) *Jurisdiction.* The provisions of this Appendix E shall apply to the shorelands of the public water bodies as classified in section 60-3.

Sec. 60-2. - Administration.

- (a) *Permits required.* In addition to building permits required by section 9-11, a permit shall be required for those grading and filling activities not exempted by [sub]section 60-4(d). Application for a permit shall be made to the zoning administrator on the forms provided. The application shall include the necessary information so that the zoning administrator can determine the site's suitability for the intended use.
- (b) *Variances.*
 - (1) Variances may only be granted in accordance with Minn. Stats., chapter 462 and as prescribed by article 6. No variance may be granted that would allow any use that is prohibited in the zoning district in which the subject property is located.
 - (2) When a variance is approved after the department of natural resources has formally recommended denial in the hearing record, the notification of the approved variance required in [sub]section 60-2(c)(2) below shall also include the city council's summary of the public record/testimony and the findings of facts and conclusions which supported the issuance of the variance.
- (c) *Notifications to the department of natural resources.*
 - (1)

Copies of all notices of any public hearings to consider variances, amendments, or conditional uses under Excelsior's shoreland management controls must be sent to the commissioner or the commissioner's designated representative and postmarked at least ten days before the hearings. Notices of hearings to consider proposed subdivisions/plats must include copies of the subdivision/plat.

- (2) A copy of approved amendments and subdivisions/plats, and final decisions granting variances or conditional uses under Excelsior's shoreland management controls must be sent to the commissioner or the commissioner's designated representative and postmarked within ten days of final action.
- (d) *[Shoreland management district.]* Activities within and adjacent to the shoreland management district shall be performed in accordance with the rules of the Minnesota Creek Watershed District.
- (Ord. No. 441, § 3, 7-20-2009)

Sec. 60-3. - Shoreland classification system.

The public waters within and adjacent to Excelsior have been classified below consistent with the criteria found in Minnesota Regulations, part 6120.3300, and the Protected Waters Inventory Map for Hennepin County, Minnesota.

<u>General Development Lake</u>	<u>DNR I.D. #</u>
Lake Minnetonka	27-133P
Sections 27, 34, 35	
T117 R23	
<u>Recreational Development Lake</u>	
Galpin Lake	27-144P
Sections 34, 35	
T117 R23	

The shoreland area to which the regulations of this article apply is as shown on the official zoning map. The area includes land located within 1,000 feet of the ordinary high water level of the above lakes, or a lesser distance if the topographic divide is less than 1,000 feet. In the area where Lake Minnetonka shoreland overlaps Galpin Lake shoreland, the regulations pertaining to Lake Minnetonka shall apply.

(Ord. No. 441, § 3, 7-20-2009)

Sec. 60-4. - Zoning provisions.

- (a) *Lot area and width standards.* The minimum lot area (in square feet) and lot width standards (in feet) for residential lots created after the date of enactment of this Appendix E are as found in the individual district standards of this Appendix E.
- (b) *Additional special provisions.* Minimum lot area requirements within shoreland areas may be calculated on an average lot area basis, so long as the overall net density requirements of subsection 60-4(a) above are met. The absolute minimum lot area shall be as permitted by the underlying zoning district. Residential subdivisions with dwelling unit densities exceeding those in the above tables can only be allowed if designed and approved as a conditional use permit under subsection 60-4(h) of this Appendix E. Only land above the ordinary high water level of public waters can be used to meet lot area standards, and lot width standards must be met at both the ordinary high water level and at the building line.
- (c) *Placement, design, and height of structures.*
 - (1) *Placement of structures on lots.* Where structures exist on the adjoining lots on both sides of a proposed building site, structure setbacks may be altered in accordance with section 17-6 of this Appendix E, provided the proposed building site is not located in a shore impact zone or in a bluff impact zone. Principal and accessory structures shall be located as follows.
 - a. The minimum setback of principal and accessory structures from the ordinary high water level of Minnetonka and Galpin Lakes shall be 50 feet.
 - b. *Additional structure setbacks.*

<u>Setback From:</u>		<u>Setback (feet)</u>
1.	Top of bluff;	30
2.	Unplatted cemetery;	50
3.	Right-of-way line of federal, state or county highway; and	30

4.	Right-of-way line of city streets or other roads or streets not classified.	As regulated by articles 41 through <u>52</u> of this Appendix E
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- c. *Bluff impact zones.* Structures and accessory facilities, except stairways and landings, must not be placed within bluff impact zones.
 - d. *Uses without water-oriented needs.* Uses without water-oriented needs that are located on lots or parcels with public waters frontage must either be set back double the normal ordinary high water level setback or be substantially screened from view from the water by vegetation or topography, assuming summer, leaf-on conditions.
- (2) *Design criteria for structures.*
- a. *High water elevations.* Structures must be placed in accordance with any floodplain regulations applicable to the site. Where these controls do not exist, the elevation to which the lowest floor, including basement, is placed or flood-proofed must be determined:
 1. By placing the lowest floor at a level at least three feet above the highest known water level, or three feet above the ordinary high water level, whichever is higher.
 2. Water-oriented accessory structures may have the lowest floor placed lower than the elevation determined in this item if the structure is constructed of flood-resistant materials to the elevation, electrical and mechanical equipment is placed above the elevation and, if long duration flooding is anticipated, the structure is built to withstand ice action and wind-driven waves and debris.
 - b. *Accessory structures.* Accessory structures shall be permitted as regulated by article 18 of this Appendix E. Detached decks must not exceed eight feet above grade at any point.
 - c. *Stairways, lifts, and landings.* Stairways and lifts are the preferred alternative to major topographic alterations for achieving access up and down bluffs and steep slopes to shore areas. Stairways and lifts must meet the following design requirements:
 1. Stairways and lifts must not exceed four feet in width on residential lots. Wider stairways may be used for commercial properties, public open-space recreational properties, and planned unit developments;
 2. Landings for stairways and lifts on residential lots must not exceed 32 square feet in area. Landings larger than 32 square feet may be used for commercial properties, public open-space recreational properties, and conditional use permit allowances for development;
 3. Canopies or roofs are not allowed on stairways, lifts, or landings;
 4. Stairways, lifts, and landings may be either constructed above the ground on posts or pilings, or placed into the ground, provided they are designed and built in a manner that ensures control of soil erosion;

5. Stairways, lifts, and landings must be located in the most visually inconspicuous portions of lots, as viewed from the surface of the public water assuming summer, leaf-on conditions, whenever practical; and
 6. Facilities such as ramps, lifts, or mobility paths for physically handicapped persons are also allowed for achieving access to shore areas, provided that the dimensional and performance standards of subsection 60-4(c)(2)c.1. through 60-4(c)(2)c.5. are complied with in addition to the requirements of Minnesota Regulations, chapter 1340.
- d. *Historic buildings and sites.* No structure may be placed on a historic building or site in a manner that affects the values of the site unless adequate information about the site has been removed and documented in a public repository.
- e. *Steep slopes.* The city engineer must evaluate possible soil erosion impacts and development visibility from public waters before issuing a permit for construction of roads, driveways, structures, or other improvements on steep slopes. When determined necessary, conditions must be attached to issued permits to prevent erosion and to preserve existing vegetation screening of structures, vehicles, and other facilities as viewed from the surface of public waters, assuming summer, leaf-on vegetation.
- (3) *Height of structures.* All structures shall comply with the height standards of this Appendix E.
- (d) *Shoreland alterations.* Alterations of vegetation and topography will be regulated to prevent erosion into public waters, fix nutrients, preserve shoreland aesthetics, preserve historic values, prevent bank slumping, and protect fish and wildlife habitat.
- (1) *Vegetation alterations.*
- a. Vegetation alteration necessary for the construction of structures and the construction of roads and parking areas regulated by subsection 60-4(e) below are exempt from the vegetation alteration standards that follow.
 - b. Removal or alteration of vegetation is allowed subject to the following standards:
 1. Intensive vegetation clearing within the shore and bluff impact zones and on steep slopes is not allowed.
 2. In shore and bluff impact zones and on steep slopes, limited clearing of trees and shrubs and cutting, pruning, and trimming of trees is allowed to provide a view to the water from the principal dwelling site and to accommodate the placement of stairways and landings, picnic areas, access paths, beach and watercraft access areas, and permitted water-oriented accessory structures or facilities, provided that:
 - i. The general character of the shoreline is not changed as viewed from the water, assuming summer, leaf-on conditions, is not substantially reduced;
 - ii. The above provisions are not applicable to the removal of trees, limbs, or branches that are dead, diseased, or pose safety hazards.

c.

Use of fertilizers and pesticides shall be strongly discouraged, but at the very least, shall be done in such a way as to minimize runoff into the shore impact zone or public water by the use of earth, vegetation or both.

(2) *Topographic alterations/grading and filling.*

- a. Grading and filling and excavations necessary for the construction of structures and driveways under validly issued construction permits for these facilities do not require the issuance of a separate grading and filling permit; however, the grading and filling standards in this section must be incorporated into the issuance of such permits.
- b. Public roads and parking areas are regulated by subsection 60-4(e) below.
- c. Notwithstanding subsection 60-4(d)(2)a. and b. above, a grading and filling permit will be required for:
 1. The movement of more than ten cubic yards of material on steep slopes or within shore or bluff impact zones; and
 2. The movement of more than 50 cubic yards of material outside of steep slopes and shore and bluff impact zones shall require a conditional use permit pursuant to article 4 and subsection 60-4(h).
- d. The following considerations and conditions must be adhered to during the issuance of construction permits, grading and filling permits, conditional use permits, variances and subdivision approvals:
 1. In addition to requirements of the State of Minnesota Wetland Conservation Act of 1991, grading or filling in any type 2 through 8 wetland must be evaluated to determine how extensively the proposed activity would affect the following functional qualities of the wetland*:
 - i. Sediment and pollutant trapping and retention;
 - ii. Storage of surface runoff to prevent or reduce flood damage;
 - iii. Fish and wildlife habitat;
 - iv. Recreational use;
 - v. Shoreline or bank stabilization; and
 - vi. Noteworthiness, including special qualities such as historic significance, critical habitat for endangered plants and animals, or others.

* This evaluation must also include a determination of whether the wetland alteration being proposed requires permits, reviews, or approvals by other local, state, or federal agencies such as the Minnehaha Creek Watershed District, the Minnesota Department of Natural Resources, or the United States Army Corps of Engineers. The applicant will be so advised.

2. Alterations must be designed and conducted in a manner that ensures only the smallest amount of bare ground is exposed for the shortest time possible;

3. Mulches or similar materials must be used, where necessary, for temporary bare soil coverage, and a permanent vegetation cover must be established as soon as possible;
 4. Methods to minimize soil erosion and to trap sediments before they reach any surface water feature must be used;
 5. Altered areas must be stabilized to acceptable erosion control standards consistent with the field office technical guides of the local soil and water conservation districts and the United States Soil Conservation Service;
 6. Fill or excavated material must not be placed in a manner that creates an unstable slope;
 7. Plans to place fill or excavated material on steep slopes must be reviewed by qualified professionals for continued slope stability and must not create finished slopes of 30 percent or greater;
 8. Fill or excavated material must not be placed in bluff impact zones;
 9. Any alterations below the ordinary high water level of public waters must first be authorized by the commissioner under Minn. Stats. § 103G.245;
 10. Alterations of topography must only be allowed if they are accessory to permitted or conditional uses and do not adversely affect adjacent or nearby properties; and
 11. Placement of natural rock riprap, including associated grading of the shoreline and placement of a filter blanket, is permitted if the finished slope does not exceed three feet horizontal to one foot vertical, the landward extent of the riprap is within ten feet of the ordinary high water level, and the height of the riprap above the ordinary high water level does not exceed three feet.
- e. *Connections to public waters.* Excavations where the intended purpose is connection to a public water, such as boat slips, canals, lagoons, and harbors, must be controlled by local shoreland controls. Permission for excavations may be given only after the commissioner has approved the proposed connection to public waters.
- (e) *Placement and design of roads, driveways, and parking areas:*
- (1) Public and private roads and parking areas must be designed to take advantage of natural vegetation and topography to achieve maximum screening from view from public waters. Documentation must be provided by a qualified individual that all roads and parking areas are designed and constructed to minimize and control erosion to public waters consistent with the field office technical guides of the local soil and water conservation district, or other applicable technical materials.
 - (2) Roads, driveways, and parking areas must meet structure setbacks and must not be placed within bluff and shore impact zones, when other reasonable and feasible placement alternatives exist. If no alternatives exist, they may be placed within these areas, and must be designed to minimize adverse impacts.
 - (3)

Public and private watercraft access ramps, approach roads, and access-related parking areas may be placed within shore impact zones provided the vegetative screening and erosion control conditions of this subpart are met. For private facilities, the grading and filling provisions of subsection 60-4(d)(2) above must be met.

(f) *Reserved.*

(g) *Special provisions for commercial, and public/semipublic uses.*

- (1) Surface water-oriented commercial uses and industrial, public, or semipublic uses with similar needs to have access to and use of public waters may be located on parcels or lots with frontage on public waters. Those uses with water-oriented needs must meet the following standards:
 - a. In addition to meeting impervious coverage limits, setbacks, and other zoning standards in this Appendix E, the uses must be designed to incorporate topographic and vegetative screening of parking areas and structures;
 - b. Uses that require short-term watercraft mooring for patrons must centralize these facilities and design them to avoid obstructions of navigation and to be the minimum size necessary to meet the need; and
 - c. Uses that depend on patrons arriving by watercraft may use signs and lighting to convey needed information to the public, subject to the following general standards:
 1. No advertising signs or supporting facilities for signs may be placed in or upon public waters. Signs conveying information or safety messages may be placed in or on public waters by a public authority or under a permit issued by the county sheriff;
 2. Signs may be placed, when necessary, within the shore impact zone if they are designed and sized to be the minimum necessary to convey needed information. The signs must not be located higher than ten feet above the ground, and must not exceed 32 square feet in size. If illuminated by artificial lights, the lights must be shielded or directed to prevent illumination out across public waters; and
 3. Other outside lighting may be located within the shore impact zone or over public waters if it is used primarily to illuminate potential safety hazards and is shielded or otherwise directed to prevent direct illumination out across public waters. This does not preclude use of navigational lights.
 - (2) Uses without water-oriented needs must be located on lots or parcels without public waters frontage, or, if located on lots or parcels with public waters frontage, must either be set back double the normal ordinary high water level setback or be substantially screened from view from the water by vegetation or topography, assuming summer, leaf-on conditions.
- (h) *Conditional use criteria and conditions.* Conditional uses allowable within shoreland areas shall be subject to the review and approval procedures, and criteria and conditions for review of conditional uses established community-wide. The following additional evaluation criteria and conditions apply within shoreland areas:

- (1) *Evaluation criteria.* A thorough evaluation of the waterbody and the topographic, vegetation, and soils conditions on the site must be made to ensure:
 - a. The prevention of soil erosion or other possible pollution of public waters, both during and after construction;
 - b. The visibility of structures and other facilities as viewed from public waters is limited;
 - c. The types, uses, and numbers of watercraft that the project will generate are compatible in relation to the suitability of public waters to safely accommodate these watercraft.
- (2) *Conditions attached to conditional use permits.* The city council, upon consideration of the criteria listed above and the purposes of this section, may attach such conditions to the issuance of the conditional use permits as it deems necessary to fulfill the purposes of this Appendix E. Such conditions may include, but are not limited to, the following:
 - a. Increased setbacks from the ordinary high water level;
 - b. Limitations on the natural vegetation to be removed or the requirement that additional vegetation be planted; and
 - c. Special provisions for the location, design, and use of structures, watercraft launching and docking areas, and vehicle parking areas.

(Ord. No. 401, 10-2-2006; Ord. No. 441, § 4, 7-20-2009; Ord. No. 495, § 10, 4-1-2013; Ord. No. 558, § 2, 4-17-2017)

Sec. 60-5. - Nonconformities.

All legally established nonconformities as of the date of this Appendix E may continue as provided in article 15. In addition, the following standards will also apply in shoreland areas:

- (1) *Construction on nonconforming lots of record.*
 - a. Lots of record in the office of the county recorder on the date of enactment of article 60 that do not meet the requirements of subsection 60-4(a) may be allowed as building sites without variances from lot size requirements provided the use is permitted in the zoning district, the lot has been in separate ownership from abutting lands at all times since it became substandard, was created compliant with official controls in effect at the time, setback requirements of this Appendix E are met, and the requirements of section 15-5 of this Appendix E are met.
 - b. A variance from setback requirements must be obtained before any use or building permit is issued for a lot. In evaluating the variance, the city council shall consider capabilities or constraints of the lot and shall deny the variance if adequate facilities cannot be provided.
 - c. If, in a group of two or more contiguous lots which have come under the same ownership after February 9, 2003, any individual lot does not meet the requirements of section 60-4(a) of this Appendix E, the lot must not be considered as a separate parcel of land for the purposes of

sale or development. The lot must be combined with one or more contiguous lots so they equal one or more parcels of land, each meeting the requirements of subsection 60-4(a) as much as possible.

(2) *Additions/expansions to nonconforming structures.*

- a. All additions or expansions to the outside dimensions of an existing nonconforming structure must meet the setback, height, and other requirements of subsection 60-4(a) of this Appendix E. Any deviation from these requirements must be authorized by a variance pursuant to article 6 of this Appendix E.
- b. Deck additions which do not extend above the ground level of the principal building shall be permitted as provided by section 17-6, but shall be located no closer than ten feet from the OHWL.
- c. Deck additions which extend above the height of the ground level of the principal building may be allowed without a variance to a structure not meeting the required setback from the ordinary high water level, if all of the following criteria and standards are met:
 1. The structure existed on the date the structure setbacks were established;
 2. A thorough evaluation of the property and structure reveals no reasonable location for a deck meeting or exceeding the existing ordinary high water level setback of the structure;
 3. The deck encroachment toward the ordinary high water level does not exceed 15 percent of the existing setback of the structure from the ordinary high water level or does not encroach closer than 30 feet, whichever is more restrictive; and
 4. The deck is constructed primarily of wood, and is not roofed or screened.

ARTICLE 61. - GENERAL FLOODPLAIN DISTRICT^[14]*Footnotes:*

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Editor's note— Ord. No. 547, adopted Oct. 17, 2016, amended former Art. 61, §§ 61-1—61-13, in its entirety to read as herein set out. Former Art. 61 pertained to similar subject matter and derived from Ord. of 2-9-2003; Ord. No. 380, 8-16-2004; Ord. No. 441, § 5, 7-20-2009.

Sec. 61-1. - Statutory authorization and purpose.

- (a) *Statutory authorization:* The legislature of the State of Minnesota has, in Minnesota Statutes Chapter 103F and Chapter 462 delegated the responsibility to local government units to adopt regulations designed to minimize flood losses. Therefore, the city council of Excelsior, Minnesota, does ordain as follows.
- (b) *Purpose:*
- (1) This article regulates development in the flood hazard areas of the city. These flood hazard areas are subject to periodic inundation, which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base. It is the purpose of this article to promote the public health, safety, and general welfare by minimizing these losses and disruptions.
 - (2) National Flood Insurance Program compliance. This article is adopted to comply with the rules and regulations of the National Flood Insurance Program codified as 44 Code of Federal Regulations Parts 59—78, as amended, so as to maintain the community's eligibility in the National Flood Insurance Program.
 - (3) This article is also intended to preserve the natural characteristics and functions of watercourses and floodplains in order to moderate flood and stormwater impacts, improve water quality, reduce soil erosion, protect aquatic and riparian habitat, provide recreational opportunities, provide aesthetic benefits and enhance community and economic development.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-2. - General provisions.

- (a) *How to use this article.* This article adopts the floodplain maps applicable to the City of Excelsior and includes three floodplain districts: floodway, flood fringe, and general floodplain.
- (1) Where floodway and flood fringe districts are delineated on the floodplain maps, the standards in sections 61-4 or 61-5 will apply, depending on the location of a property.
 - (2) Locations where floodway and flood fringe districts are not delineated on the floodplain maps are considered to fall within the general floodplain district. Within the general floodplain district, the floodway district standards in section 61-4 apply unless the floodway boundary is determined,

according to the process outlined in section 61-6. Once the floodway boundary is determined, the flood fringe district standards in section 61-5 may apply outside the floodway.

- (b) *Lands to which this article applies:* This article applies to all lands within the jurisdiction of the City of Excelsior shown on the official zoning map and/or the attachments to the map as being located within the boundaries of the floodway, flood fringe, or general floodplain districts.
- (1) The floodway, flood fringe and general floodplain districts are overlay districts that are superimposed on all existing zoning districts. The standards imposed in the overlay districts are in addition to any other requirements in this article. In case of a conflict, the more restrictive standards will apply.
- (c) *Incorporation of maps by reference:* The following maps together with all attached material are hereby adopted by reference and declared to be a part of the official zoning map and this article. The attached material includes the Flood Insurance Study for Hennepin County, Minnesota, and Incorporated Areas, dated November 4, 2016 and the Flood Insurance Rate Map panels enumerated below, dated November 4, 2016, all prepared by the Federal Emergency Management Agency. These materials are on file at City Hall.

Effective Flood Insurance Rate Map panels:

27053C031F

27053C031F

27053C031F

- (d) *Regulatory flood protection elevation:* The regulatory flood protection elevation (RFPE) is an elevation no lower than one foot above the elevation of the regional flood plus any increases in flood elevation caused by encroachments on the floodplain that result from designation of a floodway.
- (e) *Interpretation:* The boundaries of the zoning districts are determined by scaling distances on the flood insurance rate map.
- (1) Where a conflict exists between the floodplain limits illustrated on the official zoning map and actual field conditions, the flood elevations shall be the governing factor. The zoning administrator must interpret the boundary location based on the ground elevations that existed on the site on the date of the first National Flood Insurance Program map showing the area within the regulatory floodplain, and other available technical data.
- (2) Persons contesting a determination on the location of the district boundaries will be given a reasonable opportunity to present their case to the zoning administrator and to submit technical evidence.
- (f) *Abrogation and greater restrictions:* It is not intended by this article to repeal, abrogate, or impair any existing easements, covenants, or other private agreements. However, where this article imposes greater restrictions, the provisions of this ordinance prevail. All other ordinances inconsistent with this article are hereby repealed to the extent of the inconsistency only.

- (g) *Warning and disclaimer of liability:* This article does not imply that areas outside the floodplain districts or land uses permitted within such districts will be free from flooding or flood damages. This article does not create liability on the part of the city or its officers or employees for any flood damages that result from reliance on this article or any administrative decision lawfully made hereunder.
- (h) *Severability:* If any section, clause, provision, or portion of this article is adjudged unconstitutional or invalid by a court of law, the remainder of this article shall not be affected and shall remain in full force.
- (i) *Definitions:* Unless specifically defined below, words or phrases used in this article must be interpreted according to common usage and so as to give this article its most reasonable application.

Accessory use or structure. A use or structure on the same lot with, and of a nature customarily incidental and subordinate to, the principal use or structure.

Base flood elevation. The elevation of the "regional flood." The term "base flood elevation" is used in the flood insurance survey.

Basement. Any area of a structure, including crawl spaces, having its floor or base subgrade (below ground level) on all four sides, regardless of the depth of excavation below ground level.

Conditional use. A specific type of structure or land use listed in the official control that may be allowed but only after an in-depth review procedure and with appropriate conditions or restrictions as provided in the official zoning controls or building codes and upon a finding that:

- (1) Certain conditions as detailed in the zoning ordinance exist.
- (2) The structure and/or land use conform to the comprehensive land use plan if one exists and are compatible with the existing neighborhood.

Critical facilities. Facilities necessary to a community's public health and safety, those that store or produce highly volatile, toxic or water-reactive materials, and those that house occupants that may be insufficiently mobile to avoid loss of life or injury. Examples of critical facilities include hospitals, correctional facilities, schools, daycare facilities, nursing homes, fire and police stations, wastewater treatment facilities, public electric utilities, water plants, fuel storage facilities, and waste handling and storage facilities.

Development. Any manmade change to improved or unimproved real estate, including buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.

Equal degree of encroachment. A method of determining the location of floodway boundaries so that floodplain lands on both sides of a stream are capable of conveying a proportionate share of flood flows.

Farm fence. A fence as defined by Minn. Statutes Section 344.02, Subd. 1(a)—(d). An open type fence of posts and wire is not considered to be a structure under this ordinance. Fences that have the potential to obstruct flood flows, such as chain link fences and rigid walls, are regulated as structures under this article.

Flood. A temporary increase in the flow or stage of a stream or in the stage of a wetland or lake that results in the inundation of normally dry areas.

Flood frequency. The frequency for which it is expected that a specific flood stage or discharge may be equaled or exceeded.

Flood fringe. The portion of the special flood hazard area (one percent annual chance flood) located outside of the floodway. Flood fringe is synonymous with the term "floodway fringe" used in the Flood Insurance Study for Hennepin County, Minnesota.

Flood insurance rate map. Consistent with 44 CFR Section 59.1.

Flood prone area. Any land susceptible to being inundated by water from any source (see "flood").

Floodplain. The beds proper and the areas adjoining a wetland, lake or watercourse which have been or hereafter may be covered by the regional flood.

Floodproofing. A combination of structural provisions, changes, or adjustments to properties and structures subject to flooding, primarily for the reduction or elimination of flood damages.

Floodway. The bed of a wetland or lake and the channel of a watercourse and those portions of the adjoining floodplain which are reasonably required to carry or store the regional flood discharge.

Lowest floor. The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, used solely for parking of vehicles, building access, or storage in an area other than a basement area, is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of 44 Code of Federal Regulations, Part 60.3.

Manufactured home. A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured home" does not include the term "recreational vehicle."

New construction. Structures, including additions and improvements, and placement of manufactured homes, for which the start of construction commenced on or after the effective date of the ordinance from which this article derives.

Obstruction. Any dam, wall, wharf, embankment, levee, dike, pile, abutment, projection, excavation, channel modification, culvert, building, wire, fence, stockpile, refuse, fill, structure, or matter in, along, across, or projecting into any channel, watercourse, or regulatory floodplain which may impede, retard, or change the direction of the flow of water, either in itself or by catching or collecting debris carried by such water.

One hundred-year floodplain. Lands inundated by the "regional flood" (see definition).

Principal use or structure. All uses or structures that are not accessory uses or structures.

Reach. A hydraulic engineering term to describe a longitudinal segment of a stream or river influenced by a natural or man-made obstruction. In an urban area, the segment of a stream or river between two consecutive bridge crossings would most typically constitute a reach.

Recreational vehicle. A vehicle that is built on a single chassis, is 400 square feet or less when measured at the largest horizontal projection, is designed to be self-propelled or permanently towable by a light duty truck, and is designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use. For the purposes of this ordinance, the term recreational vehicle is synonymous with the term "travel trailer/travel vehicle."

Regional flood. A flood which is representative of large floods known to have occurred generally in Minnesota and reasonably characteristic of what can be expected to occur on an average frequency in the magnitude of the 1% chance or 100-year recurrence interval. Regional flood is synonymous with the term "base flood" used in a flood insurance study.

Regulatory flood protection elevation (RFPE). An elevation not less than one foot above the elevation of the regional flood plus any increases in flood elevation caused by encroachments on the floodplain that result from designation of a floodway.

Repetitive loss: Flood related damages sustained by a structure on two separate occasions during a ten-year period for which the cost of repairs at the time of each such flood event on the average equals or exceeds 25 percent of the market value of the structure before the damage occurred.

Special flood hazard area. A term used for flood insurance purposes synonymous with "one hundred-year floodplain."

Start of construction. Includes substantial improvement, and means the actual start of construction, repair, reconstruction, rehabilitation, addition, placement or other improvement that occurred before the permit's expiration date. The actual start is either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, foundations, or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

Structure. Anything constructed or erected on the ground or attached to the ground or on-site utilities, including, but not limited to, buildings, factories, sheds, detached garages, cabins, manufactured homes, recreational vehicles not meeting the exemption criteria specified in subsection 61-9(b)(2) and other similar items.

Substantial damage means damage of any origin sustained by a structure where the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

Substantial improvement. Within any consecutive 365-day period, any reconstruction, rehabilitation (including normal maintenance and repair), repair after damage, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures that have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either:

- (1) Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions.
 - (2) Any alteration of a "historic structure," provided that the alteration will not preclude the structure's continued designation as a "historic structure." For the purpose of this ordinance, "historic structure" is as defined in 44 Code of Federal Regulations, Part 59.1.
- (j) *Annexations:* The flood insurance rate map panels adopted by reference into subsection 61-2(c) above may include floodplain areas that lie outside of the corporate boundaries of the city at the time of adoption of the ordinance from which this article derives. If any of these floodplain land areas are annexed into the city after the date of adoption of the ordinance from which this article derives, the newly annexed floodplain lands will be subject to the provisions of this article immediately upon the date of annexation.
- (k) *Detachments.* The flood insurance rate map panels adopted by reference into subsection 61-2(c) above will include floodplain areas that lie inside the corporate boundaries of municipalities at the time of adoption of the ordinance from which this article derives. If any of these floodplain land areas are detached from a municipality and come under the jurisdiction of the city after the date of adoption of the ordinance from which this article derives, the newly detached floodplain lands will be subject to the provisions of this article immediately upon the date of detachment.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-3. - Establishment of zoning districts.

(a) *Districts:*

(1)

Floodway district. The floodway district includes those areas within zones AE that have a floodway delineated as shown on the flood insurance rate map adopted in subsection 61-2(c) as well as portions of other lakes, wetlands, and basins within zones AE (that do not have a floodway delineated) that are located at or below the ordinary high water level as defined in Minnesota Statutes, Section 103G.005, subdivision 14.

(2) Flood fringe district. The flood fringe district includes areas within Zones AE that have a floodway delineated on the flood insurance rate map adopted in subsection 61-2(c), but are located outside of the floodway. For lakes, wetlands and other basins within zones AE that do not have a floodway delineated, the flood fringe district also includes those areas below the 1% annual chance (100-year) flood elevation but above the ordinary high water level as defined in Minnesota Statutes, Section 103G.005, subdivision 14.

(3) Reserved for general floodplain district (GF).

(b) *Applicability:* Within the floodplain districts established in this ordinance, the use, size, type and location of development must comply with the terms of this ordinance and other applicable regulations. In no cases shall floodplain development adversely affect the efficiency or unduly restrict the capacity of the channels or floodways of any tributaries to the main stream, drainage ditches, or any other drainage facilities or systems. All uses not listed as permitted uses or conditional uses in sections 61-4, 61-5 and 61-6 are prohibited. In addition, critical facilities, as defined in subsection 61-2(i), are prohibited in all floodplain districts.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-4. - Floodway district (FW).

- (a) *Permitted uses:* The following uses, subject to the standards set forth in subsection 61-4(b), are permitted uses if otherwise allowed in the underlying zoning district or any applicable overlay district:
- (1) Open space uses, including but not limited to picnic grounds, boat launching ramps, swimming areas, parks, wildlife and nature preserves, hunting and fishing areas
 - (2) Residential lawns, gardens.
 - (3) Railroads, streets, bridges, utility transmission lines and pipelines, provided that the Department of Natural Resources' area hydrologist is notified at least ten days prior to issuance of any permit.
- (b) *Standards for floodway permitted uses:*
- (1) The use must have a low flood damage potential.
 - (2) The use must not obstruct flood flows or cause any increase in flood elevations and must not involve structures, obstructions, or storage of materials or equipment.
- (c) *Conditional uses:* The following uses may be allowed as conditional uses following the standards and procedures set forth in subsection 61-10(d) and further subject to the standards set forth in subsection 61-10(d), if otherwise allowed in the underlying zoning district or any applicable overlay district.

- (1) Marinas, boat rentals, permanent docks, piers, wharves, and water control structures.
 - (2) Storage yards for equipment, machinery, or materials.
 - (3) Placement of fill or construction of fences that obstruct flood flows.
- (d) *Standards for floodway conditional uses:*
- (1) All uses. A conditional use must not cause any increase in the stage of the one-percent chance or regional flood or cause an increase in flood damages in the reach or reaches affected.
 - (2) Fill; storage of materials:
 - a. The storage or processing of materials that are, in time of flooding, flammable, explosive, or potentially injurious to human, animal, or plant life is prohibited.
 - b. Fill, dredge spoil, and other similar materials deposited or stored in the floodplain must be protected from erosion by vegetative cover, mulching, riprap or other acceptable method.
 - c. Temporary placement of fill, other materials, or equipment which would cause an increase to the stage of the 1% percent chance or regional flood may only be allowed if the City of Excelsior has approved a plan that assures removal of the materials from the floodway based upon the flood warning time available.
 - (3) Structural works for flood control that will change the course, current or cross section of protected wetlands or public waters are subject to the provisions of Minnesota Statutes, Section 103G.245.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-5. - Flood fringe district (FF).

- (a) *Permitted uses:* Permitted uses are those uses of land or structures allowed in the underlying zoning district(s) that comply with the standards in subsection 61-5(b). If no pre-existing, underlying zoning districts exist, then any residential or nonresidential structure or use of a structure or land is a permitted use provided it does not constitute a public nuisance.
- (b) *Standards for flood fringe permitted uses:*
- (1) All structures, including accessory structures, must be elevated on fill so that the lowest floor, as defined, is at or above the regulatory flood protection elevation. The finished fill elevation for structures must be no lower than one foot below the regulatory flood protection elevation and the fill must extend at the same elevation at least 15 feet beyond the outside limits of the structure.
 - (2) Accessory structures. As an alternative to the fill requirements of subsection 61-5(b)(1), structures accessory to the uses identified in subsection 61-55(a) may be permitted to be internally/wet floodproofed to the FP3 or FP4 floodproofing classifications in the State Building Code, provided that:
 - a. The accessory structure constitutes a minimal investment, does not exceed 576 square feet in size, and is only used for parking and storage.
 - b.

All portions of floodproofed accessory structures below the regulatory flood protection elevation must be: (i) adequately anchored to prevent flotation, collapse or lateral movement and designed to equalize hydrostatic flood forces on exterior walls, (ii) be constructed with materials resistant to flood damage, and (iii) must have all service utilities be water-tight or elevated to above the regulatory flood protection elevation.

- c. Designs for meeting this requirement must either be certified by a registered professional engineer or meet or exceed the following criteria:
1. To allow for the equalization of hydrostatic pressure, there must be a minimum of two "automatic" openings in the outside walls of the structure, with a total net area of not less than one square inch for every square foot of enclosed area subject to flooding; and
 2. There must be openings on at least two sides of the structure and the bottom of all openings must be no higher than one foot above the lowest adjacent grade to the structure. Using human intervention to open a garage door prior to flooding will not satisfy this requirement for automatic openings.
- (3) The cumulative placement of fill or similar material on a parcel must not exceed 1,000 cubic yards, unless the fill is specifically intended to elevate a structure in accordance with subsection 61-5(b)(1) of this article, or if allowed as a conditional use under subsection 61-5(c)(3) below.
- (4) The storage of any materials or equipment must be elevated on fill to the regulatory flood protection elevation.
- (5) All service utilities, including ductwork, must be elevated or water-tight to prevent infiltration of floodwaters.
- (6) The storage or processing of materials that are, in time of flooding, flammable, explosive, or potentially injurious to human, animal, or plant life is prohibited.
- (7) All fill must be properly compacted and the slopes must be properly protected by the use of riprap, vegetative cover or other acceptable method.
- (8) All new principal structures must have vehicular access at or above an elevation not more than two feet below the regulatory flood protection elevation, or must have a flood warning /emergency evacuation plan acceptable to the city.
- (9) Accessory uses such as yards, railroad tracks, and parking lots may be at an elevation lower than the regulatory flood protection elevation. However, any facilities used by employees or the general public must be designed with a flood warning system that provides adequate time for evacuation if the area is inundated to a depth and velocity such that the depth (in feet) multiplied by the velocity (in feet per second) would exceed a product of four upon occurrence of the regional (one-percent chance) flood.
- (10) Interference with normal manufacturing/industrial plant operations must be minimized, especially along streams having protracted flood durations. In considering permit applications, due consideration must be given to the needs of industries with operations that require a floodplain

location.

(11) Manufactured homes and recreational vehicles must meet the standards of section 61-9.

(c) *Conditional uses:* The following uses and activities may be allowed as conditional uses, if allowed in the underlying zoning district(s) or any applicable overlay district, following the procedures in subsection 61-10(d).

(1) Any structure that is not elevated on fill or floodproofed in accordance with subsections 61-5(b)(1) and (2).

(2) Storage of any material or equipment below the regulatory flood protection elevation.

(3) The cumulative placement of more than 1,000 cubic yards of fill when the fill is not being used to elevate a structure in accordance with subsection 61-5(b)(1)e.

(d) *Standards for flood fringe conditional uses:*

(1) The standards listed in subsections 61-5(4) through 61-5(b)(10) apply to all conditional uses.

(2) Basements, as defined by Section 2.913 of this ordinance, are subject to the following:

a. Residential basement construction is not allowed below the regulatory flood protection elevation.

b. Non-residential basements may be allowed below the regulatory flood protection elevation provided the basement is structurally dry floodproofed in accordance with subsection 61-5(d) (3).

(3) All areas of nonresidential structures, including basements, to be placed below the regulatory flood protection elevation must be floodproofed in accordance with the structurally dry floodproofing classifications in the state building code. Structurally dry floodproofing must meet the FP1 or FP2 floodproofing classification in the state building code, which requires making the structure watertight with the walls substantially impermeable to the passage of water and with structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy.

(4) The placement of more than 1,000 cubic yards of fill or other similar material on a parcel (other than for the purpose of elevating a structure to the regulatory flood protection elevation) must comply with an approved erosion/sedimentation control plan.

a. The plan must clearly specify methods to be used to stabilize the fill on site for a flood event at a minimum of the regional (1% chance) flood event.

b. The plan must be prepared and certified by a registered professional engineer or other qualified individual acceptable to the city.

c. The plan may incorporate alternative procedures for removal of the material from the floodplain if adequate flood warning time exists.

(5) Storage of materials and equipment below the regulatory flood protection elevation must comply with an approved emergency plan providing for removal of such materials within the time available after a flood warning.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-6. - Reserved for general floodplain district (GF).

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-7. - Land development standards.

- (a) *In general:* Recognizing that flood prone areas may exist outside of the designated floodplain districts, the requirements of this section apply to all land within the city.
- (b) *Subdivisions:* No land may be subdivided which is unsuitable for reasons of flooding or inadequate drainage, water supply or sewage treatment facilities. Manufactured home parks and recreational vehicle parks or campgrounds are considered subdivisions under this article.
- (1) All lots within the floodplain districts must be able to contain a building site outside of the floodway district at or above the regulatory flood protection elevation.
 - (2) All subdivisions must have road access both to the subdivision and to the individual building sites no lower than two feet below the regulatory flood protection elevation, unless a flood warning emergency plan for the safe evacuation of all vehicles and people during the regional (one-percent chance) flood has been approved by the city. The plan must be prepared by a registered engineer or other qualified individual, and must demonstrate that adequate time and personnel exist to carry out the evacuation.
 - (3) For all subdivisions in the floodplain, the floodway and flood fringe district boundaries, the regulatory flood protection elevation and the required elevation of all access roads must be clearly labeled on all required subdivision drawings and platting documents.
 - (4) If a subdivision proposal or other proposed new development is in a flood prone area, any such proposal must be reviewed to assure that:
 - a. All such proposals are consistent with the need to minimize flood damage within the flood prone area;
 - b. All public utilities and facilities, such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damage; and
 - c. Adequate drainage is provided to reduce exposure of flood hazard.
- (c) *Building sites.* If a proposed building site is in a flood prone area, all new construction and substantial improvements (including the placement of manufactured homes) must be:
- (1) Designed (or modified) and adequately anchored to prevent floatation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;
 - (2) Constructed with materials and utility equipment resistant to flood damage;
 - (3) Constructed by methods and practices that minimize flood damage; and
 - (4)

Constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-8. - Public utilities, railroads, roads, and bridges.

- (a) *Public utilities:* All public utilities and facilities such as gas, electrical, sewer, and water supply systems to be located in the floodplain must be floodproofed in accordance with the state building code or elevated to the regulatory flood protection elevation.
- (b) *Public transportation facilities:* Railroad tracks, roads, and bridges to be located within the floodplain must comply with sections 61-4 and 61-5 of this article. These transportation facilities must be elevated to the regulatory flood protection elevation where failure or interruption of these facilities would result in danger to the public health or safety or where such facilities are essential to the orderly functioning of the area. Minor or auxiliary roads or railroads may be constructed at a lower elevation where failure or interruption of transportation services would not endanger the public health or safety.
- (c) *On-site water supply and sewage treatment systems:* Where public utilities are not provided: 1) On-site water supply systems must be designed to minimize or eliminate infiltration of flood waters into the systems and are subject to the provisions in Minnesota Rules Chapter 4725.4350, as amended; and 2) New or replacement on-site sewage treatment systems must be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters, they must not be subject to impairment or contamination during times of flooding, and are subject to the provisions in Minnesota Rules Chapter 7080.2270, as amended.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-9. - Manufactured homes, manufactured home parks, and recreational vehicles.

- (a) *Manufactured homes:* New manufactured home parks and expansions to existing manufactured home parks are prohibited in any floodplain district. For existing manufactured home parks or lots of record, the following requirements apply:
 - (1) Placement or replacement of manufactured home units is prohibited in the floodway district.
 - (2) If allowed in the flood fringe district, placement or replacement of manufactured home units is subject to the requirements of section 61-5 of this article and the following standards.
 - a. New and replacement manufactured homes must be elevated in compliance with section 61-55 and must be securely anchored to an adequately anchored foundation system that resists flotation, collapse and lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state or local anchoring requirements for resisting wind forces.

b.

New or replacement manufactured homes in existing manufactured home parks must meet the vehicular access requirements for subdivisions in subsection 61-7(b)(2).

- (b) *Recreational vehicles:* New recreational vehicle parks or campgrounds and expansions to existing recreational vehicle parks or campgrounds are prohibited in any floodplain district. Placement of recreational vehicles in existing recreational vehicle parks or campgrounds in the floodplain must meet the exemption criteria below or be treated as new structures meeting the requirements of this article.
- (1) Recreational vehicles are exempt from the provisions of this article if they are placed in any of the following areas and meet the criteria listed in subsection 61-9(b)(2):
- a. Individual lots or parcels of record.
 - b. Existing commercial recreational vehicle parks or campgrounds.
 - c. Existing condominium-type associations.
- (2) Criteria for exempt recreational vehicles:
- a. The vehicle must have a current license required for highway use.
 - b. The vehicle must be highway ready, meaning on wheels or the internal jacking system, attached to the site only by quick disconnect type utilities commonly used in campgrounds and recreational vehicle parks.
 - c. No permanent structural type additions may be attached to the vehicle.
 - d. The vehicle and associated use must be permissible in any pre-existing, underlying zoning district.
 - e. Accessory structures are not permitted within the Floodway District. Any accessory structure in the Flood Fringe District must be constructed of flood-resistant materials and be securely anchored, meeting the requirements applicable to manufactured homes in Section 9.22.
 - f. An accessory structure must constitute a minimal investment.
- (3) Recreational vehicles that are exempt in subsection 61-9(b)(2) lose this exemption when development occurs on the site that exceeds a minimal investment for an accessory structure such as a garage or storage building. The recreational vehicle and all accessory structures will then be treated as new structures subject to the elevation and floodproofing requirements of section 61-5 of this article. No development or improvement on the parcel or attachment to the recreational vehicle is allowed that would hinder the removal of the vehicle should flooding occur.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-10. - Administration.

- (a) *Zoning administrator:* A zoning administrator or other official designated by the city council must administer and enforce this article.
- (b) *Permit requirements:*
- (1)

Permit required. A permit must be obtained from the zoning administrator prior to conducting the following activities:

- a. The erection, addition, modification, rehabilitation, or alteration of any building, structure, or portion thereof. Normal maintenance and repair also requires a permit if such work, separately or in conjunction with other planned work, constitutes a substantial improvement as defined in this article.
 - b. The use or change of use of a building, structure, or land.
 - c. The construction of a dam, fence, or on-site septic system, although a permit is not required for a farm fence as defined in this article.
 - d. The change or extension of a nonconforming use.
 - e. The repair of a structure that has been damaged by flood, fire, tornado, or any other source.
 - f. The placement of fill, excavation of materials, or the storage of materials or equipment within the floodplain.
 - g. Relocation or alteration of a watercourse (including new or replacement culverts and bridges), unless a public waters work permit has been applied for.
 - h. Any other type of "development" as defined in this article.
- (2) *Application for permit.* Permit applications must be submitted to the zoning administrator on forms provided by the zoning administrator. The permit application must include the following as applicable:
- a. A site plan showing all pertinent dimensions, existing or proposed buildings, structures, and significant natural features having an influence on the permit.
 - b. Location of fill or storage of materials in relation to the stream channel.
 - c. Copies of any required municipal, county, state or federal permits or approvals.
 - d. Other relevant information requested by the zoning administrator as necessary to properly evaluate the permit application.
- (3) ***Certificate of zoning compliance for a new, altered, or nonconforming use.*** *No building, land or structure may be occupied or used in any manner until a certificate of zoning compliance has been issued by the zoning administrator stating that the use of the building or land conforms to the requirements of this article.*
- (4) *Certification.* The applicant is required to submit certification by a registered professional engineer, registered architect, or registered land surveyor that the finished fill and building elevations were accomplished in compliance with the provisions of this ordinance. Floodproofing measures must be certified by a registered professional engineer or registered architect.
- (5) *Record of First Floor Elevation.* The zoning administrator must maintain a record of the elevation of the lowest floor (including basement) of all new structures and alterations or additions to existing structures in the floodplain. The zoning administrator must also maintain a record of the elevation to which structures and alterations or additions to structures are floodproofed.

(6) *Notification to FEMA when physical changes increase or decrease base flood elevations.* As soon as is practicable, but not later than six months after the date such supporting information becomes available, the zoning administrator must notify the Chicago Regional Office of FEMA of the changes by submitting a copy of the relevant technical or scientific data.

(c) *Variances:*

- (1) *Variance applications.* An application for a variance to the provisions of this article will be processed and reviewed in accordance with applicable state statutes and Article 6 of this Appendix E of the City of Excelsior of the Code of Ordinances.
- (2) *Adherence to state floodplain management standards.* A variance must not allow a use that is not allowed in that district, permit a lower degree of flood protection than the regulatory flood protection elevation for the particular area, or permit standards lower than those required by state law.
- (3) *Additional variance criteria.* The following additional variance criteria of the Federal Emergency Management Agency must be satisfied:
 - a. Variances must not be issued by a community within any designated regulatory floodway if any increase in flood levels during the base flood discharge would result.
 - b. Variances may only be issued by a community upon (i) a showing of good and sufficient cause, (ii) a determination that failure to grant the variance would result in exceptional hardship to the applicant, and (iii) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
 - c. Variances may only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- (4) *Flood insurance notice.* The zoning administrator must notify the applicant for a variance that: 1) The issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance up to amounts as high as \$25.00 for \$100.00 of insurance coverage; and 2) Such construction below the base or regional flood level increases risks to life and property. Such notification must be maintained with a record of all variance actions.
- (5) *General considerations.* The community may consider the following factors in granting variances and imposing conditions on variances and conditional uses in floodplains:
 - a. The potential danger to life and property due to increased flood heights or velocities caused by encroachments;
 - b. The danger that materials may be swept onto other lands or downstream to the injury of others;
 - c. The proposed water supply and sanitation systems, if any, and the ability of these systems to minimize the potential for disease, contamination and unsanitary conditions;

- d. The susceptibility of any proposed use and its contents to flood damage and the effect of such damage on the individual owner;
 - e. The importance of the services to be provided by the proposed use to the community;
 - f. The requirements of the facility for a waterfront location;
 - g. The availability of viable alternative locations for the proposed use that are not subject to flooding;
 - h. The compatibility of the proposed use with existing development and development anticipated in the foreseeable future;
 - i. The relationship of the proposed use to the Comprehensive Land Use Plan and flood plain management program for the area;
 - j. The safety of access to the property in times of flood for ordinary and emergency vehicles;
 - k. The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters expected at the site.
- (6) *Submittal of hearing notices to the Department of Natural Resources (DNR).* The zoning administrator must submit hearing notices for proposed variances to the DNR sufficiently in advance to provide at least ten days' notice of the hearing. The notice may be sent by electronic mail or U.S. Mail to the respective DNR area hydrologist.
- (7) *Submittal of final decisions to the DNR.* A copy of all decisions granting variances must be forwarded to the DNR within ten days of such action. The notice may be sent by electronic mail or U.S. Mail to the respective DNR area hydrologist.
- (8) *Record-keeping.* The ZONING Administrator must maintain a record of all variance actions, including justification for their issuance, and must report such variances in an annual or biennial report to the Administrator of the National Flood Insurance Program, when requested by the Federal Emergency Management Agency.
- (d) *Conditional uses:*
- (1) *Administrative review.* An application for a conditional use permit under the provisions of this article will be processed and reviewed in accordance with Article 4 of Appendix E of City Code of Ordinances.
 - (2) *Factors used in decision-making.* In passing upon conditional use applications, the city council must consider all relevant factors specified in other sections of this article, and those factors identified in subsection 61-10(c)(5) of this article.
 - (3) *Conditions attached to conditional use permits.* The city council may attach such conditions to the granting of conditional use permits as it deems necessary to fulfill the purposes of this article. Such conditions may include, but are not limited to, the following:
 - a. Modification of waste treatment and water supply facilities.
 - b. Limitations on period of use, occupancy, and operation.
 - c. Imposition of operational controls, sureties, and deed restrictions.

- d. Requirements for construction of channel modifications, compensatory storage, dikes, levees, and other protective measures.
 - e. Floodproofing measures, in accordance with the state building code and this article. The applicant must submit a plan or document certified by a registered professional engineer or architect that the floodproofing measures are consistent with the regulatory flood protection elevation and associated flood factors for the particular area.
- (4) *Submittal of hearing notices to the Department of Natural Resources (DNR).* The zoning administrator must submit hearing notices for proposed conditional uses to the DNR sufficiently in advance to provide at least ten days' notice of the hearing. The notice may be sent by electronic mail or U.S. Mail to the respective DNR area hydrologist.
- (5) *Submittal of final decisions to the DNR.* A copy of all decisions granting conditional uses must be forwarded to the DNR within ten days of such action. The notice may be sent by electronic mail or U.S. Mail to the respective DNR area hydrologist.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-11. - Nonconformities.

- (a) *Continuance of nonconformities:* A use, structure, or occupancy of land which was lawful before the passage or amendment of the ordinance from which this article derives but which is not in conformity with the provisions of this article may be continued subject to the following conditions. Historic structures, as defined in subsection 61-2(i) of this article, are subject to the provisions of subsections 61-11(a)(1)—61-11(a)(6) of this article.
- (1) A nonconforming use, structure, or occupancy must not be expanded, changed, enlarged, or altered in a way that increases its flood damage potential or degree of obstruction to flood flows except as provided in subsection 61-11(a)(2) below. Expansion or enlargement of uses, structures or occupancies within the floodway district is prohibited.
 - (2) Any addition or structural alteration to a nonconforming structure or nonconforming use that would result in increasing its flood damage potential must be protected to the regulatory flood protection elevation in accordance with any of the elevation on fill or floodproofing techniques (i.e., FP1 thru FP4 floodproofing classifications) allowable in the State Building Code, except as further restricted in subsection 61-11-(a)(3) and 61-11(a)(7) below.
 - (3) If the cost of all previous and proposed alterations and additions exceeds 50 percent of the market value of any nonconforming structure, that shall be considered substantial improvement, and the entire structure must meet the standards of section 61-4 or 61-5 of this article for new structures, depending upon whether the structure is in the floodway or flood fringe district, respectively. The cost of all structural alterations and additions must include all costs such as construction materials and a reasonable cost placed on all manpower or labor.
 - (4)

If any nonconforming use, or any use of a nonconforming structure, is discontinued for more than one year, any future use of the premises must conform to this article. The assessor must notify the zoning administrator in writing of instances of nonconformities that have been discontinued for a period of more than one year.

- (5) If any nonconformity is substantially damaged, as defined in subsection 61-2(i) of this article, it may not be reconstructed except in conformity with the provisions of this ordinance. The applicable provisions for establishing new uses or new structures in sections 61-4 or 61-5 will apply depending upon whether the use or structure is in the floodway or flood fringe, respectively.
- (6) If any nonconforming use or structure experiences a repetitive loss, as defined in subsection 61-2(i) of this article, it must not be reconstructed except in conformity with the provisions of this article.
- (7) Any substantial improvement, as defined in subsection 61-2(i) of this article, to a nonconforming structure requires that the existing structure and any additions must meet the requirements of sections 61-4 or 61-5 of this article for new structures, depending upon whether the structure is in the floodway or flood fringe district.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-12. - Penalties and enforcement.

- (a) *Violation constitutes a misdemeanor:* Violation of the provisions of this article or failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with grants of variances or conditional uses) constitute a misdemeanor and will be punishable as defined by law.
- (b) *Other lawful action:* Nothing in this article restricts the city from taking such other lawful action as is necessary to prevent or remedy any violation. If the responsible party does not appropriately respond to the zoning administrator within the specified period of time, each additional day that lapses will constitute an additional violation of this ordinance and will be prosecuted accordingly.
- (c) *Enforcement:* Violations of the provisions of this article will be investigated and resolved in accordance with the provisions of Article 10 of Appendix E of the City Code of Ordinances. In responding to a suspected ordinance violation, the zoning administrator and city may utilize the full array of enforcement actions available to it including but not limited to prosecution and fines, injunctions, after-the-fact permits, orders for corrective measures or a request to the National Flood Insurance Program for denial of flood insurance availability to the guilty party. The city must act in good faith to enforce these official controls and to correct ordinance violations to the extent possible so as not to jeopardize its eligibility in the National Flood Insurance Program.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-13. - Amendments.

- (a) *Floodplain designation—Restrictions on removal:* The floodplain designation on the official zoning map must not be removed from floodplain areas unless it can be shown that the designation is in error or that the area has been filled to or above the elevation of the regulatory flood protection elevation and is contiguous to lands outside the floodplain. Special exceptions to this rule may be permitted by the Commissioner of the Department of Natural Resources (DNR) if the Commissioner determines that, through other measures, lands are adequately protected for the intended use.
- (b) *Amendments require DNR approval:* All amendments to this article must be submitted to and approved by the Commissioner of the Department of Natural Resources (DNR) prior to adoption. The commissioner must approve the amendment prior to community approval.
- (c) *Map revisions require ordinance amendments.* The floodplain district regulations must be amended to incorporate any revisions by the Federal Emergency Management Agency to the floodplain maps adopted in subsection 61-2(c) of this article.

(Ord. No. 547, § 1, 10-17-2016)

APPENDIX K – PHOSPHORUS LOAD REDUCTION PLAN

PHOSPHORUS LOAD REDUCTION PLAN

CITY OF EXCELSIOR

JANUARY 2008

Prepared by:

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(763) 541-1700**

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- II. PROCEDURES AND METHODS FOLLOWED**
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Figure 1. Downtown Street Sweeping Routes

I. INTRODUCTION AND PURPOSE

The Minnehaha Creek Watershed District (MCWD) is requiring the cities within its boundaries to reduce the level of phosphorus discharged to the Minnehaha Creek system to meet the Total Maximum Daily Load requirements for the Minnehaha Creek. Each city has been given a load reduction amount based on the MCWD's modeling that was completed and outlined in the technical memorandum entitled "Methodology for HHPLS-P-Load model Application to Development of Subwatershed Rules Under Performance-Based Management". Based on the MCWD's analysis, the City of Excelsior is required to remove 10 pounds of phosphorus annually.

This report outlines the City's plan to address the removal of 10 pounds of phosphorus as part of the City's street sweeping program. The City sweeps once in the spring, once in the fall, and sweeps the downtown area twice a week. The areas outside downtown also receive one more sweeping throughout the year. The analysis for the phosphorus removal is outlined in the study. Additionally, the City will test its swept material to calibrate this study.

II. PROCEDURES AND METHODS FOLLOWED

This section of the report provides the procedures and methods followed for the loading assessment and analysis. The City's plan to address the phosphorus loading reduction anticipates the following elements:

- Sweep downtown streets twice a week between April and November
- Sweep all streets once in fall

While the City does a spring sweeping and does sweep other areas of the City more frequently, it has not been included in this analysis.

To determine the amount of phosphorus removed by street sweeping, the amount of total material removed from each sweeping was determined from City records. The downtown street sweeping route is shown on **Figure 1**. Based on the City's information, the downtown sweeping removes approximately 500 pounds of material per sweeping event. With a sweeping event twice a week between April and November, this equates to 1,000 pounds of material per week and 34,000 pounds per year. The fall sweeping throughout the City removes 15,000 pounds each fall, mostly consisting of leaves.

To determine the amount of phosphorus (P) in the swept material, data from the City of Plymouth was used. Plymouth has estimated an average concentration of 235 mg/kg of P in swept material based on testing results from 2007. This concentration has been used for this analysis.

Downtown Sweeping: Based on 235.5 mg/kg of P in the swept material, this equates to 0.24 pounds of P per week as follows.

$$235.5 \text{ mg/kg} = 0.00024 \text{ lbs/lb}$$

$$P[0.00024 \text{ lbs}] \times 1,000 \text{ lbs of material per week} = 0.24 \text{ lbs of P per week swept}$$

$$0.24 \text{ lbs} \times 34 \text{ weeks of sweeping} = \mathbf{8.16 \text{ lbs of P removed}}$$

Fall Sweeping: Based on the same concentration of P and 15,000 lbs of material swept throughout the City, the P removal for the fall sweeping is estimated as follows:

$$P[0.00024 \text{ lbs}] \times 15,000 \text{ lbs of material per fall} = \mathbf{3.6 \text{ lbs of P removed}}$$

III. DISCUSSION/EVALUATION OF RESULTS

The downtown sweeping route is shown on **Figure 1**. As stated, this downtown sweeping is estimated to remove 1,000 pounds of material per week and 34,000 pounds of material per year between April and November. The fall sweeping city-wide is estimated to remove 15,000 pounds of material. The downtown sweeping is expected to remove 8.16 lbs of P and the fall sweeping is expected to remove 3.6 lbs of P. With this program, the City anticipates removing 11.76 lbs of P annually.

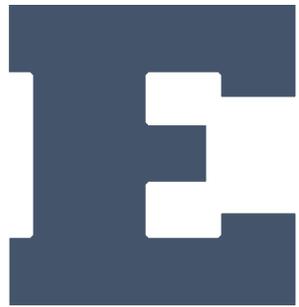
Most of the City discharges directly to Lake Minnetonka or another natural water body that then in turn discharges to the Lake. There are very few ponding areas within the City so treatment is limited. The exception to this is the Mitten Pond subwatershed and the Galpin Lake subwatershed 21A, 21B, and 22 (see subwatershed map in **Appendix B** of the Surface Water Management Plan). The street area within these subwatersheds is very small compared to the rest of the City and therefore was not excluded from the P calculation as the amount of street sweepings from this area would be too small to calculate.

IV. CONCLUSIONS

The City's plan to address the MCWD's phosphorus loading reduction includes the following elements:

- Sweep downtown streets twice a week between April and November.
- Sweep all streets once in fall

The City has been undertaking this sweeping program for a number of years. This program is anticipated to remove 11.76 pounds of phosphorus annually. Since the phosphorus concentration is based on testing results from the City of Plymouth, the City of Excelsior commits to testing its swept material in 2009 and 2010. From this data, the results of this analysis will be adjusted. Additional testing will be completed if needed.



APPENDIX: Capital Improvement Plan

**CITY OF EXCELSIOR
CAPITAL IMPROVEMENT PLAN (CIP)
2018 - 2028**

Year	Project Number	Project	Department	Priority	Capital Improv Fund	Park Improv Fund	Water Fund	Sewer Fund	Storm Water Fund	Parking Lot Maint Fund	Street Light Fund	Dock Fund	Total
2018		Equipment/Minor Projects	Various	A	82,832	4,286	50,468	48,468	32,468	4,286	10,286	-	233,093
2018	2018-1	Dock Extensions	Dock Fund	A	-	-	-	-	-	-	-	157,500	157,500
2018	2018-2	Replace 1978 Lift Station at Excelsior Blvd	Sewer Fund	A	-	-	-	220,000	-	-	-	-	220,000
2018	2018-4	Sewer Lining	Sewer Fund	A	-	-	-	120,000	-	-	-	-	120,000
					82,832	4,286	50,468	388,468	32,468	4,286	10,286	157,500	730,593
2019		Equipment/Minor Projects	Capital Projects	A	103,000	8,500	85,500	41,000	-	-	6,000	-	244,000
2019	2019-1	Sewer Lining	Sewer Fund	A	-	-	-	120,000	-	-	-	-	120,000
2019	2019-2	Automate Iron Filters	Water Fund	A	-	-	150,000	-	-	-	-	-	150,000
2019	2019-3	St. Albans Bridge - Planning & Design	Capital Improv.	A	225,000	-	-	-	-	-	-	-	225,000
					328,000	8,500	235,500	161,000	-	-	6,000	-	739,000
2020		Equipment/Minor Projects	Capital Projects	A	47,250	-	26,250	79,250	11,250	-	6,000	-	170,000
2020	2020-1	Crack Seal 2010/2011 Pavement Project	Capital Improv.	A	40,000	-	-	-	-	-	-	-	40,000
2020	2020-2	Crack Seal Met Council Project Streets	Capital Improv.	A	40,000	-	-	-	-	-	-	-	40,000
2020	2020-3	Sewer Lining	Sewer Fund	A	-	-	-	120,000	-	-	-	-	120,000
2020	2020-4	St. Albans Bridge - Construction	Capital Improv.	A	500,000	-	-	-	-	-	-	-	500,000
					127,250	-	26,250	199,250	11,250	-	6,000	-	370,000
2021		Equipment/Minor Projects	Capital Projects	A	15,000	8,500	40,000	41,000	15,000	-	6,000	-	125,500
2021	2021-1	Paint Water Tower	Water Fund	A	-	8,500	250,000	-	-	-	6,000	-	264,500
2021	2021-2	Sewer Lining	Sewer Fund	A	-	-	-	120,000	-	-	-	-	120,000
					15,000	17,000	290,000	161,000	15,000	-	12,000	-	510,000
2022		Equipment/Minor Projects	Capital Projects	A	15,000	-	40,000	53,000	15,000	-	6,000	-	129,000
2022	2022-1	Replace Highway 7 Lift Station	Sewer Fund	A	-	-	-	200,000	-	-	6,000	-	206,000
2022	2022-2	Sewer Lining	Sewer Fund	A	-	-	-	120,000	-	-	-	-	120,000
					15,000	-	40,000	373,000	15,000	-	12,000	-	455,000
2023		Equipment/Minor Projects	Capital Projects	A	15,000	8,500	40,000	25,000	15,000	-	6,000	-	109,500
2023	2023-1	Paint Ground Storage Tank	Water Fund	A	-	-	150,000	-	-	-	-	-	150,000
2023	2023-2	Sewer Lining	Sewer Fund	A	-	-	-	120,000	-	-	-	-	120,000
					15,000	8,500	190,000	145,000	15,000	-	6,000	-	379,500
2024		Equipment/Minor Projects	Capital Projects	A	31,500	-	50,750	33,250	28,750	8,250	6,000	-	158,500
2024	2024-1	Sewer Lining	Sewer Fund	A	-	-	-	120,000	-	-	-	-	120,000
					31,500	-	50,750	153,250	28,750	8,250	6,000	-	278,500

2025		Equipment/Minor Projects	Capital Projects	A	15,000	8,500	40,000	25,000	15,000	-	6,000	-	109,500
2025	2025-1	Crack Seal 2010/2011 Pavement Project	Capital Improv.	A	42,000	-	-	-	-	-	-	-	42,000
2025	2025-2	Crack Seal Met Council Project Street	Capital Improv.	A	42,000	-	-	-	-	-	-	-	42,000
2025	2025-3	Replace Tank Media Iron Filters	Water Fund	A	-	-	60,000	-	-	-	-	-	60,000
2025	2025-4	Sewer Lining	Sewer Fund	A	-	-	-	120,000	-	-	-	-	120,000
					<u>99,000</u>	<u>8,500</u>	<u>100,000</u>	<u>145,000</u>	<u>15,000</u>	<u>-</u>	<u>6,000</u>	<u>-</u>	<u>373,500</u>
2026		Equipment/Minor Projects	Capital Projects	A	22,500	-	87,500	32,500	22,500	-	6,000	-	171,000
2026	2026-1	Sewer Lining	Sewer Fund	A	-	-	-	120,000	-	-	-	-	120,000
					<u>22,500</u>	<u>-</u>	<u>87,500</u>	<u>152,500</u>	<u>22,500</u>	<u>-</u>	<u>6,000</u>	<u>-</u>	<u>291,000</u>
2027		Equipment/Minor Projects	Capital Projects	A	15,000	8,500	40,000	25,000	15,000	-	6,000	-	109,500
2027	2027-1	Sewer Lining	Sewer Fund	A	-	-	-	120,000	-	-	-	-	120,000
					<u>15,000</u>	<u>8,500</u>	<u>40,000</u>	<u>145,000</u>	<u>15,000</u>	<u>-</u>	<u>6,000</u>	<u>-</u>	<u>229,500</u>
2028		Equipment/Minor Projects	Capital Projects	A	15,000	-	40,000	25,000	15,000	-	6,000	-	101,000
2028	2028-1	Sewer Lining	Sewer Fund	A	-	-	-	120,000	-	-	-	-	120,000
					<u>15,000</u>	<u>-</u>	<u>40,000</u>	<u>145,000</u>	<u>15,000</u>	<u>-</u>	<u>6,000</u>	<u>-</u>	<u>221,000</u>
TOTALS					<u>751,082</u>	<u>55,286</u>	<u>1,110,468</u>	<u>1,995,468</u>	<u>169,968</u>	<u>12,536</u>	<u>76,286</u>	<u>157,500</u>	<u>4,328,593</u>

City of Excelsior
2018 - 2028 Equipment/Minor Projects

Year	Capital Item Description	Budget	Cap Improv.	Park Improv	Water	Sewer	StrmWtr	Prk Lot Mnt	Str Lgt	Total
2018										
	Equipment for Skid Steer	12,000	12,000							12,000
	Televis Sewer Lines	16,000				16,000				16,000
	Main Valve George & W Lake	3,000			3,000					3,000
	Utility Pickup	60,000			20,000	20,000	20,000			60,000
	Hydrant Replacement	15,000			15,000					15,000
	Walk Behind Mower	5,000	5,000							5,000
	Replace 2008 Streets Pickup	35,000	35,000							35,000
	Sander for F450 Pickup	10,000	10,000							10,000
	Hoist	30,000	4,285.71	4,285.71	4,285.71	4,285.71	4,285.71	4,285.71	4,285.71	30,000
	GIS	8,000			2,666.67	2,666.67	2,666.67			8,000
	Laserfiche	14,773	7,386.50		2,462.17	2,462.17	2,462.17			14,773
	Laserfiche Scanning	18,320	9,160.00		3,053.33	3,053.33	3,053.33			18,320
	Street Lighting Conduit	6,000							6,000	6,000
		233,093	82,832	4,286	50,468	48,468	32,468	4,286	10,286	233,093
2019										
	Rehab Well #3	30,000			30,000					30,000
	Replace 1974 Sewer Generator	25,000				25,000				25,000
	60" Mower (replace 2014)	13,000	13,000							13,000
	Ash Tree Injections	8,500		8,500						8,500
	Televis Sewer Lines	16,000				16,000				16,000
	Inspection Tower & Storage Tanks	2,500			2,500					2,500
	Resurface Floor in Water Plant	18,000			18,000					18,000
	Upgrade Hydrants	15,000			15,000					15,000
	Replace Windows Water Plant	20,000			20,000					20,000
	Utility Cart	10,000	10,000							10,000
	Asphalt Trailer	35,000	35,000							35,000
	Salt Storage	45,000	45,000							45,000
	Street Lighting Conduit	6,000							6,000	6,000
		244,000	103,000	8,500	85,500	41,000	-	-	6,000	244,000

City of Excelsior
2018 - 2028 Equipment/Minor Projects

Year	Capital Item Description	Budget	Cap Improv.	Park Improv	Water	Sewer	StrmWtr	Prk Lot Mnt	Str Lgt	Total
2020										
	Freightliner Tandem	45,000	11,250		11,250	11,250	11,250			45,000
	Televise Sewer Lines	16,000				16,000				16,000
	Hydrant Replacement	15,000			15,000					15,000
	60" Mower	24,000	24,000							24,000
	Kubota	12,000	12,000							12,000
	Replace Control Panel Park Lift	22,000				22,000				22,000
	Sewer Main Lining	30,000				30,000				30,000
	Street Lighting Conduit	6,000							6,000	6,000
		<u>164,000</u>	<u>47,250</u>	<u>-</u>	<u>26,250</u>	<u>79,250</u>	<u>11,250</u>	<u>-</u>	<u>6,000</u>	<u>170,000</u>
2021										
	Televise Sewer Lines	16,000				16,000				16,000
	Hydrant Replacement	15,000			15,000					15,000
	Ash Tree Injections	8,500		8,500						8,500
	Placeholders	80,000	15,000		25,000	25,000	15,000			80,000
	Street Lighting Conduit	6,000							6,000	6,000
		<u>119,500</u>	<u>15,000</u>	<u>8,500</u>	<u>40,000</u>	<u>41,000</u>	<u>15,000</u>	<u>-</u>	<u>6,000</u>	<u>125,500</u>
2022										
	Sewer (Third Avenue)	28,000				28,000				28,000
	Hydrant Replacement	15,000			15,000					15,000
	Street Lighting Conduit	6,000							6,000	6,000
	Placeholders	80,000	15,000		25,000	25,000	15,000			80,000
		<u>129,000</u>	<u>15,000</u>	<u>-</u>	<u>40,000</u>	<u>53,000</u>	<u>15,000</u>	<u>-</u>	<u>6,000</u>	<u>129,000</u>
2023										
	Hydrant Replacement	15,000			15,000					15,000
	Ash Tree Injections	8,500		8,500						8,500
	Street Lighting Conduit	6,000							6,000	6,000
	Placeholders	80,000	15,000		25,000	25,000	15,000			80,000
		<u>109,500</u>	<u>15,000</u>	<u>8,500</u>	<u>40,000</u>	<u>25,000</u>	<u>15,000</u>	<u>-</u>	<u>6,000</u>	<u>109,500</u>
2024										
	Hydrant Replacement	15,000			15,000					15,000
	Placeholders	80,000	15,000		25,000	25,000	15,000			80,000
	Test Iron & Softener Media in tanks	2,500			2,500					2,500
	Skid Steer (replace 2014)	55,000	16,500		8,250	8,250	13,750	8,250		55,000
	Street Lighting Conduit	6,000							6,000	6,000
		<u>152,500</u>	<u>31,500</u>	<u>-</u>	<u>50,750</u>	<u>33,250</u>	<u>28,750</u>	<u>8,250</u>	<u>6,000</u>	<u>158,500</u>

City of Excelsior
2018 - 2028 Equipment/Minor Projects

Year	Capital Item Description	Budget	Cap Improv.	Park Improv	Water	Sewer	StrmWtr	Prk Lot Mnt	Str Lgt	Total
2025										
	Hydrant Replacement	15,000			15,000					15,000
	Ash Tree Injections	8,500		8,500						8,500
	Street Lighting Conduit	6,000							6,000	6,000
	Placeholders	80,000	15,000		25,000	25,000	15,000			80,000
		<u>109,500</u>	<u>15,000</u>	<u>8,500</u>	<u>40,000</u>	<u>25,000</u>	<u>15,000</u>	<u>-</u>	<u>6,000</u>	<u>109,500</u>
2026										
	Replace Softener Filter Media	40,000			40,000					40,000
	Hydrant Replacement	15,000			15,000					15,000
	Placeholders	80,000	15,000		25,000	25,000	15,000			80,000
	Pickup (replace 2014)	30,000	7,500		7,500	7,500	7,500			30,000
	Street Lighting Conduit	6,000							6,000	6,000
		<u>125,000</u>	<u>22,500</u>	<u>-</u>	<u>87,500</u>	<u>32,500</u>	<u>22,500</u>	<u>-</u>	<u>6,000</u>	<u>171,000</u>
2027										
	Hydrant Replacement	15,000			15,000					15,000
	Ash Tree Injections	8,500		8,500						8,500
	Placeholders	80,000	15,000		25,000	25,000	15,000			80,000
	Street Lighting Conduit	6,000							6,000	6,000
		<u>103,500</u>	<u>15,000</u>	<u>8,500</u>	<u>40,000</u>	<u>25,000</u>	<u>15,000</u>	<u>-</u>	<u>6,000</u>	<u>109,500</u>
2028										
	Hydrant Replacement	15,000			15,000					15,000
	Placeholders	80,000	15,000		25,000	25,000	15,000			80,000
	Street Lighting Conduit	6,000							6,000	6,000
		<u>95,000</u>	<u>15,000</u>	<u>-</u>	<u>40,000</u>	<u>25,000</u>	<u>15,000</u>	<u>-</u>	<u>6,000</u>	<u>101,000</u>
	Ten Year Total (2018-2028)	<u>1,584,593</u>	<u>377,082</u>	<u>46,786</u>	<u>540,468</u>	<u>428,468</u>	<u>184,968</u>	<u>12,536</u>	<u>70,286</u>	<u>1,660,593</u>

Excelsior



Comprehensive Surface Water Management Plan

July 2018

Prepared For
City of Excelsior
339 Third Street
Excelsior, MN 55331



WSB Project No. 010059-000

COMPREHENSIVE SURFACE WATER MANAGEMENT PLAN

CITY OF EXCELSIOR, MN

JULY 2018

WSB Project No. 010059-000



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Jake Newhall, PE  _____
Reg. No. 49170

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BMP – Best Management Practice
CIP – Capital Improvement Plan
City – City of Excelsior
DNR – Department of Natural Resources
DWSMA – Drinking Water Supply Management Area
EPA – Environmental Protection Agency
FEMA- Federal Emergency Management Agency
FIRM – Flood Insurance Rate Maps
FIS – Flood Insurance Study
GIS – Geographic Information System
HHPLS – Hydrologic, Hydraulic, and Pollutant Loading Study
LGU – Local Government Unit
LID – Low Impact Development
McRAM – Minnehaha Creek Routine Assessment Method
MCWD – Minnehaha Creek Watershed District
MDH – Minnesota Department of Health
MLCCS – Minnesota Land Cover Classification System
MPCA – Minnesota Pollution Control Agency
MS4 – Municipal Separate Storm Sewer Systems
NPDES – National Pollutant Discharge Elimination System
NURP – Nationwide Urban Runoff Program
NWI – National Wetland Inventory
OHW – Ordinary High Water
PAHs – Polycyclic Aromatic Hydrocarbons
SWMP – Surface Water Management Plan (the Plan)
SWPPP – Storm Water Pollution Prevention Plan
TMDL – Total Maximum Daily Load
TP – Total Phosphorus
TSS – Total Suspended Solids
WCA – Wetland Conservation Act

1. EXECUTIVE SUMMARY

This Comprehensive Surface Water Management Plan (SWMP, the Plan) for the City of Excelsior (the City) has been developed to meet local watershed management planning requirements of the Metropolitan Surface Water Management Act and Board of Water and Soil Resources Rules 8410. It has also been developed to conform with the requirements of the local watershed district and watershed management organizations, Metropolitan Council requirements, and applicable State and Federal laws. This document and its referenced literature is intended to provide a comprehensive inventory of pertinent water resource related information that affects the City and management of those resources.

Section 2 – Land and Water Resource Inventory of this plan provides an inventory of land and water resources within the City including a general description and summary of data related to precipitation, geology, topography, flood problem areas, water quality, water management ordinances, groundwater, soils, land use, public utilities services, public areas for water-based recreation and access, fish and wildlife habitat, and pollutant source locations within the City.

Section 3 – Cooperation with Other Agencies describes the City's ordinances as well as other governmental controls and programs that affect water resources.

Section 4 – Problems and Corrective Actions provides an assessment of the existing and potential water resource related concerns within the City.

Section 5 – Establishment of Goals and Policies outlines the water resource management related goals and policies of the City.

Section 6 – Implementation Priorities / Implementation Program presents the program elements and discusses the responsibilities, priorities, and financial considerations associated with the implementation program. It also includes the amendment procedure for the Plan, if needed.

Appendices are included in the back of the plan and are summarized below. These documents are included to provide supporting information to the main body of the Plan.

Appendix A – Figures. A number of maps were developed as part of the Plan to assist in summarizing the information provided.

Appendix B – Water Resource Related Agreements. The City is currently involved in several water resource related agreements; copies are included in this appendix.

Appendix C – Stormwater System Modeling Information. A summary of the stormwater model that was developed for the City is included in this appendix. It is a HydroCAD model developed in 2008 for this Plan. This includes drainage areas, high water levels, and peak discharge rates as well as subwatershed and storm sewer maps.

Appendix D – FEMA Flood Insurance Study. A copy of the Federal Emergency Management Agency (FEMA) flood insurance rate maps are included in this appendix.

Appendix E – NPDES Phase II Information. A copy of the National Pollutant Discharge Elimination System (NPDES) permit application and Best Management Practice (BMP) summary sheets are included in this appendix.

Appendix F – Fish and Wildlife Information. Information from the Department of Natural Resources (DNR) regarding fish and wildlife resources is included in this appendix.

Appendix G – Identified Pollutant Sources. Supporting information from the Minnesota Pollution Control Agency (MPCA) regarding pollutant sources is included in this appendix.

Appendix H – Lake and Water Quality Information. Information collected about the lakes and water quality is included in this appendix.

Appendix I – Wetland Assessment Summary. This appendix contains the results of the wetland functional assessment for the City.

Appendix J – Ordinances. The City’s applicable water resource ordinances are included.

Appendix K – Phosphorus Load Reduction Plan. The City is required by Minnehaha Creek Watershed District (MCWD) to remove ten pounds of phosphorus annually. The plan to address this requirement is in this appendix.

Additional material is referenced within this report and is available from the Engineering Department.

This document is expected to be a ten-year Surface Water Management Plan, after which time this plan should be updated. However, if significant changes to the plan are deemed necessary prior to that date the City may revise this plan in its entirety.

2. LAND AND WATER RESOURCE INVENTORY

In conformance with the Metropolitan Surface Water Management Act and as required in Minnesota Rules Section 8410.0060, this section of the Plan provides a general description and summary of the climate, geology, surficial topography, surface and groundwater resource data, soils, land use, public utilities services, water-based recreation, fish and wildlife habitat, unique features, scenic areas, and pollutant sources. This section also identifies where detailed information can be obtained for many of these areas of concern.

2.1. Climate and Precipitation

2.1.1. Climate

The climate within the Minneapolis/St. Paul metropolitan area is described as a humid continental climate with moderate precipitation, wide daily temperature variations, warm humid summers, and cold winters. The total average annual precipitation is approximately 31 inches, of which approximately one-third occurs in the months of June, July, and August. The annual snowfall average is about 56 inches and is equivalent to approximately 5.6 inches of water. Average monthly temperature and precipitation are shown in **Table 2-1**.

2.1.2. Precipitation

A rainfall event having a 99% chance of occurrence in a given year over a 24-hour period is approximately 2.5 inches. A rainfall event having a 1% chance of occurrence in a given year over a 24-hour period, or what is most commonly referred to as a 100-year event, is approximately 7.35 inches. These values are based on the Atlas 14 precipitation frequency estimates. The 100-year, 10-day snowmelt runoff is 7.2 inches. Additional climatological information for the area can be obtained from the [National Weather Service Website](#) at or from the [State Climatologist website](#).

2.2. Geology and Topographic Information

2.2.1. Geology

The City is located in southwestern Hennepin County (**Figure 1, Appendix A**). The City is surrounded by the City of Shorewood, except for the northeast side where it is bordered by the City of Greenwood. Total area within the incorporated limits of the City is 554.5 acres, with 151.1 acres being water.

According to the Hennepin County Geologic Atlas, the geomorphology of the City in the uppermost geologic formation consists of quaternary deposits that can be as thick as 300 to 400 feet. The unconsolidated quaternary deposits of glacial and post glacial material conceal all the bedrock within the City. The bedrock formations are marine sedimentary rocks of Early Paleozoic age when shallow seas covered southeastern Minnesota.

The bedrock formations throughout the City include the Prairie du Chien and the St. Peter Sandstone. Depth to bedrock varies from approximately 600 to 750 feet above sea level.

There are three main aquifers within the City boundaries: Prairie du Chien Aquifer, Franconia-Ironton-Galesville Aquifer, and Mt. Simon-Hinckley Aquifer.

Additional geologic information for areas within the City can be found in the following plans:

- [Hennepin County Geologic Atlas](#)
- [Minnehaha Creek Watershed District Plan](#)

TABLE 2-1 AVERAGE MONTHLY TEMPERATURE AND PRECIPITATION DATA FOR CITY

Months	Average Temp (F°)	Precipitation (inches)
January	15.6	0.90
February	20.8	0.77
March	32.8	1.89
April	47.5	2.66
May	59.1	3.36
June	68.8	4.25
July	73.8	4.04
August	71.2	4.30
September	62.0	3.08
October	48.9	2.43
November	33.7	1.77
December	19.7	1.16

Source: National Centers for Environmental Information, MSP Airport

2.2.2. Topography:

The topography of the City can be described as essentially hilly shoreland adjacent to Lake Minnetonka. Stormwater runoff from the City is generally directed from the south to the north into Lake Minnetonka. The specific drainage patterns based on current land use, which depict topography for areas within the City, are shown on the subwatershed delineation map (**Figure 16, Appendix A**). As can be observed from the subwatershed delineation map, the City is divided into several small watersheds. The subwatershed delineations utilized City topographic mapping, storm sewer as-builts, aerial photos, and field investigations. The City owned and maintained stormwater facilities can also be found on **Figure 16, Appendix A**. There is very little undeveloped land left within the City, so no large-scale changes are expected in land use or drainage patterns. For this reason, **Figure 16, Appendix A** is considered a drainage patterns map for both the current and future conditions.

2.3. Surface Water Resource Data

Available surface water resource data within the City is summarized in this section. Detailed information has been included either in the appendices to this report or has been identified by reference and is available from the Engineering Department.

The hydrologic system of the City consists of wetlands, streams, and major water bodies as outlined below.

2.3.1. Wetlands

MCWD acts as the Local Government Unit (LGU) for the City for the Wetland Conservation Act (WCA). All land use plans submitted to the city with wetlands on-site are forwarded to MCWD for comment as well as any wetland related concerns.

The general locations of wetlands within the City are shown on **Figures 2, 3, and 4 in Appendix A**. These figures show the Wetland Assessment from the MCWD, National Wetland Inventory (NWI), and the DNR Public Waters Map, respectively. These wetlands provide habitat to many species of plants and animals.

In 2003, the MCWD completed a functional assessment of wetlands using the Minnehaha Creek Routine Assessment Method (McRAM) as shown on **Figure 2, Appendix A**. A summary of these results is included in **Appendix I**.

2.3.2. *Major Bodies of Water*

There are several water bodies that convey and store water within and through the City. These water bodies are Lake Minnetonka, Galpin Lake, Mud Lake, and College Lake (**Figure 4, Appendix A**). More information about these water bodies is included in various portions of this section. No Outstanding Resource Value Waters fall within the City boundary.

2.3.3. *Hydrologic Modeling*

The City’s hydrologic/hydraulic system consists of Lake Minnetonka as well as other lakes, ponds, wetlands, and storm sewer systems. The City is divided into approximately 57 subwatershed areas, which are shown on **Figure 16, Appendix A**. **Figure 19, Appendix A** shows the City’s storm sewer and structural BMPs.

The City’s hydrologic/hydraulic modeling effort was completed in 2008 using HydroCAD. The model quantifies the 2-year, 10-year, and 100-year rainfall events, peak discharge rates, storage requirements, other pertinent hydrologic/hydraulic information for storm water retention areas, and trunk storm water conveyance systems within the City. The City plans to update their City-wide model to Atlas 14 conditions and updated land use within the next few years. The hydrologic/hydraulic modeling results are included as **Appendix C**.

FEMA shows the 100-year floodplain of Lake Minnetonka as 931.0. MCWD shows the 100-year floodplain elevation at 931.5. While the City’s model did not include Lake Minnetonka, the City recognizes the 100-year floodplain elevation at 931.5.

In 2003, the MCWD completed a Hydrologic, Hydraulic, and Pollutant Loading Study (HHPLS) to determine the physical and biological characteristics within the watershed. The study looked into the amount of water moving through the watershed and the quality of that water and how the water quality varied in different parts of the watershed. Additional information can be found in the HHPLS on [MCWD’s website](#).

Additional information regarding water quantity within the City can be found in the following studies. Hard copies of these studies can be found at City Hall.

- Second Avenue Storm Sewer Study
- Bells Street Hydrological Study

2.4. Flood Insurance Studies

A FEMA Flood Insurance Study (FIS) was completed for Hennepin County and updated in 2016. The FIS consists of a study report, a set of floodway and floodplain delineation maps, and a set of Flood Insurance Rate Maps (FIRM). The FIRMs are available from the City Engineering Department, in **Appendix D**, or on [FEMA’s website](#). The floodplain boundaries for the City are shown in **Figure 5, Appendix A**. The 100-year flood levels and peak discharge rates based on the City’s model are included in **Appendix C**. **Table 2-2** includes the City model’s HWL and FEMA’s 100-year floodplain elevation for lakes located within the City.

TABLE 2-2 HIGH WATER LEVELS FOR LAKES LOCATED WITHIN THE CITY

Lake Name	City Model HWL	FEMA 100-year Floodplain Elevation
Lake Minnetonka	Not included in model	931.5
College Lake	948.8	946.0
Galpin Lake	945.7	946.0
Mud Lake	945.1	946.0

2.5. Water Resource Problem Areas

A number of water resource problem areas were identified within the City. **Figure 6, Appendix A** shows the locations of these water resource problem areas and **Table 4-1** lists the areas. These areas were identified through information obtained from City staff and from analyzing the stormwater modeling results.

There are three distinct types of problems found in the City:

- 1) Erosion and silt caused by uncontrolled runoff
- 2) Erosion problems in areas that have inadequately sized storm sewer
- 3) Low areas that do not provide adequate freeboard (two feet)

More detailed information about these issues is available in **Section 4** and **Table 4-1** of this Plan.

2.6. Water Quality Data

Water quality data for the City has been obtained from the MPCA's [Environmental Data Access website](#) and from the [MCWD website](#). Some of this data is included in **Appendix H. Figure 7, Appendix A** shows the location of monitoring sites listed on the MPCA website. Some of the available water quality information is summarized in **Table 2-3**.

TABLE 2-3 WATER QUALITY SUMMARY FOR LAKES IN THE CITY

	Mean Total Phosphorus (ppb)	Mean Chlorophyll a (ppb)	Secchi Disk (meters)	Carlson Trophic Status
Galpin Lake	NA	NA	1.4	Hypereutrophic
Lake Minnetonka	32	3.56	4	Mesotrophic
Gideon's Bay (MCWD)	NA	NA	0.7	Mesotrophic

The MPCA lists the following waterbody/water course within the City as having impaired uses due to excess pollutant:

- Lake Minnetonka (*Mercury*)

This waterbody/watercourse is designated as having a Total Maximum Daily Load (TMDL) for acceptable levels of the pollutant. The EPA has approved the state-wide TMDL on mercury reductions. **Figure 7, Appendix A** also shows the location of the impaired waters.

2.7. Floodplain Management

The City has adopted regulations for activity within the floodplain district. A copy of these regulations can be found on the [City's website](#) and in **Appendix J**. These regulations dictate floodplain usage for different types of construction.

2.8. Shoreland Management

The City has adopted a Shoreland Overlay District. A copy of these regulations can be found on the [City's website](#) and in **Appendix J**. Based on these regulations, the City classification for the DNR Public Waters/Wetlands within the City can be found in **Table 2-4**.

TABLE 2-4 WATER BODY DNR CLASSIFICATION

<i>Water Body Number</i>	<i>Water Body Name</i>	<i>Classification</i>
133 P	Lake Minnetonka	General Development
898 W	Unnamed	Natural Environment
896 W	College Lake	Natural Environment
895 W	Mud Lake	Natural Environment
144 P	Galpin Lake	General Development

Figure 4, Appendix A shows the location of these water bodies with the Ordinary High Water (OHW) level, if applicable.

2.9. Private Development Stormwater Maintenance

Stormwater management ponds constructed on private developments are required to be covered by drainage and utility easements that are dedicated to the City. Developers are required to submit an operations and maintenance plan as well as a maintenance agreement for proposed stormwater BMPs. Current and future landowners are required to maintain the stormwater BMPs including but not limited to removing trash and debris, inspecting inlets and outlets, removing sediment buildup, and stabilizing and restoring eroded areas. In the event the landowner fails to maintain the stormwater BMP in good working condition acceptable to the City, the City may enter the property and correct any deficiencies. Privately owned and maintained stormwater BMPs can be found on Figure 16, Appendix A.

2.10. Groundwater Appropriations

A groundwater well serves the City's water needs. This well has a groundwater appropriation permit from the DNR. Figure 8, Appendix A shows the location of the DNR permitted groundwater appropriation site within the City. The City has adopted the Minnesota Department of Health (MDH) rules on wellhead protection (see Subsection III.R). Information from the MDH regarding the City can be found on the [City's website](#) or a physical copy can be found at City Hall. Additional information on the City's wellhead protection policies can be found in Section 2.19.

2.11. Groundwater Resource Data

Groundwater resource data for areas within the City is contained within the Hennepin County Geologic Atlas. The primary aquifers within the City are the Prairie du Chien-Jordan Aquifer, the Franconia-Ironton-Galesville Aquifer, and the Mt. Simon-Hinckley Aquifer. The Prairie du Chien-Jordan Aquifer is of special concern since it is the most heavily used groundwater source in Hennepin County.

2.12. Soils Information

The soils within the City area have moderate to high infiltration rates and therefore create a modest to high susceptibility to groundwater contamination. The hydrologic soil classification map is shown in Figure 9, Appendix A. The four soil classifications are defined as follows:

Group A – These soils have high infiltration rates even when thoroughly wetted. The infiltration rates range from 0.3 to 0.5 inches per hour. These soils consist chiefly of deep, well drained to excessively drained sands and gravel. Group A soils have a high rate of water transmission, therefore resulting in a low runoff potential.

Group B – These soils have moderate infiltration rates ranging from 0.15 to 0.30 inches per hour when thoroughly wetted. Group B soils consist of deep moderately well to well drained soils with moderately fine to moderately coarse textures.

Group C – These soils have slow infiltration rates ranging from 0.05 to 0.15 inches per hour when thoroughly wetted. Group C soils have moderately fine to fine texture.

Group D – These soils have very slow infiltration rates ranging from 0 to 0.05 inches per hour when thoroughly wetted. Group D soils are typically clay soils with high swelling potential, soils with high permanent water table, soils with a clay layer at or near the surface, or shallow soils over nearly impervious material.

The City is almost entirely made up of soil from the Hayden-Cordova-Peaty muck association. This association consists of nearly level to rolling medium textured and moderately fine textured soils developed in glacial till and level organic soils. The soil is patches of loam and sandy loam, commonly capped by and interbedded with thin deposits of silty to gravelly sediment. There is little runoff potential since the soils have moderate to high infiltration rates. Additional information on the geology and soil for the city is included in the Hennepin County Soil Survey available at the Hennepin Soil and Water Conservation District.

2.13. Land Use and Public Utilities Services

The City's land use practices include residential, commercial, public, and private open space areas. **Figure 10, Appendix A** is a representation of the existing land use. **Figure 11, Appendix A** shows the future land use and **Figure 12, Appendix A** shows zoning. All the residences and businesses in the City are served by public water and sewer systems. The City is considered a built-out community with 0.1 percent of its land area considered vacant, so no large-scale changes are expected in land use, zoning, or drainage patterns.

Because there is little land left for development, the City expects changes in land use to be driven by redevelopment and infill development. The Metropolitan Council has estimated that Excelsior should plan for 100 new housing units over the next 10 years (from 2020 to 2030). Most of the housing growth should be accomplished in commercial zoning districts that allow residential living above shops. Areas around Downtown and the East Side area have the capacity to add additional housing to what is currently in place.

The East Side Subarea Plan describes the vision for the East Side area as an exciting and complete neighborhood with a diversity of housing types, restaurants, and waterfront entertainment typical of lakeside towns. The community desires a vision of the East Side area that would be compatible, yet standalone from the Downtown district along Water Street. The Downtown would be the retail hub of the community, while the East Side would have more of an entertainment theme. The City will look for opportunities to incorporate stormwater treatment as the plan for the East Side Subarea continues to develop. Additional information on the East Side Subarea Plan can be found in the Land Use section of the City's 2040 Comprehensive Plan.

There are no major transportation expansion plans for the City at this time. State Highway 7 was improved through the City in 2002, and the Metropolitan Council currently has no plans to expand State Highway 7 further.

Figure 18, Appendix A shows parcels that are owned by the City. The City will continue to look for opportunities to add or improve stormwater treatment using City-owned parcels as the budget allows. Parcels in areas of the City with little treatment currently will be prioritized. The City is interested in adding surface biofiltration areas within two municipal parking lots downtown to improve water quality to Lake Minnetonka; however, funding for this project has not yet been secured.

The Minnesota Land Cover Classification System (MLCCS) has been completed within the City. The results of the land cover classification are shown in **Figure 15, Appendix A**. Most of the City consists of varying degrees of impervious area or is classified as open water. The remaining area is classified by the

different types of vegetation present on the land (e.g., forest, short grasses, wetland emergent vegetation).

2.14. Public Areas for Water Based Recreation and Access

There are a number of water bodies that offer active recreation such as fishing and passive recreation such as walking. These recreational resources are outlined below:

Lake Minnetonka: Lake Minnetonka provides excellent fishing and boating opportunities. A variety of other recreation is enjoyed during all seasons such as swimming and cross-country skiing. There is a swimming beach located at The Commons Parkground. There are public accesses located on the lake; however, none are in the City.

Galpin Lake: Galpin Lake is located in both Excelsior and Shorewood. The DNR does not consider it a fishing lake, but other types of recreation are enjoyed around it.

Figure 13, Appendix A shows existing trails and parks. Additional information regarding recreational opportunities and park management within the City is available from the Parks Department at City Hall.

In 2016, the Community for the Commons non-profit called for a master park plan for the Commons park along Lake Minnetonka. In 2017, the design plan for the Commons titled the Excelsior Commons Conceptual Guide Plan was accepted and serves as the master park plan for the Commons park. The Excelsior Commons Conceptual Guide Plan lays out possible improvements to the Commons park including repurposing courts for multi-use activities such as an ice rink, adding additional restrooms, and adding additional trails and fishing piers. The proposed improvements also include adding multiple areas for infiltration of road and park runoff to improve the water quality of Lake Minnetonka and shoreline improvements to minimize erosion along the lake. The City is still determining the best option for updating the Commons but is using the Excelsior Commons Conceptual Guide Plan as a starting point.

Struder Parkland combines active and passive uses within a natural setting. The largest setback for Struder Parkland is its inaccessibility. The City will look to develop a plan for the potential access improvements to the park, including over/under County Road 19 and by adding a trail from College Avenue to the Parkland. The City is considering park usage updates including improving the community garden plot area, leaving an open area to promote as a dog park or soccer field and developing a skate park.

2.15. Fish and Wildlife Habitat

The City provides habitat for a variety of small mammals, reptiles, birds, amphibians, and insects. Maintenance of habitat for wildlife species is important to ecological stability of the City's natural areas.

Information from the DNR indicates there is a variety of moderately unique fish and wildlife habitat within the City, much of which is located near or in Lake Minnetonka and Galpin Lake. Lake Minnetonka is often stocked by the DNR to supplement natural reproduction. A Lake Survey Report for Lake Minnetonka can be found at on the [DNR website](#).

2.16. Unique Features and Scenic Areas

Unique features and scenic areas include state designated Scientific and Natural Areas, designated scenic areas, areas containing rare and endangered species, biologically diverse areas, and historic areas. Information about rare and endangered species from the DNR County Biological Survey is included in **Appendix F**.

The City has limited natural areas, water bodies, and city/regional parks. The City has no Scientific and

Natural Areas or wild and scenic rivers as defined by the state. Due to the fact that the City is almost fully developed, there are no plans at this time to acquire land for conservation.

The City does have a number of historical and architectural resources as identified by the Minnesota State Historical Preservation Office. The sites and locations of these resources can be obtained from the Engineering Department.

2.17. Pollutant Source Locations

Information from the MPCA is shown on **Figure 14, Appendix A**. This figure shows the approximate locations of a variety of pollutant sites. Many of the sites on the figure have been cleaned up or are in the process of being cleaned up. The MPCA should be contacted for site-specific details. Additional information is included in **Appendix G**.

2.18. NPDES Phase II

The MPCA implemented the NPDES Phase II Stormwater Program in March 2003. Phase II requires municipal separate storm sewer systems (MS4s) in urban areas with populations over 10,000 and under 100,000 to obtain an NPDES permit. Permits for construction sites greater than one acre will also be required as part of the Phase II. The City has submitted its Stormwater Pollution Prevention Plan and Notice of Intent in conformance with the MPCA guidelines. The application that was sent to the MPCA is included in **Appendix E**.

2.19. Wellhead Protection

In 2015, the City completed its Wellhead Protection Plan which addresses the three municipal water supplies used by the city and the associated source water aquifers. **Figure 17, Appendix A** shows the boundaries of the City's drinking water supply management area (DWSMA) and the wellhead protection area. The central and northwestern parts of the City are included in the DWSMA with varying degrees of vulnerability. A copy of the Wellhead Protection Plan can be found on the [City's website](#) and at City Hall.

3. COOPERATION WITH OTHER AGENCIES

There are a number of other local, state, and federal agencies that have rules and regulations related to stormwater management. Through this strategy, the City recognizes these other agencies' role in this endeavor and will cooperate and coordinate with these agencies as necessary.

This Plan is in conformance with but does not restate all other agency rules that are applicable to water quality and natural resource protection. The other agency rules and policies include rules, policies, and guidelines associated with the following organizations:

- [Minnesota Department of Health](#)
- [Minnesota Pollution Control Agency](#)
- [Board of Water and Soil Resources](#) and the [Wetland Conservation Act](#)
- [Minnesota Department of Natural Resources](#)
- [US Army Corps of Engineers](#)
- [Minnesota Department of Agriculture](#)
- [Minnehaha Creek Watershed District](#)
- [US Fish and Wildlife Service](#)

While these other agency rules, policies, and guidelines are not restated in this Plan, they are applicable to projects, programs, and planning within the City. The [Minnesota Stormwater Manual](#), which is a document intended to be frequently updated, is incorporated by referenced into this Plan.

3.1. Personnel Contacts

The primary implementation responsibility will lie with the appropriate staff members at the City. Assistance from the surrounding municipalities and watershed district will also be expected. Below are the names, addresses, telephone numbers, and website address for personnel having responsibilities for overseeing or implementing various aspects of the Plan.

City of Excelsior
 City Manager: Kristi Luger
 339 Third Street
 Excelsior, MN 55331
 952-653-3672
<http://ci.excelsior.mn.us>

Minnehaha Creek Watershed District
 Contact: Becky Christopher
 Lead Planner
 15320 Minnetonka Boulevard
 Minnetonka, MN 55345
 952-641-4512
<http://www.minnehahacreek.org>

3.2. Minnehaha Creek Watershed Coordination Plan

The MCWD requests that local government units (LGU) establish a coordination plan that the LGU and MCWD can implement at a staff level to achieve common goals. Some of these goals include maintaining an awareness of needs and opportunities between the City and MCWD and implementing programs and projects that meet the needs of all partners, align financially, and are a part of the overall watershed planning effort. Improving coordination between land use planning at the City and watershed planning at the MCWD at the conceptual level planning phase will result in better projects that meet agency goals and are a more efficient use of public funds. Early coordination and collaboration between entities is the

key to maximizing shared water resource goals and community goals for private redevelopment and public capital improvements. Through this coordination, it is the intent of the City to efficiently manage water quality concerns and maximize the asset value of the City's natural resources in the future.

The following is a summary of the coordination plan, which will be adjusted and expanded as deemed appropriate by the City and MCWD during project implementation. It is anticipated that the City Manager and Public Works Superintendent will be the primary contacts for the coordination plan.

- Annual meeting – Staff members will meet during the summer to review the NPDES MS4 reports and activity from the previous year. Staff will also discuss draft Capital Improvement Plans (CIPs) for each entity for the upcoming year. It is anticipated that the City Manager and Public Works Superintendent will be the primary contacts for the annual meeting.
- Land Use Planning – City Planning staff will continue to route requests for land use approvals including, but not limited to, subdivisions and site plan reviews to MCWD staff for comment. Coordination will occur during the concept plan review in the beginning stages of the project.

The City's ten-year CIP is a flexible schedule of projects and public improvements that the City wishes to do over the next ten years. The 2018-2028 CIP is the most recent version and can be found on the [City's website](#). The CIP is updated annually to ensure consistency of changing demands and funds available. When developing and updating the CIP, the City evaluates where projects are needed by taking input from Public Works and Planning staff, updates to regional planning, and from residents of the community.

The CIP includes projects and maintenance needs for transportation infrastructure, sewer and water infrastructure, park improvement, storm sewer infrastructure, as well as other City needs. Projects are prioritized by the current level of need for the project and the overlap of different department projects but are largely driven by the available funds. The City will send the MCWD the CIP when it is updated annually and ask for the MCWD for planning assistance and aid in finding funding sources for projects on the CIP. The City will include the MCWD early on in project initiation, even if projects are unfunded at the time, to utilize the technical planning assistance offered by the MCWD and to look for opportunities to incorporate water quality improvements in otherwise non-water related projects.

Because there is little land left for development, the City expects changes in land use to be driven by redevelopment and infill development. The City will include the MCWD early on in potential land use changes and redevelopment projects so the MCWD can be value added to projects.

- Regulatory Activities – Planning staff will require documentation of appropriate MCWD construction and land alteration permits for those projects located within district boundaries as a condition of City approval. Approved MCWD permits will be stored with other project documentation for future reference. Staff will consider additional coordination for erosion control inspection and enforcement and discuss opportunities at future annual meetings.
- Wetland Conservation Act (WCA) Enforcement – MCWD acts as the LGU for the City for the WCA applications. The City will continue to forward any concerns involving wetlands to MCWD as they arise, and will forward all land use applications with wetlands on site to MCWD for comment. Applications are submitted to the Planning Department.
- Funding – The City seeks support from the MCWD in terms of grant funding for water quality projects. The City requests that MCWD staff continue to provide information about upcoming grants and other funding opportunities internal and external to the MCWD.
- Data Sharing – City staff will coordinate with MCWD staff to share any new or relevant data on an annual basis to ensure consistency. This data could be related to any newly completed studies

water quality monitoring, or BMP performance monitoring, among other things.

- Public Improvement Projects – City staff members will provide yearly updates on plans for public improvement projects. This will be coordinated as part of the annual meeting while discussing the draft CIP. Maintenance activities for stormwater infrastructure will be provided to MCWD as part of the MS4 recording process and as part of City inspection reports.
- Public Outreach and Education – The City will continue to distribute an annual newsletter and post on the City website to spread awareness of stormwater related issues. The City will help promote the MCWD's educational workshop and events to private homeowners and developers. The MCWD's educational workshops cover topics such as winter maintenance training, installing turf alternatives, and informational sessions on the Master Water Steward program. The City will coordinate with the MCWD on other educational efforts when possible to avoid duplicating efforts.
- Future Project Coordination – The City wishes to continue to collaborate with MCWD on future projects. In 2013, a MOU was adopted which stated that the City would like to partner with the MCWD to develop opportunities to implement BMPs for improving the water quality of runoff to the Lower Lake South of Lake Minnetonka. Potential projects which the City and the MCWD could coordinate on include Commons park improvements, downtown improvements, and road improvement projects.

The Excelsior Commons Conceptual Guide Plan lays out possible improvements to the Commons park including adding multiple areas of infiltration for road and park runoff to improve the water quality of Lake Minnetonka and shoreline improvements to minimize erosion along the lake. The City is still determining the best option for updating the Commons but is using the Excelsior Commons Conceptual Guide Plan as a starting point and would like to collaborate with the MCWD on potential water quality improvement projects.

A feasibility study was completed by WSB in 2013 which included recommendations for constructing surface biofiltration areas within the two municipal parking lots downtown. Funding for this project has not yet been secured, but the City is interested in collaborating with MCWD on this potential project. The City has sent the MCWD the feasibility report from the 2013 WSB study for comments and recommendations. The City will continue to ask for technical assistance and locating potential funding sources from the MCWD with the downtown updates as the project moves forward.

Street reconstruction projects are planned for most upcoming years in the City. Some street reconstruction projects include storm sewer replacement. The City will send the MCWD where future street reconstruction projects are planned when they are added to the CIP, so the MCWD can provide recommendations and technical planning assistance for how water quality improvements could be incorporated into larger City projects.

The City of Excelsior and the City of Shorewood plan to partner on a Grant Street/Park Street drainage improvement project in the future with collaboration from the MCWD. The City will invite the MCWD to participate in early planning of the Grant Street/Park Street drainage improvement project to help guide the collaboration between the City and the City of Shorewood. The City will provide information early and often to the MCWD concerning project initiation and planning so the MCWD can be value added to the City including technical planning assistance, regulatory coordination which can save time and design costs, and in some cases grant funding opportunities. The City will continue to look for opportunities to partner with the MCWD on future drainage improvement projects.

4. PROBLEMS AND CORRECTIVE ACTIONS

Outlined below is an assessment of known existing and potential water resource-related problems. These problems have been identified based on an analysis of the land and water resource data collected as part of this Plan preparation and through information from the City. A description of any existing or potential problems within the topic area has been listed and future corrective actions have been incorporated into an implementation plan.

4.1. Lake and Stream Water Quality Problems

Problem 4.1.A Impaired waters to which the City discharges stormwater include:

- Lake Minnetonka
- Christmas Lake (located outside of the City)

The impairment for each of these is mercury.

Corrective Action 4.1.A The Environmental Protection Agency (EPA) has approved the statewide TMDL mercury study. No action by the City is needed. If additional TMDLs are identified that affect the City, the City shall participate in the stakeholder process to develop the TMDL and implementation plan. The City is committed to protecting the existing water quality of Lake Galpin and would partner with MCWD and/or the City of Shorewood to do so.

Problem 4.1.B The MCWD requires that the City provide an annual reduction of ten pounds of phosphorus for areas that drain to Lake Minnetonka from the City.

Corrective Action 4.1.B The City has an extensive street sweeping program. This includes sweeping all streets once in the spring and once in the fall. It also includes sweeping the downtown area twice a week. It is estimated that this program will remove 11.7 pounds of phosphorus annually. The City will test its swept material to calibrate this analysis. **Appendix K** contains information about an analysis of this program. Carp management to reduce the internal loading rate is another option for reducing phosphorus loads. Additionally, as areas redevelop, they will follow MCWD stormwater management requirements reducing phosphorus discharges.

4.2. Flooding and Stormwater Rate Control Concerns

Problem 4.2.A Drainage problems have been reported in the following areas:

- Glencoe Road
- Division Street
- Various areas where the structures do not have two-foot freeboard protection for the 100-year event.

Corrective Action 4.2.A To date, high water in these areas have created short-term nuisances during heavy rainfall events and have not posed a threat to public health, safety, or property. The City will work with the MCWD to manage flooding and rate control concerns experienced within the city. The City will also complete hydraulic and hydrologic analysis of problem areas as redevelopment and street and utility reconstruction occurs.

Problem 4.2.B Drainage problems located in the downtown area.

Corrective Action 4.2.b The City hired WSB in 2013 to complete a feasibility study for the downtown area to identify possible BMP opportunities to reduce phosphorus loading and runoff volume to the Lower Lake of Lake Minnetonka. The feasibility study recommended installing surface bio-filtration areas within two downtown municipal parking lots to achieve these goals. This project has been included in **Table 4-1**.

Problem 4.2.C There are small landlocked subwatersheds located within the City at:

- South of Third Avenue and west of Division Street
- North of Third Avenue and east of Mill Street
- At the west end of Monroe Avenue
- West of Glencoe Road and south of Wood Duck Circle

Corrective Action 4.2.C The City will complete feasibility studies for these areas, identifying potential flooding areas as well as strategies to minimize flooding, and create new outlets with future redevelopment or street improvement projects. Outlets will be provided in areas where there is a demonstrated threat to structures or public safety.

4.3. Impacts of Water Quantity or Quality Management Practices on Recreational Opportunities

Problem 4.3.A The City has not experienced any impacts to recreational opportunities as the result of water quantity or quality impacts.

Corrective Action 4.3.A No corrective action needed. However, if areas develop or redevelop, the project will be subject to the policies of the MCWD. The City will look to partner with MCWD and adjacent communities if any issues arise.

4.4. Impacts of Stormwater Quality on Fish and Wildlife Resources

Problem 4.4.A The City has not experienced and impacts on fish and wildlife resources

Corrective Action 4.4.A No corrective action needed. However, if areas develop or redevelop, the project will be subject to the policies of the MCWD. The City will look to partner with MCWD and adjacent communities if any issues arise.

4.5. Impacts of Erosion and Sedimentation on Water Resources

Problem 4.5.A Soil erosion and sediment transportation associated with re-development may impact the quality of water and storage volume available within City lakes, streams, and ditches.

Corrective Action 4.5.A The City has updated the erosion control requirements in the stormwater ordinance. New develop and redevelopment will also be subject to the policies of the MCWD.

Problem 4.5.B Erosion problems have been reported at the storm sewer outlets discharging to Lake Minnetonka.

Corrective Action 4.5.B The City will inspect the storm sewer outlets in conformance with the City's NPDES permit. The outlets that discharge directly into Lake Minnetonka will be inspected annually. If the outlets require maintenance, the City will repair the outlet or remove sediment

deltas if present.

Problem 4.5.C Erosion at Lake Minnetonka at “the Point” has been noted as a problem.

Corrective Action 4.5.C The City and MCWD collaborated on a project in 2009 to reduce shoreline erosion on the Point, a unique section of lakeshore on the Commons. The project aimed to educate local land owners about shoreline stabilization techniques that provide habitat and wave energy dissipation benefits that cannot be achieved through standard riprap (hard armoring). A secondary goal was to stabilize the shoreline around the Point, reversing years of damage and stopping the flow of sediment from the land into the lake. MCWD designed and built the project, as well as maintained it for a three-year establishment phase, after which the City took over maintenance duties.

Problem 4.5.D Erosion problems have been reported in the following areas where storm sewer is not present:

- Lafayette Fire Lane
- George Street Fire Lane
- Highway 7 runoff near Water Street
- Wheeler Drive: 2nd Avenue to 3rd Avenue
- Grathwol Lane: Water Street to Dead End
- Linden Street: Elm Place to Dead End
- West Lake drainage
- Localized drainage from Shoreview

Corrective Action 4.5.D The City will conduct feasibility studies at the listed locations to determine the best course of action to resolve the erosion problem. Storm sewer and/or permanent stabilization may be utilized to alleviate erosion concerns.

Problem 4.5.E Erosion problems have been reported in the following areas where storm sewer is present:

- Water Street at Port outlet
- Courtland Avenue: 2nd Street to 3rd Street
- William Street: Oak Street to George Street
- Commons Park pipe outlet
- Downtown parking lot BMPs

Corrective Action 4.5.E The City will conduct feasibility studies at the locations above to determine the best energy dissipation and permanent stabilization techniques for these areas to resolve the erosion problem.

4.6. Impact of Land Use Practices and Development on Water Resource Issues

Problem 4.6.A Selected areas of the City have been exposed to increased rates and volumes of stormwater runoff as a result of an increase in impervious surface area. Other land development and land use practices have negatively impacted both water quality and quantity outside the City limits. The City will look into partnering with MCWD on future projects to reduce impacts from development and improve water quality.

Corrective Action 4.6.A The City will implement policies and projects in this SWMP. Additionally, areas that develop or redevelop will be subject to the policies of the MCWD. The City places high priority on maintaining local parks and open spaces. The use of natural landscaping in these

areas will help minimize runoff and erosion concerns. When maintenance or upgrading to local parks, trails or open spaces is required, the City will look for opportunities to install additional BMPs to help further reduce erosion and runoff concerns.

4.7. Adequacy of Existing Regulations to Address Adverse Impacts on Water Resources

Problem 4.7.A The City generally has adequate regulatory controls in place to manage and mitigate adverse impacts on public waters and wetlands. However, additional ordinances or ordinance updates are necessary to continue to successfully manage water resources.

Corrective Action 4.7.A The MCWD will retain permitting authority within the City. The City will continue to implement the City's NPDES SWPPP as well as implement the policies with this SWMP. The City will review and revise existing ordinances, as necessary. Also, the City will update the erosion control requirements in the stormwater ordinance. Ordinances will be updated to include submission of preliminary plats to the MCWD. Ordinances will be updated within 180 days of MCWD plan approval.

4.8. Education Program

Problem 4.8.A The City recognizes the need for community education programs to increase public awareness of water resource management and improve the quality of stormwater runoff.

Corrective Action 4.8.A The City will continue to provide educational content and opportunities to residents, businesses, developers, and others. These efforts may include postings on the City website and publishing an annual newsletter to spread awareness of stormwater related issues. Roughly 1,400 copies of the newsletter will be distributed. The City will work with MCWD on educational efforts when possible to avoid duplicating efforts.

4.9. Identification of Potential Problems Anticipated to Occur in the Next 20 years Based on Growth Projections and Planned Urbanization.

Problem 4.9.A The City is generally fully developed, with little opportunity to construct stormwater management projects.

Corrective Action 4.9.A Upon new development and redevelopment, the stormwater management policies of the MCWD will apply. By applying these policies, previously untreated areas will have treatment and implementation of BMPs.

The City will also pursue alternative funding through local, state, and/or federal grants for a regional stormwater treatment and reuse system to treat stormwater in the downtown area. The City does not currently have funding for this project but will explore options and opportunities to complete such a project.

Problem 4.9.B Determining the performance of existing stormwater facilities throughout the City.

Corrective Action 4.9.B Included in the City's SWPPP are established BMPs aimed at storm sewer inspection and maintenance training programs. The City is to annually inspect 20 percent of completed City owned BMPs and 100 percent of pollution control devices. The City will also evaluate inspection records to determine if inspection frequency should be increased or decreased. The City is in the process of developing procedures for determining Total Suspended Solids (TSS) and Total Phosphorus (TP) treatment effectiveness of city-owned ponds used for

treatment of stormwater. More information on the City's stormwater maintenance and inspection program can be found in the SWPPP located in **Appendix E**.

Problem 4.9.C Locate potential flooding areas in the downtown area.

Corrective Action 4.9.C The City will complete a feasibility study to analyze flooding areas as well as strategies to minimize flooding and create water quality improvements.

Problem 4.9.D Increasing prevalence of polycyclic aromatic hydrocarbons (PAHs) in stormwater ponds from runoff of roadways and other surfaces.

Corrective Action 4.9.D Identify stormwater ponds that are contaminated and follow protocol on the MPCA website for disposal of dredged material. The City also bans the use of materials that contain PAHs for paved surfaces for future development and redevelopment.

4.10. Availability and Adequacy of Existing Information to Manage Water Resources

Problem 4.10.A The City will need to maintain and update information developed within this SWMP.

Corrective Action 4.10.A The City will continue to update the hydrologic/hydraulic model and Geographic Information System (GIS) database as new development and redevelopment occur.

Problem 4.10.B Locate all drainage easements within the City and enforce requirement for drainage easements with redevelopment projects.

Corrective Action 4.10.B The City will conduct a project to identify and log all drainage easements. When redevelopment happens in the City, drainage easements will be required.

Problem 4.10.C The City recognizes that there is currently not enough water quality monitoring data available to determine the effects of stormwater quality on area lakes.

Corrective Action 4.10.C The City defers to and supports the water quality monitoring activities of the MCWD.

4.11. Illicit Discharges

Problem 4.11.A The City must detect, locate, and eliminate existing and future illicit discharges.

Corrective Action 4.11.A The City will hire a consultant to televise a section of the storm sewer system and collect grab samples or perform other effective testing procedures to find illicit connections in the system as needed as well as complete regular illicit discharge inspections.

Problem 4.11.B There is no user-friendly way to report an illicit discharge on the City webpage currently.

Corrective Action 4.11.B The City will update their Request Tracker on the City webpage to include a link to report illicit discharges.

SECTION 4

TABLE 4-1

SURFACE WATER MANAGEMENT IMPLEMENTATION PLAN

No.	Project Description	10 Year Total Cost Estimate ^{1,3}	Possible Funding Sources ^{2,4}	Proposed Cost By Year ¹							Comments			
				2018	2019	2020	2021	2022	2023	2024		2025	2026	2027
Capital Improvement Projects (CIP)														
1	Construct 1st Street storm outlet to Lake Minnetonka.	\$10,000	Stormwater Utility Revenue		\$10,000									Map ID #1 Driving Factor: Maintenance Schedule
2	Reconstruct storm sewer for Water Street at Port Outlet.	\$75,000	Stormwater Utility Revenue/ Developer		\$75,000									Map ID #2 Driving Factor: Re-Development
3	Construct storm sewer at Lafayette Fire Lane.	\$10,000	Stormwater Utility Revenue		\$10,000									Map ID #3 Driving Factor: Maintenance Schedule
4	Construct storm sewer at George Street Fire Lane.	\$10,000	Stormwater Utility Revenue				\$10,000							Map ID #4 Driving Factor: Maintenance Schedule
5	Clean out County Road 19 pond outlets and monitor for the need for dredging.	\$30,000	Stormwater Utility Revenue/Cost Share with MCES						\$30,000					Map ID #5 Driving Factor: Maintenance Schedule Coordinate with MCES's lift station project.
6	Correct for freeboard less than 2 feet at Glencoe Road.	\$15,000	Stormwater Utility Revenue/ Outside Sources							\$15,000				Map ID #6 Driving Factor: Street Upgrade Coordinate with street improvement.
7	Construct storm sewer to correct for flooding from runoff from Highway 7 near Water Street.	\$25,000	Stormwater Utility Revenue/ Outside Sources										\$25,000	Map ID #7 Driving Factor: Re-Development
8	Correct for freeboard less than 2 feet at 2nd Avenue and Mill Street.	\$15,000	Stormwater Utility Revenue/ Outside Sources										\$15,000	Map ID #8 Driving Factor: Street Upgrade/Re-Development
9	Correct for freeboard less than 2 feet upstream of Galpin Lake.	\$15,000	Stormwater Utility Revenue/ Outside Sources							\$15,000				Map ID #9 Driving Factor: Street Upgrade
10	Correct for freeboard less than 2 feet upstream of Mirassa Pond.	\$25,000	Stormwater Utility Revenue								\$25,000			Map ID #10 Driving Factor: Street Upgrade
11	Construct storm sewer at Wheeler Drive between 2nd and 3rd Avenues.	\$30,000	Stormwater Utility Revenue									\$30,000		Map ID #11 Driving Factor: Street Upgrade

SECTION 4

No.	Project Description	10 Year Total Cost Estimate ^{1,3}	Possible Funding Sources ^{2,4}	Proposed Cost By Year ¹										Comments		
				2018	2019	2020	2021	2022	2023	2024	2025	2026	2027			
12	Reconstruct storm sewer at Courland Avenue between 2nd and 3rd Streets.	\$20,000	Stormwater Utility Revenue												Map ID #12 Driving Factor: Street Upgrade	\$20,000
13	Reconstruct storm sewer at William Street between Oak Street and George Street.	\$30,000	Stormwater Utility Revenue												Map ID #13 Driving Factor: Street Upgrade	\$30,000
14	Construct storm sewer at Grathwol Lane from Water Street to the end of the alley.	\$25,000	Stormwater Utility Revenue												Map ID #14 Driving Factor: Street Upgrade	\$25,000
15	Construct storm sewer at Linden Street from Elm Place to the end of the alley.	\$20,000	Stormwater Utility Revenue											\$20,000	Map ID #15 Driving Factor: Street Upgrade	
16	Correct for less than 2 feet of freeboard present at Division Street.	\$40,000	Stormwater Utility Revenue					\$40,000							Map ID #16 Driving Factor: Street Upgrade/ Re-Development	
17	Correct for freeboard less than 2 feet near the Unnamed Pond off Highway 7 near the Greenwood border.	\$10,000	Stormwater Utility Revenue										\$10,000		Map ID #17 Driving Factor: Maintenance Schedule	
18	Correct for freeboard less than 2 feet at the Mufasa Pond outlet.	\$10,000	Stormwater Utility Revenue										\$10,000		Map ID #18 Driving Factor: Maintenance Schedule	
19	Reconstruct outlet located at Commons Park.	\$15,000	Stormwater Utility Revenue, MCWD										\$15,000		Map ID #19 Driving Factor: Maintenance Schedule	
20	Construct storm sewer to correct for flooding from West Lake drainage.	\$10,000	Stormwater Utility Revenue			\$10,000									Map ID #20 Driving Factor: Maintenance Schedule	
21	Construct storm sewer to correct for flooding from localized drainage from Shoreview.	\$20,000	Stormwater Utility Revenue/ Outside Source				\$20,000								Map ID #21 Driving Factor: Maintenance Schedule	
22	Construct regional storm water treatment and reuse system for downtown	\$2,000,000	Grants from State, MCWD, Stormwater Utility Revenue									\$2,000,000			Map ID #22 Driving Factor: Re-Development The City doesn't have the funding for this project but it is identified here as a potential future project when grant funding becomes available. This funding could be from the MCWD, State or Federal Agencies, and/or the Heritage Amendment. Estimated fee to complete this work is \$2 million.	

SECTION 4

No.	Project Description	10 Year Total Cost Estimate ^{1,3}	Possible Funding Sources ^{2,4}	Proposed Cost By Year ¹										Comments		
				2018	2019	2020	2021	2022	2023	2024	2025	2026	2027			
Operation and Maintenance																
23	Implement public education plan as part of the NPDES MS4 permit, including distributing an annual newsletter	\$80,000	Stormwater Utility Revenue	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	
24	Update and maintain the City's website with storm water management information	\$10,000	Stormwater Utility Revenue	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	This street sweeping is the City's method to address the MCWD's requirements for 10 pounds of phosphorus removal.
25	Continue to implement the City's street sweeping program (see Appendix K)	\$200,000	Stormwater Utility Revenue	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	
26	Continue to train employees. Training topics include fertilizer application, pesticide/herbicide application, mowing discharge, automotive maintenance program, spill cleanup, hazardous materials, building leak prevention, parking lot and street cleaning, storm drain systems cleaning and road salt materials management.	\$15,000	Stormwater Utility Revenue	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	
27	Continue to update and maintain GIS database and storm sewer map	\$100,000	Stormwater Utility Revenue	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	
28	Continue to update and maintain hydrologic/hydraulic model	RCWD	Stormwater Utility Revenue	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	
29	Inspect 20% of City owned BMPs and outfalls every year, with priority for the outlets into Lake Minnetonka	\$20,000	Stormwater Utility Revenue	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	
30	Annually inspect locations identified as high-priority outfalls and around high-risk establishments. Examples of high-risk establishments include fast food restaurants, dumpsters, car washes, mechanics, and oil changes.	\$20,000	Stormwater Utility Revenue	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	
31	Annually inspect all pollution control devices. Perform maintenance as necessary.	\$10,000	Stormwater Utility Revenue	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	
32	Conduct erosion control inspections on sites that require an NPDES permit	\$50,000	Stormwater Utility Revenue/ Developer	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	
33	Enforce illicit discharge ordinance and conduct illicit discharge inspections	\$20,000	Stormwater Utility Revenue	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	City passed an illicit ordinance in 2008.
34	Continue to clean storm drain system and document number of sumps cleaned per year.	\$10,000	Stormwater Utility Revenue	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	
35	Maintain the Point shoreline stabilization and demonstration project	\$5,000	Stormwater Utility Revenue	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	The project is in collaboration between the MCWD and the City.

SECTION 4

No.	Project Description	10 Year Total Cost Estimate ^{1,3}	Possible Funding Sources ^{2,4}	Proposed Cost By Year ¹										Comments		
				2018	2019	2020	2021	2022	2023	2024	2025	2026	2027			
36	Hire a consultant to televisé a section of the storm sewer system, collect grab samples or perform other effective testing procedures to find illicit connections in the system, as needed	\$15,000	Stormwater Utility Revenue	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
37	Annually internal housekeeping practices such as mowing, fertilizing, dicing, and herbicide practices within the City and update practices as feasible to protect water quality	\$10,000	Stormwater Utility Revenue	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Official Controls																
38	Annually review mowing, road salt application, fertilizing, and herbicide practices within the City and update practices as feasible to protect water quality	\$10,000	Stormwater Utility Revenue	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
39	Annually review ordinances and illicit discharge written procedures to ensure that it continues to meet the needs of the City and legal requirements.	\$10,000	Stormwater Utility Revenue	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
40	Update Request Tracker on City webpage to include a link to report illicit discharges.	Staff Time		X												
41	Incorporate to the City Website a stormwater page which allows residents to provide comments to the City Staff for a number of topics.	Staff Time		X												
Monitor and Study																
42	Participate in TMDL stakeholder process	\$15,000	Stormwater Utility Revenue, MCWID	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
43	Complete phosphorus loading study of street sweepings to calibrate the phosphorus load reductions for the MCWID	\$6,000	Stormwater Utility Revenue	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
44	Complete feasibility studies for landlocked basins.	\$25,000	Stormwater Utility Revenue	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
45	Implement recommendations from feasibility study for the downtown area alleviating flooding areas. Includes updating City's hydrologic/hydraulic model to Atlas 14 conditions.	\$125,000	Stormwater Utility Revenue, MCWID	\$125,000	\$125,000	\$125,000	\$125,000	\$125,000	\$125,000	\$125,000	\$125,000	\$125,000	\$125,000	\$125,000	\$125,000	\$125,000
	TOTAL	\$3,216,000		\$69,000	\$152,000	\$217,000	\$94,000	\$109,000	\$94,000	\$94,000	\$2,099,000	\$124,000	\$134,000	\$164,000	\$164,000	\$164,000

¹ Cost estimates are preliminary and subject to review and revision as engineer's reports are completed and more information becomes available. Table reflects 2018 costs and does not account for inflation. Costs generally include labor, equipment, materials, and all other costs necessary to complete each activity. Some of the costs outlined above may be included in other operational costs budgeted by the City.

² Funding for stormwater program activities projected to come from following sources - Surface Water Management Fund, Developers Agreements, Grant Funds, General Operating Fund, or Special Assessments.

³ Staff time is not included in the cost shown.

⁴ Outside Sources include Private Development, Other Agencies or Potential City Cost Share

5. ESTABLISHMENT OF GOALS AND POLICIES

5.1. 5.1 General Goals

The City has developed a number of goals, strategies, and policies for the management of stormwater within the City. These goals and policies have been developed to complement any county, regional, or state goals and policies. The goals of the City are as follows:

1. Minimize the public capital expenditures needed to correct flooding and water quality problems.
2. Identify and plan for ways to effectively protect and improve surface and groundwater quality.
3. Prevent the erosion of soil into surface water systems.
4. Promote groundwater recharge.
5. Protect and enhance fish and wildlife habitat and water recreational facilities.
6. Acquire the other benefits associated with the proper management of surface and groundwater.

5.2. General Strategies

To achieve the City's goals for managing stormwater, four strategies were developed. These strategies will assist the City in targeting its main audiences for the purposes of stormwater management.

- Cooperation with other agencies: This strategy recognizes that the City is not alone in managing stormwater within its boundaries. There are local, state, and federal agencies that also have rules and regulations related to stormwater management. Through this strategy, the City has recognized role these agencies will have in this endeavor and will cooperate and coordinate with them as necessary.
- Education: This strategy includes educating various groups within the City about proper stormwater management. Education of residents, City staff, City Council, business owners, and developers is included in this strategy.
- Regulation: Much of stormwater management comes in the form of regulations put on new or redevelopment within the City. These regulations will also assist the City in achieving their water management goals. Policies related to the management of stormwater are included in the regulation strategy.
- Internal operations: The final strategy relates to the internal operations of the City. By outlining policies related to how the City's operations will treat and manage stormwater, the City can work to achieve its stormwater management goals.

5.3. Education

The purpose of the education strategy is to foster responsible water quality management practices by educating residents, business owners, City staff, City Council, and developers about proper stormwater management. If everyone recognizes their role in responsible stormwater management in their homes, businesses, and practices, it is another means for the City to meet its goals. This education strategy has also been designed to be in conformance with the NPDES requirements.

STRATEGY: EDUCATION	
No.	Policy
5.3.1	The City will implement public education as part of the NPDES Phase II program.
5.3.2	The City will develop and update its website for water resource management information.
5.3.3	The City will develop and distribute annual newsletter aimed at fostering responsible water quality management practices. Topics may include, but are not limited to: <ul style="list-style-type: none"> ● Wetland buffers ● Groundwater quality and protection ● Controlling invasive species ● Water conservation and the water cycle ● Proper hazardous waste disposal ● Yard waste management ● Pet waste disposal
5.3.4	The MCWD, the Lake Minnetonka Conservation District and others offer several education opportunities, including: <ul style="list-style-type: none"> ● Citizen Lake Monitoring ● Newsletters ● Sponsored Events ● General conservation practice information <p>These organizations provide many other educational opportunities. The City will continue to promote and support the educational efforts of these organizations.</p>

5.4. Regulation

The policies developed in this strategy outline specific stormwater management elements that are required to be implemented through the development and/or permitting process. The regulation strategy is targeted at the public, developers, City staff, and City Council.

Projects within the City may also trigger the need for a MCWD permit. Projects within the City are subject to the permitting authority of the MCWD and applicants are encouraged to contact the MCWD early in the plan development process. If there is a conflict between the City requirements and the MCWD requirements and the MCWD requirements cannot be met, a variance from the MCWD will need to be obtained by the applicant or the project will need to be revised.

STRATEGY: REGULATION	
No.	Policy
Rate Control	
5.4.1	Stormwater management facilities shall limit runoff rates generated by any new development or redevelopment to the existing discharge rates for the 2-year, 10-year, and 100-year critical rainfall events based on the Atlas 14 precipitation frequency estimates below: <ul style="list-style-type: none"> ● 2-year storm: 2.9 inches ● 10-year storm: 4.3 inches ● 100-year storm: 7.35 inches (<i>Updated policy</i>)

STRATEGY: REGULATION	
No.	Policy
5.4.2	The design of the storm drainage system shall be based on a critical duration rainfall event having a 20 percent chance of occurrence in any given year for local storm sewer, a 10 percent chance of occurrence for trunk storm sewer, and a one percent chance of occurrence for ponds and open channels. <i>(Current policy)</i>
5.4.3	For collection systems not designed to meet rate control standards (i.e., catch basins) a clogging factor of 50 percent will be utilized in sizing intake structures. <i>(Current policy)</i>
5.4.4	An emergency spillway (emergency outlet) from ponding areas shall be installed a minimum of one foot below the lowest building opening and shall be designed to have a capacity to overflow water at an elevation below the lowest building opening at a rate not less than three times the 100-year peak discharge rate from the basin or the anticipated 100-year peak inflow rate to the basin, whichever is higher. <i>(Current policy)</i>
Flood Control	
5.4.5	The basement floor elevation will be two feet above the elevation of any known historic high groundwater elevations for the area and two feet above the 100-year high surface water elevation in the area. Information on historic high groundwater elevations can be derived from any reasonable sources including piezometer data, soil boring data, or percolation testing logs. <i>(Current policy)</i>
5.4.6	Any new or redevelopment building construction within the City will maintain a minimum building opening elevation three feet above the projected 100-year high water elevation for the area. If this three-foot building opening freeboard requirement is considered a hardship, the standard could be lowered to two feet if the following can be demonstrated: <ul style="list-style-type: none"> • That, within the two-foot freeboard area, stormwater storage is available which is equal to or exceeds 50 percent of the stormwater storage currently available in the basin below the 100-year elevation. • That a 25 percent obstruction of the basin outlet over a 24-hour period would not result in more than one foot of additional bounce in the basin. • An adequate overflow route from the basin is available that will provide assurance that one foot of freeboard will be maintained for the proposed low building opening. <i>(Current policy)</i>
5.4.7	The City prohibits filling activities within the 100-year floodplain that will cause an increase in the stage of the 100-year or regional flood or cause an increase in the flood damages in the reach affected. Additional detail is provided in the City's floodplain ordinance on the City's website at and in Appendix J . <i>(Current policy)</i>
Water Quality Treatment	
5.4.8	Treatment of stormwater to remove 50 percent of phosphorus and 85 percent of total suspended solids OR treatment to Nationwide Urban Runoff Program (NURP) guidelines is required prior to stormwater discharge to a lake, stream, or wetland and prior to discharge from the site as part of development. The NURP guidelines for the design of stormwater treatment basins are as follows: <ol style="list-style-type: none"> a. A permanent pool (dead storage) volume below the principal spillway (normal outlet)

STRATEGY: REGULATION	
No.	Policy
	<p>which shall be greater than or equal to the runoff from a 2.5-inch storm over the entire contributing drainage area assuming full development.</p> <p>b. A permanent pool average depth (basin volume/basin area) which shall be equal to or less than 4 feet, with a maximum depth of equal to or greater than 10 feet.</p> <p>c. Basin side slopes above the normal water level should be no steeper than 3:1, and preferably flatter. A basin shelf with a minimum width of 10 feet and one foot deep below the normal water level is recommended to enhance wildlife habitat, reduce potential safety hazards, and improve access for long-term maintenance.</p> <p>d. The pond should be wedge shaped with the inlet at the narrowest end and the outlet at the widest end. A length to width ratio of 3:1 or greater shall be used whenever possible. Distance between outfalls and outlets should be maximized.</p> <p>e. A 16.5-foot buffer around the pond is required. <i>(Current policy)</i></p>
5.4.9	The City requires skimmers or other devices in the construction of new pond outlets and the addition of skimmers to existing systems whenever feasible and practical. The designs shall provide for skimmers that extend a minimum of four inches below the water surface and minimize the velocities of water passing under the skimmer to less than one and a half feet per second for rainfall events having a 99 percent frequency. <i>(Current policy)</i>
5.4.10	New stormwater management ponds that are constructed as part of private development shall be covered by drainage and utility easements that are dedicated to the City. <i>(Current policy)</i>
5.4.11	The responsible party shall enter into a maintenance agreement with the City that documents all responsibilities for operation and maintenance of all stormwater treatment practices. <i>(New policy laid out in Stormwater Management Ordinance)</i>
Infiltration/Volume Control	
5.4.12	Abstraction via infiltration, evapotranspiration, capture, and/or reuse of one inch of rainfall from the site on a regional or site-specific basis is required for development or redevelopment for projects that increase stormwater runoff volume, provided that past and existing land use practices do not have a significant potential to contaminate the stormwater runoff and the soil characteristics are suitable for infiltration. <i>(Current policy)</i>
5.4.13	A separation distance of 3 feet is required between the bottom of the infiltration practice and the elevation of the seasonally high water table or the top of bedrock <i>(New Policy based on MPCA Requirements)</i>
5.4.14	New development and redevelopment shall consider and incorporate to the extent practical and feasible Low Impact Development (LID) techniques that have been reviewed and approved by the City. A maintenance plan for these features will be submitted to the City for review and approval. <i>(Current policy)</i>
5.4.15	It is encouraged that project proposers consult with the MCWD during the project planning process for additional guidance and information on LID techniques. <i>(Current policy)</i>

STRATEGY: REGULATION	
No.	Policy
Wetlands	
5.4.16	The MCWD is the LGU for the WCA and therefore requires any projects that impact wetlands to conform to the WCA and the district’s wetland ordinances. <i>(Current policy)</i>
5.4.17	The wetland buffer requirements of the MCWD shall apply when these buffers are required by MCWD permit. <i>(Current policy)</i>
5.4.18	When permits are not required from the MCWD, the City requires a 16.5-foot buffer around wetlands for any project. <i>(Current policy)</i>
Groundwater	
5.4.19	The City will coordinate with the MPCA to implement the groundwater protection plans. <i>(Current policy)</i>
5.4.20	The City has adopted the rules of the MDH for its wellhead protection. The City will continue to implement and abide by these rules. <i>(Current policy)</i>
Erosion and Sediment Control	
5.4.21	The City shall require, in conformance with the MPCA NPDES rules, the submission and implementation of erosion and sediment control plans for land disturbance activities of one acre or more in size. These plans shall conform to the general criteria outlined in the Minnesota Stormwater Manual, Surface Water Management Ordinance, and the NPDES Construction Site permit. <i>(Current policy)</i>
5.4.22	A stormwater pollution control plan is required for any project that requires a building permit, subdivision approval, or grading permit per the City’s Surface Water Management ordinance and also in Appendix J . <i>(Current City Ordinance)</i>

5.5. Internal Operations

The City’s internal operations can have a significant impact on stormwater management. This strategy is targeted primarily at the City with some areas targeted at the public and/or another agency. These policies are aimed at operation and maintenance activities associated with water resource management within the City.

Many of the following items are current, internal housekeeping activities. Some of the policies have been updated or added. By maintaining the existing stormwater infrastructure, the City anticipates providing water quality benefits to original design standards. By providing additional education to residents, small benefits to Lake Minnetonka and surrounding water bodies can be achieved. By regularly reviewing internal housekeeping items and by communicating about BMPs, additional benefit to surrounding water resources can be obtained.

STRATEGY: INTERNAL OPERATIONS	
No.	Policy
5.5.1	The City will sweep all City streets at least twice annually and the downtown area twice a week. Areas that need more frequent sweeping will be swept as needed. These needs are determined by Public Works staff based on the debris on the roads during the year. Priority areas include the downtown area. Appendix K contains more information about the City's street sweeping program. <i>(Current policy)</i>
5.5.2	The City will inspect stormwater treatment basins on a rotating basis at least every five years and sump catch basins/manholes every year. Maintenance will be conducted as necessary. <i>(Current policy)</i>
5.5.3	Landlocked depressions that presently do not have a defined outlet and do not typically overflow may be allowed a positive outlet to protect adjacent properties provided there is a demonstrated threat to structures and public safety. This outlet must be in conformance with current wetland regulations and demonstrate that downstream properties are not adversely affected by the flows. <i>(Current policy)</i>
5.5.4	If an outlet or suitable water level management plan is not available for a landlocked basin, no development will be allowed below the overflow elevation of this area. <i>(Current policy)</i>
5.5.5	The City prefers to use regional detention and treatment areas rather than site specific detention areas where feasible. The City recognizes that development of these areas will likely be incorporated into development activity and not initiated independently by the City. <i>(Current policy)</i>
5.5.6	The City requires as-builts of all ponding areas and designated emergency overflows. <i>(Current policy)</i>
5.5.7	The City shall educate and assist with efforts to control invasive Milfoil and Curly Leaf Pond Weed on Lake Minnetonka. <i>(Current policy)</i>
5.5.8	The City will annually review internal housekeeping practices with Public Works staff. This will include salt/sand usage and storage, street sweeping, lawn care, and waste removal. <i>(Current policy)</i>
5.5.9	The City will annually review the stormwater management ordinance (which also contains erosion and sediment control requirements) the floodplain ordinance, and the illicit discharge ordinance and update as necessary. <i>(Updated policy)</i>
5.5.10	Barriers to housekeeping activities are related to communication of City staff and contractors. The City will endeavor to communicate effectively between departments and between staff regarding stormwater management items. <i>(Current policy)</i>
5.5.11	The City along with the MCWD will inspect sites that require an NPDES permit for erosion and sedimentation control for all new developments and redevelopments one acre and larger in size. <i>(Current policy)</i>

6. IMPLEMENTATION PRIORITIES/IMPLEMENTATION PROGRAM

Based on the information developed in **Sections 2** through **5**, the City has developed an implementation program that reflects the needs and concerns of the City Council, City staff, and citizens. **Table 4-1** is a prioritized listing of the studies, programs, and capital improvements that have been identified as necessary to respond to the water resource needs within the City.

The City anticipates implementing to some extent the regulatory programs, studies, or improvements identified within this plan within the next ten years while implementing the following priorities in its stormwater management program:

1. Meet requirements of regulatory agencies or programs.
2. Incorporate BMPs in stormwater management maintenance and repairs.
3. Maintain and improve the existing system as part of Public Works Capital Improvement Projects.
4. Improve the management of water quality and water quantity with future redevelopment and reconstruction projects.

The City will also actively pursue grant opportunities to fund some projects, studies, or programs.

The City's ten-year CIP is a flexible schedule of projects and public improvements that the City wishes to complete over the timeframe. The 2018-2028 CIP is the most recent version of the CIP and can be found on the [City's website](#). The CIP is updated annually to ensure consistency with changing demands and funds available. The CIP includes projects and maintenance needs for transportation infrastructure, sewer and water infrastructure, park improvement, storm sewer infrastructure, as well as other City needs. Projects are prioritized by the current level of need for the project, the overlap of different department projects, and the available funds for each of the different departments.

6.1. Financial Considerations

The implementation of the proposed projects, programs, and studies identified in this plan will have a financial impact on the City. To establish how significant this impact will be, a review of the means and ability of the City to fund these controls, programs, and improvements is necessary. Toward this end, outlined below a listing of various potential sources of revenue to implement the water resource management efforts outlined in this Plan.

The costs to implement this Plan are outlined in **Table 4-1**. The City anticipates funding these projects, studies, and programs primarily through the stormwater utility fund. This fund generates approximately \$125,000 annually. As is evident from the tables in **Section 4**, the Stormwater Utility Fund alone is not sufficient to fund these activities. The City will consider adjusting the Stormwater Utility Fee to cover the costs associated with the implementation program. The City will continue to review the stormwater utility fee annually and adjust based on the stormwater related needs of the City and other available funding mechanisms. The City will also use a levy for construction projects that have a direct benefit to landowners when appropriate (see **Table 4-1**). Grants or partnership opportunities will also be sought. The City has chosen not use ad valorem for funding water resource projects at this time but may use special assessments for specific projects if appropriate.

While the City's funds do not appear to be able to fully fund these activities, the City does not wish to remove items from the Plan. The Plan acts as a placeholder and planning tool for these projects, programs, and studies. The City also knows that to be eligible for many State grants and loans, projects must be listed in the local surface water management plan. Therefore, this Plan will act as a road map

and tool to complete projects, seek out additional funding sources, and assess updates to the Stormwater Utility.

6.2. Amendment Procedure

It is the intention of the City to have this Plan reviewed and approved by MCWD and the Metropolitan Council. Once approved, no significant changes to this plan can be facilitated without the approval of the proposed revisions by the watershed district or Metropolitan Council. Significant changes to the local plan shall be made known to the following parties:

1. City Manager, Public Works Superintendent, and City Engineer
2. Minnehaha Creek Watershed District
3. Metropolitan Council
4. Public within the City through a public hearing process

Following notification of the above parties, they shall have 60 days to comment on the proposed revisions. The Metropolitan Council shall have 45 days to comment on the revisions. Failure to respond within 60 days constitutes approval. Upon receipt of approvals from the affected watershed management organizations and watershed districts within the City, any proposed amendments will be considered approved.

Minor changes to the Plan shall be defined as changes that do not modify the goals, policies, or commitments expressly defined in this plan by the City. Adjustment to subwatershed boundaries will be considered minor changes provided that the change will have no significant impact on the rate or quality in which stormwater runoff is discharged from the City boundaries. Minor changes to this plan can be made by the staff at the City without outside review. It is the intention of the City that this Plan be updated ten years after the adoption of this Plan unless significant changes to the plan are deemed necessary prior to that date.

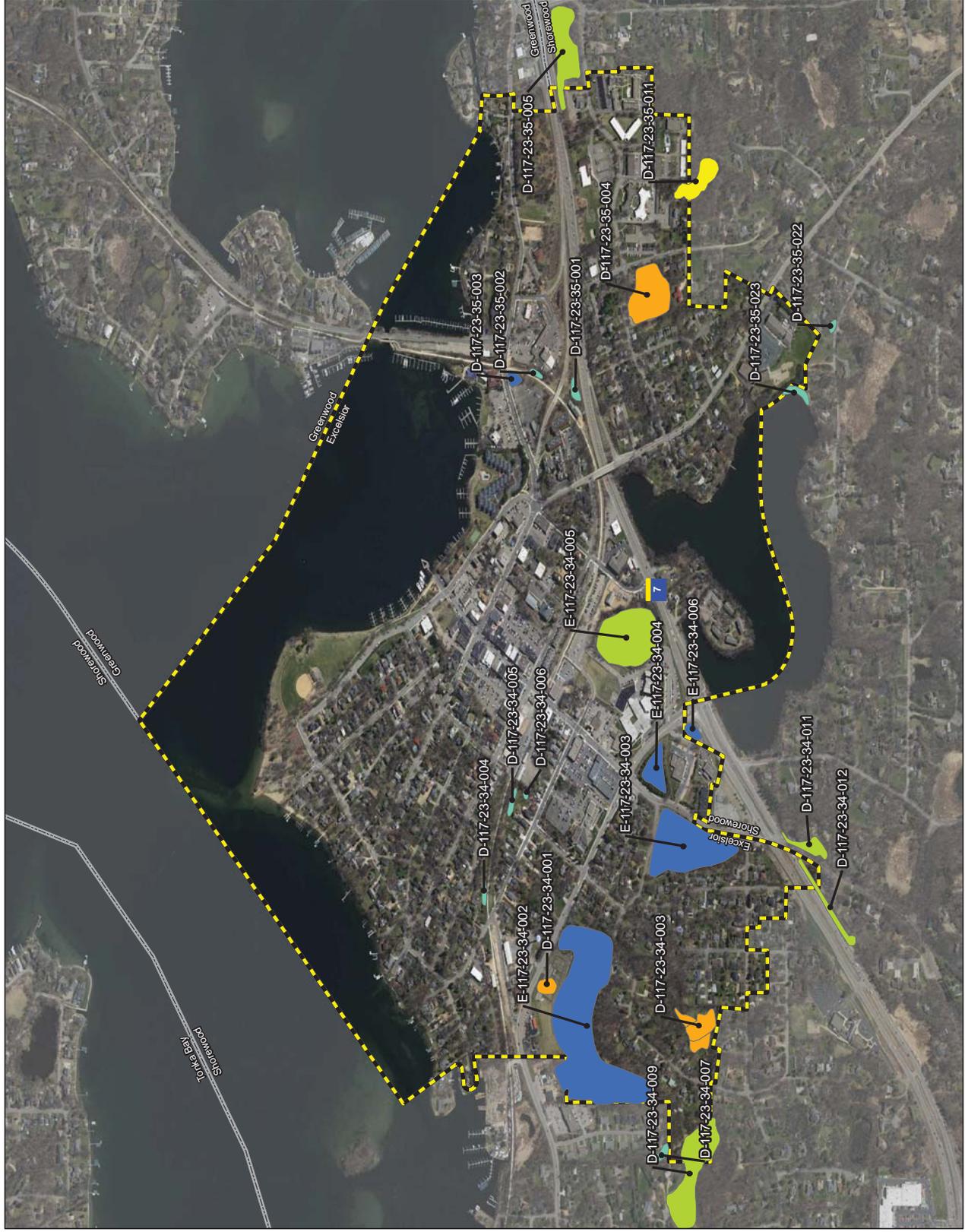
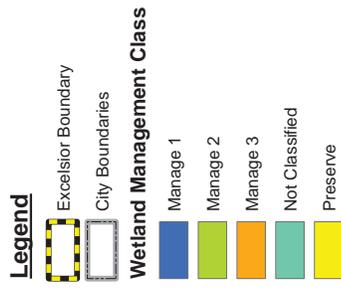
Amendments to this Plan will be required within two years of the adoption of an updated Watershed Management Plan from the MCWD pursuant to MR8410.0160.

The MCWD will retain the permitting authority within the City. If needed, the City will submit a SWMP amendment to the MCWD and Metropolitan Council for a 60-day review and amended approval.

APPENDIX A – FIGURES



Figure 2 - Wetland
Assessment Map



Excelsior



City of Excelsior
Surface Water Management Plan

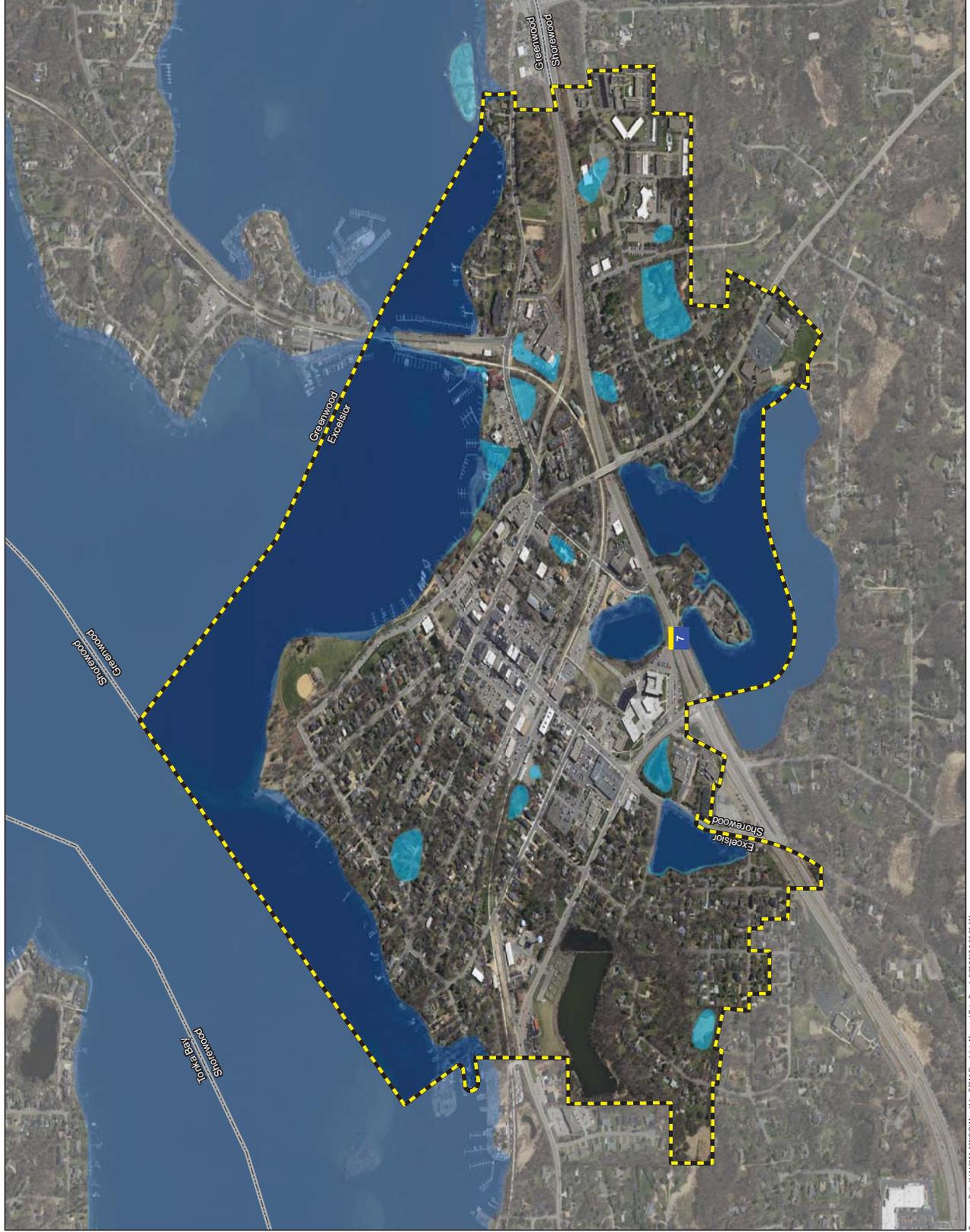
Figure 5 - FEMA Floodplain Map

Legend

- Excelsior Boundary
- City Boundaries
- 100-Year Floodplain
- 500-Year Floodplain



0 800 Feet
1 inch = 600 feet



Excelsior



City of Excelsior
Surface Water Management Plan

Figure 6 - Water Resource Problem Areas

Legend

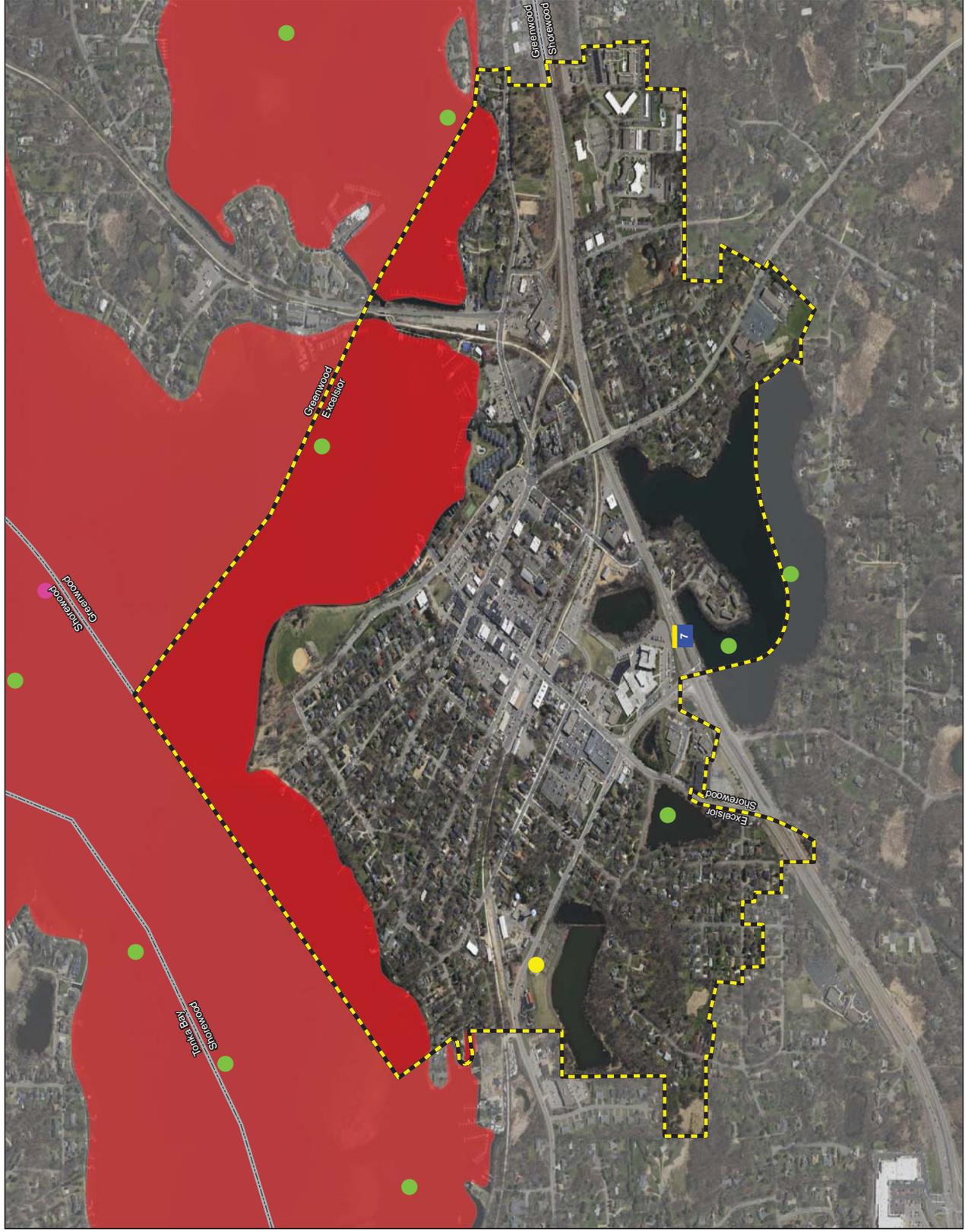
- Storm Sewer
- Excelsior Boundary
- City Boundaries



- Erosion Problems: no Storm Sewer:
- 1 1st Street Storm Outlet to Lake Minnetonka
 - 3 Lafayette Fire Lane
 - 4 George Street Fire Lane
 - 7 Highway 7 Runoff near Water Street
 - 11 Wheeler Drive: 2nd Ave - 3rd Ave
 - 14 Grathwol Lane: Water St - Dead End
 - 15 Linden St: Elm Place - Dead End
 - 20 West Lake Drainage
- Erosion Problems: with Storm Sewer:
- 2 Water Street at Port Outlet
 - 12 Courtland Avenue: 2nd St - 3rd St
 - 13 William Street: Oak St - George St
 - 19 Commons Park Pipe Outlet
 - 22 Downtown Parking Lot BMPs
- Existing Freeboard Less than 2 Feet
- 6 Glencoe Road
 - 8 2nd Avenue and Mill Street
 - 9 Upstream of Galpin Lake
 - 10 Upstream of Mufasa Pond
 - 16 Division Street
 - 17 Unnamed Pond
 - 18 Mufasa Pond Outlet
 - 5 County Road 19 Pond Outlets



Figure 7 - Water Quality
Monitoring Locations Map



Legend

MPCA Water Quality Monitoring Points

MPCA

NPDES Permittee

USEPA

Excelsior Boundary

City Boundaries

Impaired Water



Excelsior



City of Excelsior
Surface Water Management Plan

Figure 8 - Groundwater Appropriation Locations

Legend

- Excelsior Boundary
- City Boundaries
- Water Withdrawal Location



0 800 Feet
1 inch = 600 feet





Figure 9 - Hydrologic
Soils Classification Map

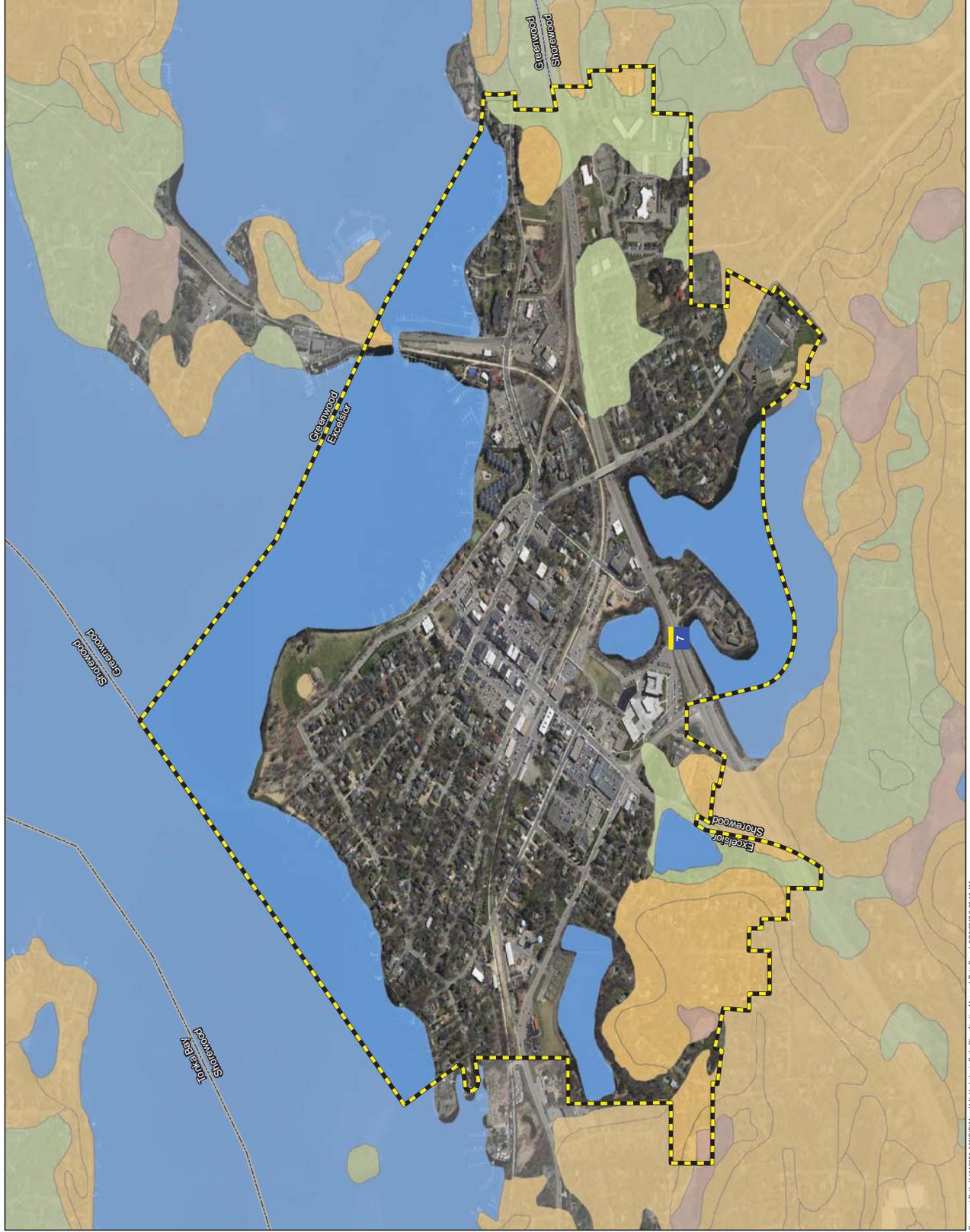
Legend

- Excelsior Boundary
- City Boundaries

Hydrologic Soils Classification

- Water
- A/D
- B
- B/D

Areas not labeled are classified as urban soils and are not assigned a hydrologic group.



0 800 Feet
1 inch = 800 feet

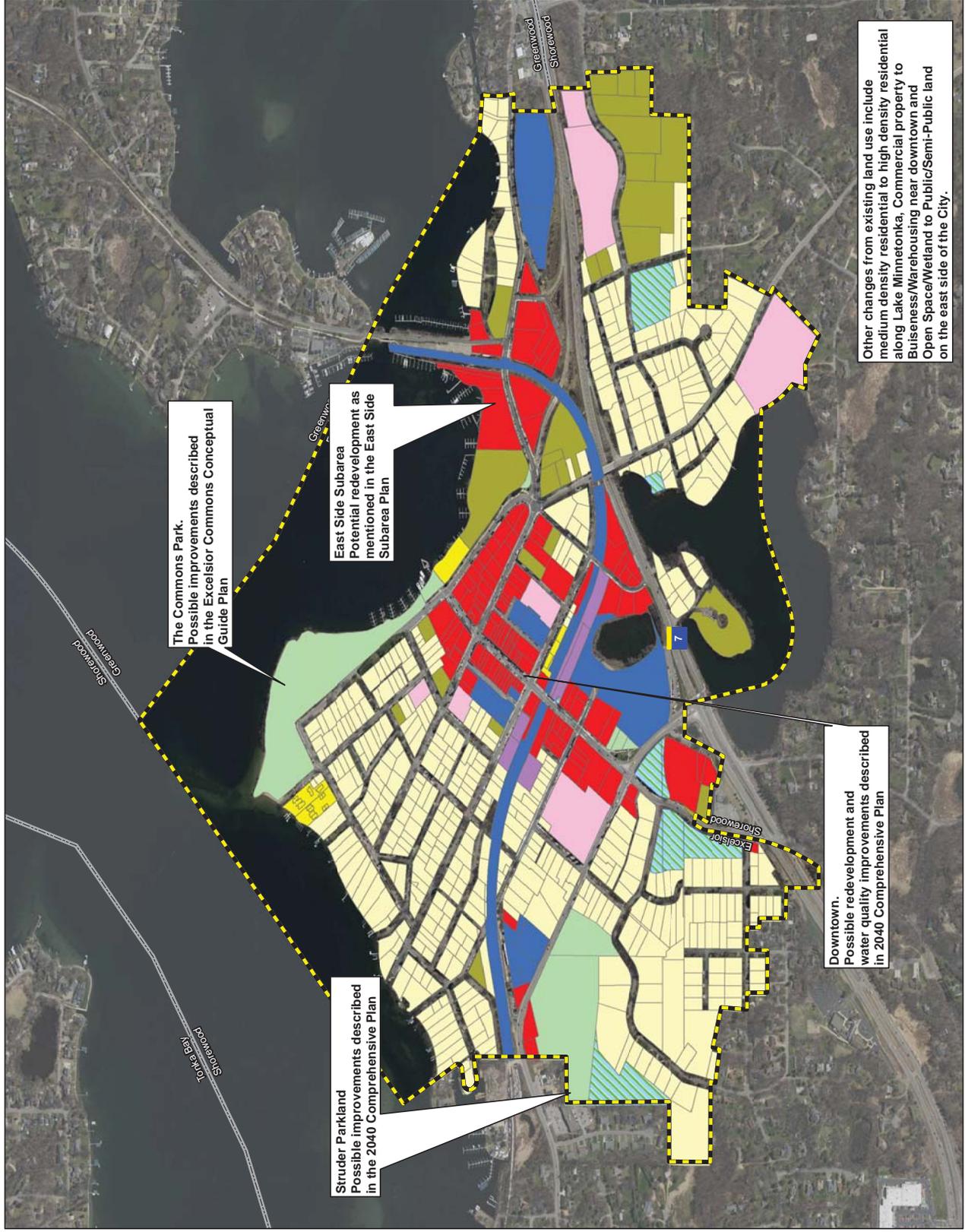


Excelsior



City of Excelsior
Surface Water Management Plan

Figure 11 - Future Land Use



Excelsior



City of Excelsior
Surface Water Management Plan

Figure 12 - Zoning Parcels

Legend



Zoning

-  R-1, Single Family Residential
-  R-2, Single and Two Family
-  R-3, Medium Density Residential
-  R-4, High Density Residential
-  B-1, Central Business District
-  B-2, General Business District
-  B-3, Office/Residential District
-  B-4, Office/Residential District
-  B-5, Central Business District/Motor Fuel Station
-  B-6, Highway Office, Retail & Residential District
-  P, Public Park District
-  PUD, Planned Unit Development (Residential)



0 800 Feet
1 inch = 600 feet

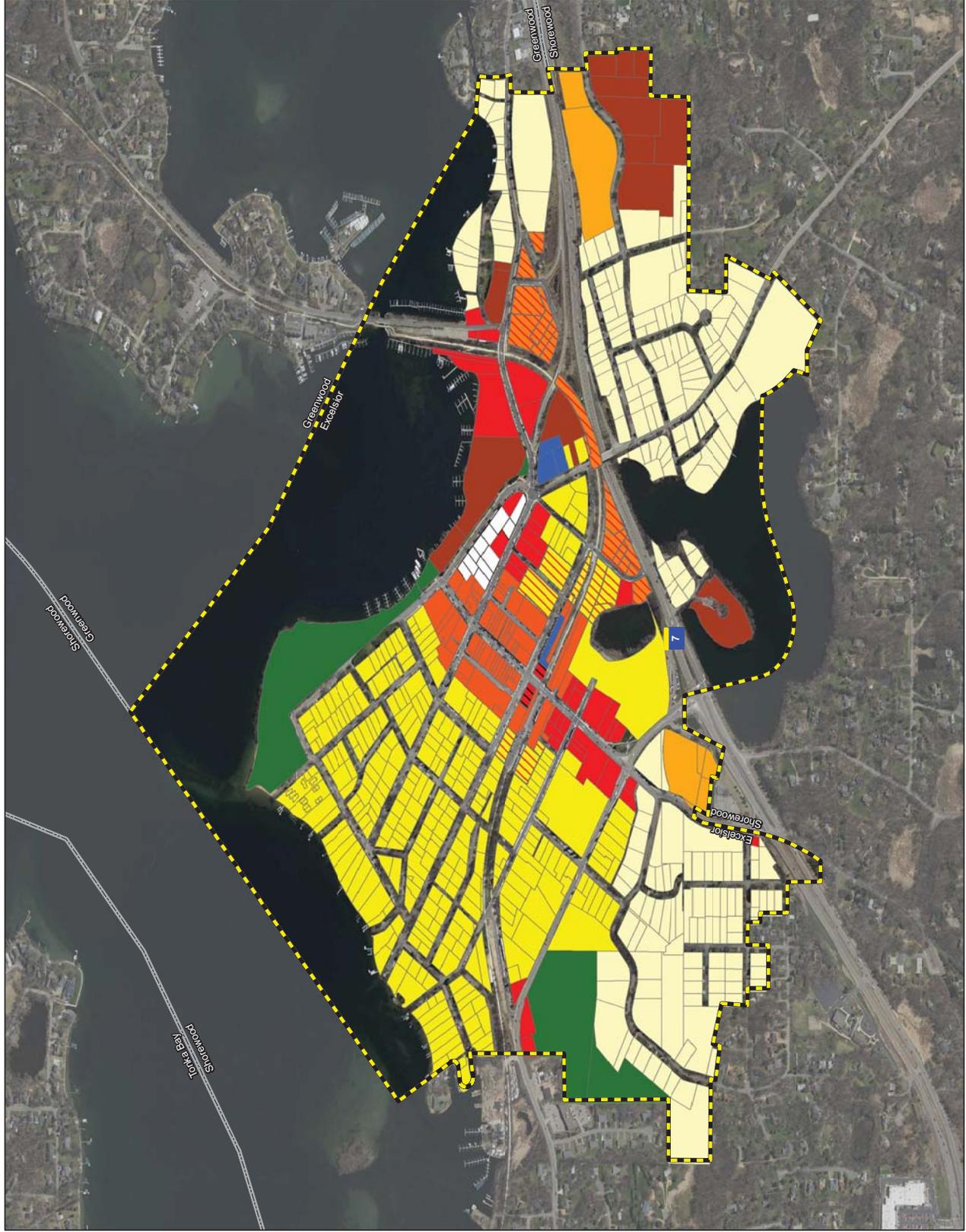




Figure 13 - Parks and
Trails Map



Legend

- Excelsior Boundary
- City Boundaries
- Trails
- Park, Recreational, or Preserve



0 800 Feet
1 inch = 800 feet

Excelsior



City of Excelsior
Surface Water Management Plan

Figure 14 - MPCA Areas of Interest

Legend

Excelsior Boundary

City Boundaries

Area of Interest Description

- Multiple Programs
- Brownfields
- Environmental Review
- Hazardous Waste
- Construction Stormwater
- Industrial Stormwater
- Aboveground Tanks
- Underground Tanks
- Petroleum Remediation
- Site Assessment
- Wastewater



Excelsior



City of Excelsior
Surface Water Management Plan

Figure 15 - MLCSS Land Cover Map

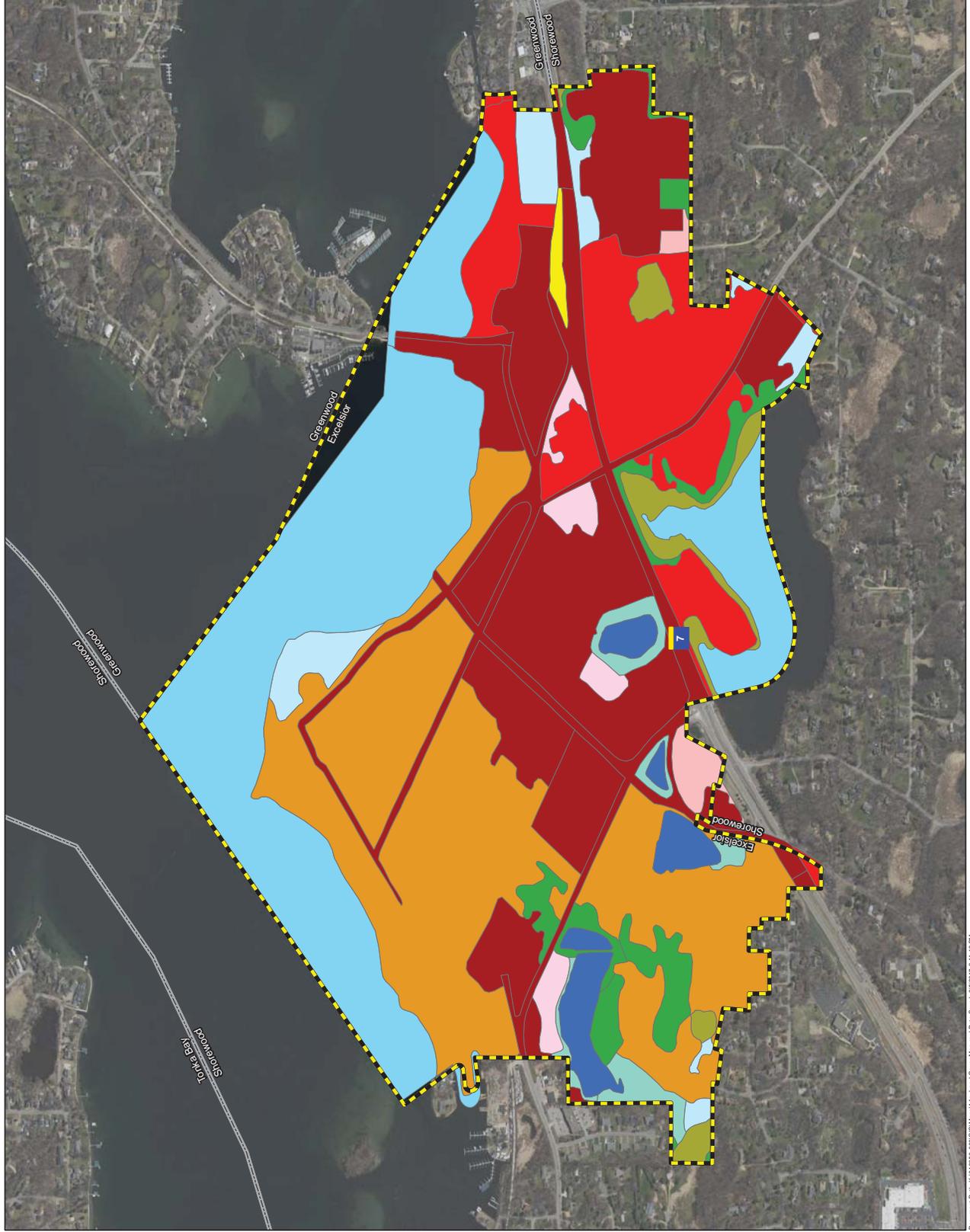
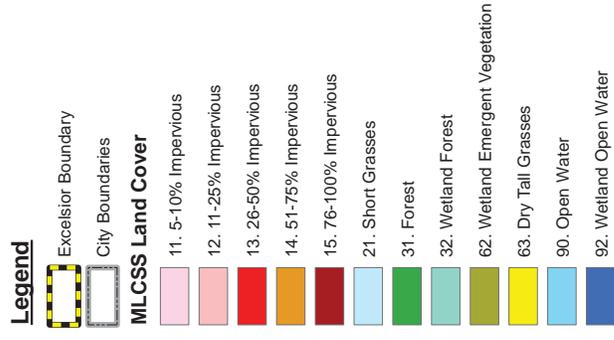




Figure 16 - Subwatershed and
Drainage Routing Map



Privately Owned BMP's
 A. Pervious Pavement and Satef Baffle; owned and maintained by landowner
 B. Pervious Pavement; owned and maintained by landowner
 C. Underground filtration system; owned and maintained by landowner
 D. Infiltration swale; owned and maintained by landowner
 E. Underground infiltration chamber; owned and maintained by landowner
 F. Pervious pavers and raingardens; owned and maintained by landowner
 G. Pervious pavers; owned and maintained by landowner
 H. Pervious pavement, filtration, and raingardens; owned and maintained by landowner

Publicly Owned BMP's
 1. Mud Pond; owned and maintained by the City
 2. College Pond; owned and maintained by the City
 3. Mitten Pond; owned and maintained by the City
 4. Water Street Wetland; owned and maintained by the City
 5. Mud Lake; owned and maintained by the City
 6. Division Street Wetland; owned and maintained by the City
 7. Mill Street Pond (Simba Pond); owned and maintained by the City
 8. Lake Street Pond (Sarabi Pond); owned and maintained by the City
 9. Division Street Wetland (Mufasa Pond); owned and maintained by the City
 10. Third Avenue Wetland; owned and maintained by the City

Legend

- Flowline
- Excelsior Boundary
- City Boundaries
- Subwatershed Boundary
- Pond Inventory

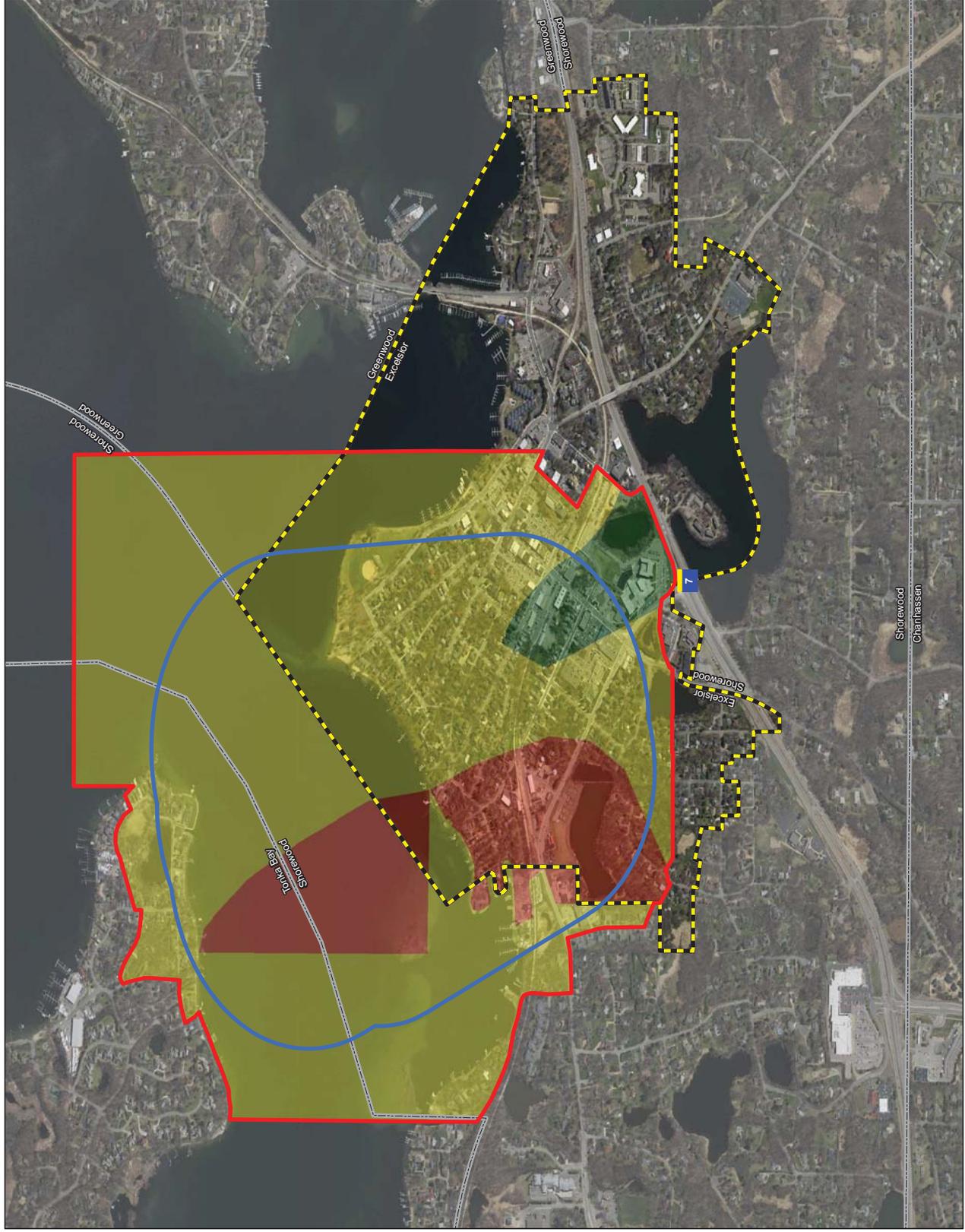
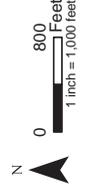
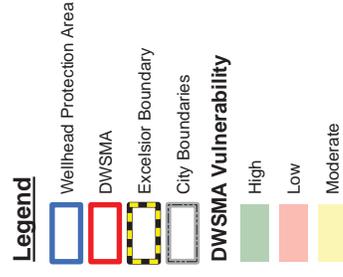
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0 800 Feet
1 inch = 800 feet





Figure 17 - Drinking Water
Supply Management Areas Map

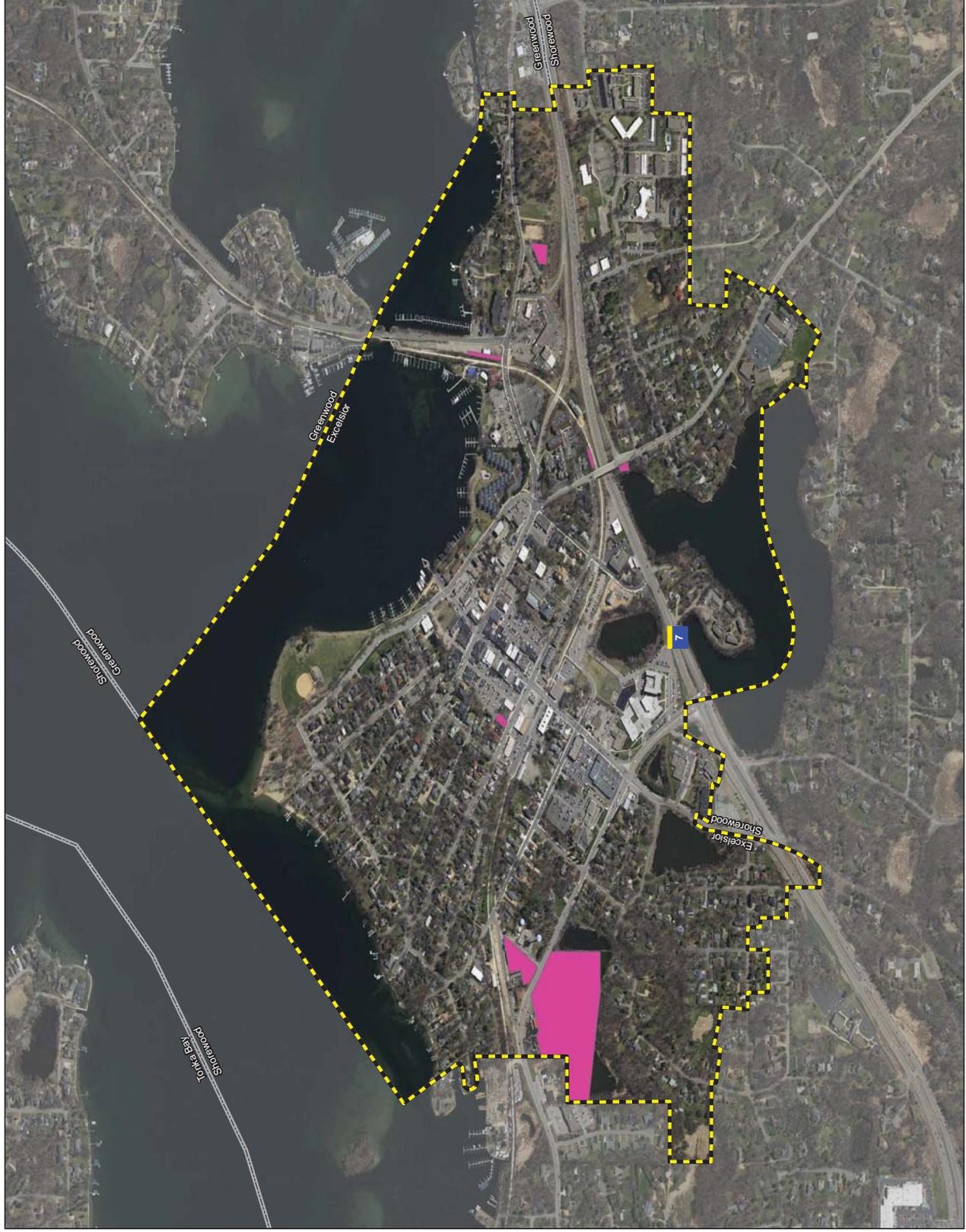


Excelsior



City of Excelsior
Surface Water Management Plan

Figure 18 - Excelsior's City-Owned Parcels



Legend

- Excelsior Boundary
- City Boundaries
- City Owned Parcels



0 800 Feet
1 inch = 600 feet



Excelsior



City of Excelsior
Surface Water Management Plan

Figure 19 - Storm Sewer Map

- Legend**
- Structural Stormwater BMPs
 - 6" Storm Sewer
 - 8" Storm Sewer
 - 10" Storm Sewer
 - 12" Storm Sewer
 - 15" Storm Sewer
 - 18" Storm Sewer
 - 21" Storm Sewer
 - 24" Storm Sewer
 - 27" Storm Sewer
 - 30" Storm Sewer
 - 36" Storm Sewer
 - 48" Storm Sewer
 - ▭ Excelsior Boundary
 - ▭ City Boundaries
 - ▭ Subwatershed Boundary



APPENDIX B – WATER RESOURCE RELATED AGREEMENTS

MEMORANDUM of UNDERSTANDING

Between the Minnehaha Creek Watershed District and the City of Excelsior

This Memorandum of Understanding (MOU) is made by and between the Minnehaha Creek Watershed District, a watershed district with purposes and powers as set forth at Minnesota Statutes Chapters 103B and 103D ("MCWD"), and the City of Excelsior, a statutory city and political subdivision of the State of Minnesota ("City").

Recitals and Statement of Purpose

WHEREAS the MCWD's 2007 Comprehensive Water Resources Management Plan identifies a need to reduce stormwater runoff and nutrient loading to Lower Lake South of Lake Minnetonka;

WHEREAS conceptual projects and best management practices (BMPs) have been identified and defined through feasibility studies conducted by the MCWD;

WHEREAS the City would like to partner with the MCWD to develop opportunities to implement BMPs for improving the water quality of runoff to Lower Lake South of Lake Minnetonka; provided such a partnership is in the best interest of the City and it is deemed reasonable and practicable to do so;

WHEREAS the City is under no obligation to encumber project costs or implement the projects proposed by the MCWD feasibility studies;

WHEREAS, should a suitable project be identified, the parties of this agreement recognize there will be a need for a future cooperative agreement between the City and the MCWD that identifies the roles and responsibilities of each party in installing and maintaining water quality measures in the City of Excelsior;

WHEREAS the MCWD wishes to be notified as soon as possible of City, private, County, or other projects that are being planned that have the potential to incorporate BMPs to reduce stormwater runoff and nutrient loading to Lower Lake South of Lake Minnetonka; and

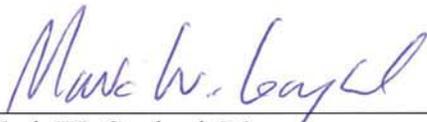
WHEREAS the MCWD and the City wish to memorialize an understanding of responsibilities by each party, to develop and implement best management practices (BMPs);

NOW THEREFORE BE IT RESOLVED; that the two parties will operate in the following manner;

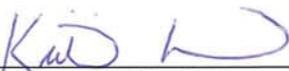
1. The City will notify the MCWD of any City projects, private development and redevelopment, and County projects that may be suitable for implementation through this partnership agreement.

2. Each party will use best efforts to fulfill the terms of this MOU and to cooperate fully and effectively to carry out the cooperative partnership specified in this MOU.
3. This voluntary agreement will remain in effect as long as potential opportunities and funding sources exist for appropriate projects or either party wishes to terminate the MOU, which can be accomplished by providing written notice to the other party.
4. MCWD completed feasibility studies for water quality and volume BMP opportunities within the City of Excelsior, these studies can be used for project ideas should the opportunity arise.

THE CITY OF EXCELSIOR

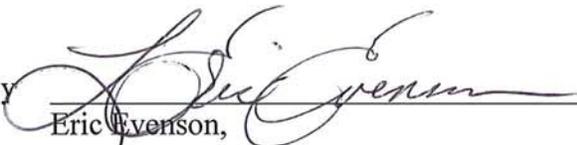
By 
Mark W. Gaylord, Mayor

Date:

By 
Kristi Luger, City Manager

Date: 03-21-13

**MINNEHAHA CREEK WATERSHED
DISTRICT**

By 
Eric Evenson,
District Administrator

Date: 4-8-13

APPROVED AS TO FORM AND
EXECUTION

By 
Its Attorney

MINNEHAHA CREEK WATERSHED MCWD
Low Impact Development Cost-Share Funding Agreement

Minnehaha Creek Watershed District and
City of Excelsior

This Agreement is entered into by and between the Minnehaha Creek Watershed District, a special purpose district of the State of Minnesota with powers set forth at Minnesota Statutes Chapters 103B and 103D (MCWD), and the City of Excelsior, a home rule charter city and political subdivision of the State of Minnesota (CITY) (together, the Parties).

The purpose of this Agreement is to provide cost-share assistance for the construction and maintenance of a project demonstrating water resource conservation and providing education at 3rd Street on property owned by the CITY (the Property).

MCWD has determined and communicated to CITY that it will contribute cost-share funding for construction of water resources-conservation practices in conjunction with a project CITY has undertaken as part of the improvement of its 3rd Street Fire Lane. MCWD has determined the amount of funding that it will contribute to the construction and design of the practices on the basis of the water-quality improvement, public education and demonstration benefits that will be realized.

MCWD commits to reimburse CITY in accordance with the terms and on satisfaction of the conditions of this Agreement.

1. Scope of Work

CITY has constructed a hydrodynamic separator, SAFL Baffle and curb (the Facilities) on the Property, or construct the Facilities itself, in accordance with the Site Plan attached to and incorporated into this Agreement as Exhibit A and the Budget attached to and incorporated into this Agreement as Exhibit B.

Within 60 days of execution of this Agreement, CITY will submit to MCWD:

- a. certification by a registered engineer on behalf of CITY that the Facilities have been constructed and are substantially complete, functional and conforming to Exhibit A;
- b. a narrative describing the construction of the Facilities, including a description of any changes made or expected to the Facilities;

- c. as-built drawings of the Facilities;
- d. photographs documenting construction; and
- e. an invoice and receipts documenting the Facilities costs, along with any completed reimbursement forms required by MCWD.

CITY will maintain a copy of the Site Plan and other records concerning the Facilities for six years from the date CITY receives or completes the as-built drawings of the Facilities. MCWD may examine, audit or copy any such records on reasonable notice to CITY.

2. Contractor

CITY represents that it selected a contractor or contractors for the Facilities or constructed the Facilities itself and ensured construction of the Facilities in accordance with Exhibit A. CITY represents that in contracting for construction of the Facilities, CITY ensured that no person was excluded from full employment rights or participation in or benefits of any program, service, or activity on the grounds of race, color, creed, religion, age, sex, disability, marital status, sexual orientation, public-assistance status or national origin, and that no person protected by applicable federal or state laws, rules or regulations against discrimination was subject to discrimination.

3. Reimbursement

When MCWD has received from CITY the documentation described in section 1 of this Agreement and after MCWD has either inspected the Facilities or communicated in writing to CITY that it waives its right to do so, MCWD will reimburse CITY 50 percent of CITY's eligible costs to design and construct the Facilities, except that reimbursement under this Agreement will not exceed a total of \$20,110.

MCWD has determined that partial performance of obligations under section 1 of this Agreement may confer no or limited benefit on MCWD. As a result:

- a. MCWD may withhold 10 percent of any reimbursement under this section 3 until MCWD has confirmed substantial completion of the Facilities; and
- b. if construction, including vegetation establishment where specified, of the Facilities is not substantially completed in material conformance with the approved plans and specifications within two (2) years of the date this Agreement is fully executed, subject to delays outside of CITY's control, MCWD will not be obligated to provide reimbursement to CITY under this Agreement and may declare this Agreement rescinded and no longer of

effect. Notwithstanding, the parties will consult before MCWD makes a decision to deny reimbursement or rescind the Agreement.

4. Right of Access

CITY will permit MCWD representatives to enter the Property at reasonable times to inspect the work, ensure compliance with this Agreement and monitor or take samples for the purposes of assessing the construction or performance of the Facilities and compliance with the terms of this Agreement. If MCWD finds that an obligation under this Agreement is not being met, it will provide 30 days' written notice and opportunity to cure, and thereafter may declare this Agreement void. CITY will reimburse MCWD for all costs incurred in the exercise of this authority, including reasonable engineering, legal and other contract costs.

5. Maintenance

CITY will maintain the Facilities in perpetuity from the date of substantial completion of construction in accordance with the Maintenance Plan & Schedule attached and incorporated into this Agreement as Exhibit C. If CITY fails to maintain the Facilities, MCWD will have a right to reimbursement of all amounts paid to CITY, unless MCWD determines that the failure to maintain the Facilities was caused by reasons beyond CITY's control.

If the CITY conveys into private Ownership a fee interest in all or any portion of the public property that is subject to this Agreement, it must require as a condition of sale, and enforce: (a) that the purchaser record a declaration on the property incorporating the maintenance requirements of this Agreement; and (b) that recordation occur either before any encumbrance is recorded on the property or, if after, only as accompanied by a subordination and consent executed by the encumbrance holder ensuring that the declaration will run with the land in perpetuity. If the CITY conveys into public Ownership a fee interest in all or any portion of the property that is subject to this Agreement, it must require as a condition of the purchase and sale Agreement that the purchaser accept an assignment of all obligations vested under this Agreement.

6. Acknowledgment and Publicity

Any publicly distributed or displayed printed or electronic documents or other text display regarding the Facilities will properly acknowledge the funding provided by MCWD. CITY will cooperate with MCWD to seek publicity and media coverage of the

Facilities, and to allow members of the public periodically to enter the Property to view the Facilities in the company of an MCWD representative. CITY will permit MCWD, at its cost and discretion, to place reasonable signage on CITY's property informing the public about the Facilities and MCWD's cost-share program.

7. Independent Relationship; Indemnification

MCWD's role under this Agreement is solely to provide funds to support the performance of voluntary work by CITY that furthers the purposes of MCWD. This Agreement is not a joint powers agreement under Minnesota Statutes section 471.59. CITY acts independently and selects the means, method and manner of constructing the Facilities. No employee, representative, contractor or consultant of any party to this Agreement has acted or may act in any respect as the agent or representative of the other party. Any right to review or approve a design, work in progress or a constructed facility provided by the Agreement to MCWD is solely for MCWD's purpose of accounting for MCWD funds expended. CITY is not the agent, representative, employee or contractor of MCWD. CITY will hold MCWD, its officers, board members, employees and agents harmless, and will defend and indemnify MCWD, with respect to all actions, costs, damages and liabilities of any nature arising from: (a) CITY's negligent or otherwise wrongful act or omission, or breach of a specific contractual duty; or (b) a subcontractor's negligent or otherwise wrongful act or omission, or breach of a specific contractual duty owed by CITY to MCWD. No action or inaction of MCWD or the CITY under this Agreement creates a duty of care on the part of MCWD or the CITY for the benefit of any third party.

8. Remedies; Immunities

Only contractual remedies are available for a party's failure to fulfill the terms of this Agreement. Notwithstanding any other term of this Agreement, the District and the CITY waive no immunities in tort. No action or inaction of a party under this Agreement creates a duty of care for the benefit of any third party. This Agreement creates no right in and waives no immunity, defense or liability limitation with respect to any third party.

9. Effective Date; Termination; Survival of Obligations

This Agreement is effective when fully executed by all parties and expires 10 years thereafter. MCWD retains the right to void this Agreement if MCWD has not received from CITY the documentation described in section 1 of this Agreement by December

31, 2013. Upon issuance by MCWD of notice of MCWD 's determination to void this Agreement, CITY will not receive any further reimbursement for work subject to this Agreement, unless MCWD extends the construction-completion period.

All obligations that have come into being before termination, specifically including obligations under paragraphs 4, 5, 6, 7 and 8 will survive expiration.

10. Compliance With Laws

CITY is responsible to secure all permits and comply with all other legal requirements applicable to the construction of the Facilities.

11. Notices

Any written communication required under this Agreement shall be addressed to the other party as follows:

To MCWD :

Administrator
Minnehaha Creek Watershed District
18202 Minnetonka Blvd
Deephaven, MN 55391

To CITY:

Public Works Director
City of Excelsior
339 Third Street
Excelsior, MN 55331

12. Waiver

MCWD's failure to insist on the performance of any obligation under this Agreement does not waive its right in the future to insist on strict performance of that or any other obligation. Notwithstanding any other term of this Agreement, MCWD waives no immunities in tort. This Agreement creates no rights in and waives no immunities with respect to any third party or a party to this Agreement.

13. Venue and Jurisdiction

The Agreement will be construed under and governed by the laws of the State of Minnesota. The appropriate venue and jurisdiction for any legal action hereunder will be Hennepin County, Minnesota.

Intending to be bound, the parties hereto execute and deliver this Agreement.

CITY
By Mark W. Gaylord Date 12-16-13
Name Mark Gaylord
Its Mayor

By Kristi Luger Date 12-16-13
Name Kristi Luger
Its City Manager

MINNEHAHA CREEK WATERSHED DISTRICT

By _____ Date _____
Name _____
President

APPROVED AS TO FORM AND EXECUTION

Its Attorney

**Exhibit B
Budget**

The following includes the breakdown of the costs associated with the 2012 Excelsior 3rd Street Fire Lane Road Reconstruction Project:

1. Hydrodynamic Separator	\$23,000
2. <u>SAFL Baffle</u>	\$7,500
3. Catch Basin Casting Assembly	\$1,950
4. Concrete Curb & Gutter	\$5,800
5. Design & Engineering Services	<u>\$1,970</u>
Total	\$40,220

Exhibit C

Maintenance Plan & Schedule

Stormwater Management Facilities. Stormwater management facilities described in the Site Plan and Design attached as Exhibit A to the Agreement must be maintained as follows:

Grit chambers and other structures.

Grit chambers, sump catch basins and sump manholes shall be inspected each year in the spring, summer and fall; outlet structures, culverts, outfall structures or other stormwater facilities shall be inspected in the spring and fall each year; proprietary stormwater-management devices and structures shall be inspected as recommended by the manufacturer and/or installer, but at least annually. All sediment and debris will be removed during the inspections such that the stormwater facilities operate as designed and permitted; erosion impairing the function or integrity of the facilities, if any, will be corrected; and any structural damage impairing or threatening to impair the function of the facilities will be repaired. Conveyances and other structures shall be inspected annually to ensure preservation of designed hydraulic capacity.

APPENDIX C – STORM WATER SYSTEM MODELING INFORMATION

**CITY OF EXCELSIOR
SURFACE WATER MANAGEMENT PLAN
100-YEAR EVENT**

Problem Area #	SUB- WATERSHED NUMBER	AREA (Acres)	Tc (min)	SCS CN	PEAK RUNOFF RATE (cfs)		FULLY DEVELOPED PEAK DISCHARGE RATE			FWL (ft)	100-YR 10-DAY FULLY DEVELOPED	100-YR 24-HR FULLY DEVELOPED	REQUIRED STORAGE (ft)		LOW BUILDING ELEVATIONS (ft)	OVERLAND OVERFLOW (ft)	COMMENTS
					100-YR 10-DAY FULLY DEVELOPED	100-YR 24-HR FULLY DEVELOPED	100-YR 10-DAY FULLY DEVELOPED	100-YR 24-HR FULLY DEVELOPED									
18	EB 1	2.9	15.0	78.0	17.4	14.38	19.2	NA	NA	942.8	942.8	7.43	10.08	950.0	950.0	WATER TREATMENT PLANT TREATMENT OF EXCELSIOR WATERSHED	
	GL 1B2	0.2	20	78	0.1	0.8	NA	NA	NA	942.8	942.8	NA	NA	950.0	950.0	EXCELSIOR DRAINAGE AREA FLOWS EAST TO SHOREWOOD STORAGE AREA	
	GL 2A	4.2	16	66	2.1	19.3	1.0	1.2	NA	938.2	938.2	0.63	0.87	940.0	940.0	EXCELSIOR DRAINAGE AREA FLOWS EAST TO SHOREWOOD STORAGE AREA	
	GL 2B	0.2	15	72	0.1	0.8	NA	NA	NA	942.8	942.8	NA	NA	950.0	950.0	EXCELSIOR DRAINAGE AREA FLOWS EAST TO SHOREWOOD STORAGE AREA	
	GL 3A	3.4	21	74	1.8	16.2	NA	NA	NA	942.8	942.8	0.50	1.91	940.0	940.0	EXCELSIOR DRAINAGE AREA FLOWS EAST TO SHOREWOOD STORAGE AREA	
	GL 3B	14.0	21	72	6.6	63.4	5.7	39.0	NA	942.8	942.8	0.50	1.91	940.0	940.0	EXCELSIOR DRAINAGE AREA FLOWS EAST TO SHOREWOOD STORAGE AREA	
	COL 1	30.7	30	79	14.2	134.4	30.4	86.6	NA	942.8	942.8	24.08	33.05	950.0	950.0	HYDRAULIC CONNECTION ON SOUTH END WOLFPALM LAKE	
	EB 10	3.6	20	69	2.6	36.0	NA	NA	NA	942.8	942.8	NA	NA	940.0	940.0	DRAINAGE AREA NORTH OF EXCELSIOR BLVD & LAKE ST. DIRECTLY TRIBUTARY TO EXCELSIOR BAY	
	EB 11	9.4	30	88	4.3	41.7	8.5	46.7	NA	942.8	942.8	0.00	0.08	948.0	948.0	DRAINAGE AREA TRIBUTARY TO 3RD ST. & WATER ST. INTERSECTION TO FORM SEWER	
	EB 12	9.7	25	78	4.5	46.2	6.0	49.0	NA	942.8	942.8	0.00	0.08	948.0	948.0	DRAINAGE AREA TRIBUTARY TO DEPRESSION NORTHWEST OF GEORGE ST. & WATER ST.	
23	EB 13	1.0	30	82	0.5	4.5	NA	NA	NA	942.8	942.8	NA	NA	940.0	940.0	DRAINAGE AREA TRIBUTARY TO DEPRESSION WEST OF WATER ST. - OFFFALL TO EXCELSIOR BAY	
	EB 14	14.3	30	64	6.7	42.1	NA	NA	NA	942.8	942.8	NA	NA	940.0	940.0	PARK AREA TO DRAINAGE AREA NORTHWEST OF LAKE ST. / CENTER ST.	
	EB 2	8.8	30	62	4.1	47.2	4.1	33.6	NA	942.8	942.8	0.12	2.15	938.0	938.0	PARKING LOT STORAGE SOUTH OF EXCELSIOR BOULEVARD	
	EB 3	14.4	30	62	6.6	65.7	17.1	26.9	NA	942.8	942.8	0.67	2.21	948.0	948.0	DRAINAGE AREA TRIBUTARY TO 147 5TH AVE. POND	
	EB 4A	4.6	25.5	72	2.2	20.2	5.3	11.2	NA	942.8	942.8	0.22	2.43	937.9	937.9	DRAINAGE AREA SOUTH OF 147 5TH AVE. POND	
	EB 5	8.8	25	72	3.7	32.8	3.8	31.8	NA	942.8	942.8	0.08	0.92	942.0	942.0	DEPRESSION SOUTH OF 3RD AVE. & MILL ST. PROPOSED OUTLET	
	EB 6	13.9	30	62	6.3	58.5	15.0	24.4	NA	942.8	942.8	0.08	0.92	942.0	942.0	DRAINAGE AREA TRIBUTARY TO DEPRESSION SOUTH OF EXCELSIOR BAY	
	EB 7	2.0	15	77	1.0	12.4	NA	NA	NA	942.8	942.8	NA	NA	940.0	940.0	DRAINAGE AREA TRIBUTARY TO DEPRESSION SOUTH OF EXCELSIOR BAY	
	EB 8	3.9	20	91	1.9	25.7	12.7	74.5	NA	942.8	942.8	0.00	0.00	948.0	948.0	DRAINAGE AREA NORTH OF LAKE ST. - DIRECT TO EXCELSIOR BAY	
	EB 9	5.2	25	89	2.4	30.0	2.4	9.4	NA	942.8	942.8	0.00	0.00	948.0	948.0	DRAINAGE AREA TRIBUTARY TO WATER ST. & SECOND ST. STORM SEWER	
11	GB 11	17.1	21.1	74	8.0	81.5	NA	NA	NA	942.8	942.8	NA	NA	948.0	948.0	NORTHWEST DRAINAGE AREA OF CITY TO GREENS BAY	
	GB 12	7.7	30	72	3.0	26.3	NA	NA	NA	942.8	942.8	NA	NA	948.0	948.0	DRAINAGE AREA DISCHARGES WEST TO SHOREWOOD	
	GB 13	9.7	30	72	3.0	26.3	NA	NA	NA	942.8	942.8	NA	NA	948.0	948.0	DRAINAGE AREA DISCHARGES WEST TO SHOREWOOD	
	GB 14	9.9	32.5	82	4.6	44.0	NA	NA	NA	942.8	942.8	NA	NA	948.0	948.0	SHOREWOOD DRAINAGE AREA RUNOFF TO EXCELSIOR	
	GB 15	7.7	29.6	74	3.5	30.2	NA	NA	NA	942.8	942.8	NA	NA	948.0	948.0	DRAINAGE AREA NORTH OF OLD WASTE WATER TREATMENT BASIN (EAST CELL)	
	GB 16	18.1	34.2	75	8.7	70.4	8.8	62.7	NA	942.8	942.8	3.03	3.43	937.0	937.0	EAST BASIN OF OLD WASTE WATER TREATMENT SYSTEM	
	GB 17A	8.6	40.3	71	3.9	26.1	11.8	11.8	NA	942.8	942.8	0.06	1.30	958.3	958.3	EXCELSIOR DRAINAGE AREA TO STORAGE AREA EAST OF GLENCOE ROAD	
	GB 18B	2.8	32.7	72	1.3	9.7	NA	NA	NA	942.8	942.8	NA	NA	948.0	948.0	SHOREWOOD DRAINAGE AREA TO STORAGE AREA EAST OF GLENCOE ROAD	
	GB 19	16.9	20.3	72	3.8	36.7	2.6	25.7	NA	942.8	942.8	0.04	0.42	945.4	945.4	DRAINAGE AREA TO WOODVILLE LAKE ST. STORM SEWER	
	GB 20	3.0	22.7	70	1.7	14.8	9.7	NA	NA	942.8	942.8	7.97	3.84	944.6	944.6	DRAINAGE AREA TO BELL ST. & ELM ST. LOW POINT	
7	GB 21A	36.0	42.7	71	18.5	106.4	NA	NA	NA	942.8	942.8	NA	NA	948.0	948.0	SHOREWOOD DRAINAGE AREA TO DEPRESSION WEST OF GLENCOE ROAD	
	GL 21B	5.0	38.8	74	2.3	16.8	NA	NA	NA	942.8	942.8	130.7	120.0	948.0	948.0	DRAINAGE AREA TO DEPRESSION WEST OF GLENCOE ROAD	
	GL 21C	1.1	15	70	0.5	5.4	15.4	19.2	NA	942.8	942.8	1.09	1.47	940.0	940.0	EXCELSIOR DRAINAGE AREA TO POND NORTHWEST OF CSAT 19 & 147	
	GL 22	2.2	15	82	1.0	14.4	0.6	4.0	NA	942.8	942.8	0.15	0.37	952.3	952.3	SHOREWOOD DRAINAGE AREA TO POND NW QUADRANT OF CSAT 19 & 147	
	GL 2A	1.6	18	80	0.8	9.4	NA	NA	NA	942.8	942.8	NA	NA	948.0	948.0	ALLEN COMPANY TREATMENT POND	
	GL 2B	1.2	20	83	0.6	7.0	NA	NA	NA	942.8	942.8	NA	NA	948.0	948.0	EXCELSIOR DRAINAGE AREA TO SOUTHWEST INTO SHOREWOOD	
	GL 3A	1.2	20	63	0.6	7.0	NA	NA	NA	942.8	942.8	NA	NA	948.0	948.0	EXCELSIOR DRAINAGE AREA AT SOUTHWEST QUADRANT OF 147 & GALPIN LAKE ROAD	
	ML 1	17.5	20	84	8.2	104.8	0.6	6.9	NA	942.8	942.8	10.16	7.03	949.0	949.0	MUD LAKE OUTLET TO GALPIN LAKE	
	SAB 10	7.7	20	78	3.6	41.3	NA	NA	NA	942.8	942.8	NA	NA	948.0	948.0	AREA NORTH OF EXCELSIOR BOULEVARD DIRECTLY TRIBUTARY TO ST. ALBANS BAY	
	SAB 11	3.2	15	72	1.5	17.2	6.6	52.6	NA	942.8	942.8	0.00	0.00	956.0	956.0	EXCELSIOR AREA FLOWS EAST TO 147 POND LOCATED IN SHOREWOOD	
21	SAB 12	1.8	15	74	0.9	10.4	6.2	28.0	NA	942.8	942.8	0.28	0.56	948.0	948.0	EXCELSIOR DRAINAGE AREA TO SHOREWOOD	
	SAB 13	1.5	15	82	0.8	9.4	NA	NA	NA	942.8	942.8	NA	NA	948.0	948.0	EXCELSIOR BOULEVARD AREA FLOWS TO STORM SEWER IN ST. ALBANS BAY	
	SAB 14	1.1	20	74	0.5	3.5	17.6	17.6	NA	942.8	942.8	0.12	0.67	952.0	952.0	EXCELSIOR BOULEVARD AREA FLOWS TO STORM SEWER IN ST. ALBANS BAY	
	SAB 15	2.0	20	74	0.9	8.8	26.4	176.0	NA	942.8	942.8	0.00	0.00	940.0	940.0	DRAINAGE AREA SOUTH OF 147 TRIBUTARY CENTRAL LINE CULVERT UPSTREAM OF MUFASA POND	
	SAB 16	6.4	30	79	2.9	27.9	4.3	10.5	NA	942.8	942.8	0.86	3.78	940.0	940.0	DRAINAGE AREA SOUTH OF 147 TRIBUTARY CENTRAL LINE CULVERT UPSTREAM OF MUFASA POND	
	SAB 17	18.0	30	81	8.7	85.9	21.4	164.9	NA	942.8	942.8	0.68	5.86	938.0	938.0	DRAINAGE AREA TO STORAGE AREA SOUTHWEST OF 3RD AVE. & DIVISION ST.	
	SAB 18A	9.7	35	73	7.6	58.2	0.0	70.2	NA	942.8	942.8	0.00	0.00	944.0	944.0	SHOREWOOD AREA TO STORAGE AREA SOUTHWEST OF 3RD AVE. & DIVISION ST.	
	SAB 18B	3.4	25	72	1.6	14.0	NA	NA	NA	942.8	942.8	0.00	0.00	944.0	944.0	SHOREWOOD AREA TO STORAGE AREA SOUTHWEST OF 3RD AVE. & DIVISION ST.	
	SAB 19	1.3	25	72	0.6	5.3	3.6	14.0	NA	942.8	942.8	0.02	0.08	944.0	944.0	DRAINAGE AREA SOUTH OF 147 UPSTREAM OF SARABAI POND	
	SAB 20	1.3	25	72	0.6	5.3	3.6	14.0	NA	942.8	942.8	0.02	0.08	944.0	944.0	DRAINAGE AREA SOUTH OF 147 UPSTREAM OF SARABAI POND	
22	2R	28.0	28	28	54.8	54.8	54.8	54.8	NA	942.8	942.8	NA	NA	948.0	948.0	EXCELSIOR BAY IN LOW	
	3R	155.4	28	28	357	357	357	357	NA	942.8	942.8	NA	NA	948.0	948.0	GREENS BAY IN LOW	

A) The overflow elevation and low building elevations should be considered approximate. Detailed field surveys are required to obtain actual elevations.
 B) The field elevations that are used in this plan are based on the NWL at the time of the event. This NWL is affected by the occupancy of the data such as drainage area, storage capacity, outlet description and condition, and runoff factors and has not been field calibrated.
 The actual or observed HWL could be affected by land use, etc. All of these factors should be reviewed when HWL is considered critical.

MP - MITTEN POND
 CL - CHRISTMAS LAKE
 SUBWATERSHED IDENTIFICATION
 COL - COLLEGE LAKE
 EB - EXCELSIOR BAY
 GL - GALPIN LAKE
 ML - MUD LAKE
 GB - GREENS BAY
 SAB - ST. ALBANS BAY

APPENDIX D – FEMA FLOOD INSURANCE STUDY

APPENDIX E – NPDES PHASE II INFORMATION AND CITY FACILITY INVENTORY



Minnesota Pollution Control Agency

520 Lafayette Road North
St. Paul, MN 55155-4194

MS4 SWPPP Application for Reauthorization

for the NPDES/SDS General Small Municipal Separate Storm Sewer System (MS4) Permit MNR040000 reissued with an effective date of August 1, 2013 Stormwater Pollution Prevention Program (SWPPP) Document

Doc Type: Permit Application

Instructions: This application is for authorization to discharge stormwater associated with Municipal Separate Storm Sewer Systems (MS4s) under the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) Permit Program. **No fee** is required with the submittal of this application. Please refer to "Example" for detailed instructions found on the Minnesota Pollution Control Agency (MPCA) MS4 website at <http://www.pca.state.mn.us/ms4>.

Submittal: This MS4 SWPPP Application for Reauthorization form must be submitted electronically via e-mail to the MPCA at ms4permitprogram.pca@state.mn.us from the person that is duly authorized to certify this form. All questions with an asterisk (*) are required fields. All applications will be returned if required fields are not completed.

Questions: Contact Claudia Hochstein at 651-757-2881 or claudia.hochstein@state.mn.us, Dan Miller at 651-757-2246 or daniel.miller@state.mn.us, or call toll-free at 800-657-3864.

General Contact Information (*Required fields)

MS4 Owner (with ownership or operational responsibility, or control of the MS4)

*MS4 permittee name: City of Excelsior *County: Hennepin
(city, county, municipality, government agency or other entity)
*Mailing address: 151 Oak Street
*City: Excelsior *State: MN *Zip code: 55331
*Phone (including area code): 952-474-3464 *E-mail: dwisdorf@ci.excelsior.mn.us

MS4 General contact (with Stormwater Pollution Prevention Program [SWPPP] implementation responsibility)

*Last name: Wisdorf *First name: Dave
(department head, MS4 coordinator, consultant, etc.)
*Title: Public Works Director
*Mailing address: 151 Oak Street
*City: Excelsior *State: MN *Zip code: 55331
*Phone (including area code): 952.474.3464 *E-mail: dwisdorf@ci.excelsior.mn.us

Preparer information (complete if SWPPP application is prepared by a party other than MS4 General contact)

Last name: Peters First name: Jeff
(department head, MS4 coordinator, consultant, etc.)
Title: WSB & Associates
Mailing address: 701 Xenia Ave South Suite 300
City: Minneapolis State: MN Zip code: 55416
Phone (including area code): (763) 541-4800 E-mail: jpeters@wsbeng.com

Verification

- I seek to continue discharging stormwater associated with a small MS4 after the effective date of this Permit, and shall submit this MS4 SWPPP Application for Reauthorization form, in accordance with the schedule in Appendix A, Table 1, with the SWPPP document completed in accordance with the Permit (Part II.D.). Yes
- I have read and understand the NPDES/SDS MS4 General Permit and certify that we intend to comply with all requirements of the Permit. Yes

Certification (All fields are required)

- Yes - I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted.

I certify that based on my inquiry of the person, or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of civil and criminal penalties.

This certification is required by Minn. Stat. §§ 7001.0070 and 7001.0540. The authorized person with overall, MS4 legal responsibility must certify the application (principal executive officer or a ranking elected official).

By typing my name in the following box, I certify the above statements to be true and correct, to the best of my knowledge, and that this information can be used for the purpose of processing my application.

Name: Dave Wisdorf
(This document has been electronically signed)

Title: Public Works Director Date (mm/dd/yyyy): 10/28/2013

Mailing address: 151 Oak Street

City: Excelsior State: MN Zip code: 55331

Phone (including area code): 952-474-3464 E-mail: dwisdorf@ci.excelsior.mn.us

Note: The application will not be processed without certification.

Stormwater Pollution Prevention Program Document

I. Partnerships: (Part II.D.1)

- A. List the **regulated small MS4(s)** with which you have established a partnership in order to satisfy one or more requirements of this Permit. Indicate which Minimum Control Measure (MCM) requirements or other program components that each partnership helps to accomplish (List all that apply). Check the box below if you currently have no established partnerships with other regulated MS4s. If you have more than five partnerships, hit the tab key after the last line to generate a new row.

No partnerships with regulated small MS4s

Name and description of partnership	MCM/Other permit requirements involved

- B. If you have additional information that you would like to communicate about your partnerships with other regulated small MS4(s), provide it in the space below, or include an attachment to the SWPPP Document, with the following file naming convention: *MS4NameHere_Partnerships*.

The city of Excelsior will continue to work with the Minnehaha Creek Watershed District to evaluate potential partnership opportunities.

II. Description of Regulatory Mechanisms: (Part II.D.2)

Illicit discharges

- A. Do you have a regulatory mechanism(s) that effectively prohibits non-stormwater discharges into your small MS4, except those non-stormwater discharges authorized under the Permit (Part III.D.3.b.)? Yes No

1. If **yes**:

- a. Check which *type* of regulatory mechanism(s) your organization has (check all that apply):

- Ordinance Contract language
 Policy/Standards Permits
 Rules
 Other, explain: _____

- b. Provide either a direct link to the mechanism selected above or attach it as an electronic document to this form; or if your regulatory mechanism is either an Ordinance or a Rule, you may provide a citation:

Citation:

Article 36. General Stormwater Management

Sec. 36-5. Stormwater Management- general and specific standards

Sec. 34-33. Definitions

Sec. 34-35. Stormwater sewer

Direct link:

http://library.municode.com/HTML/13367/level3/PTIICOOR_CH34UT_ARTIISESE.html#PTIICOOR_CH34UT_ARTIISESE_S34-35STSE

- Check here if attaching an electronic copy of your regulatory mechanism, with the following file naming convention: *MS4NameHere_IDDEreg*.

2. If **no**:

Describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date

permit coverage is extended, this permit requirement is met:

Ordinance will be reviewed and updated if needed within 12 months of the date of permit coverage.

Construction site stormwater runoff control

- A. Do you have a regulatory mechanism(s) that establishes requirements for erosion and sediment controls and waste controls?
 Yes No

1. If **yes**:

- a. Check which *type* of regulatory mechanism(s) your organization has (check all that apply):

- Ordinance Contract language
 Policy/Standards Permits
 Rules
 Other, explain: Building Permit -

- b. Provide either a direct link to the mechanism selected above or attach it as an electronic document to this form; or if your regulatory mechanism is either an Ordinance or a Rule, you may provide a citation:

Citation:

City Code: Sec. 36 (1-9)

Article IV. General Standards and Requirements City Code: Sec. 30 -150. Erosion and Sediment Control

Building Permit -

Direct link:

http://library.municode.com/HTML/13367/level3/PTIICOOR_APXEZO_ART36GESTMA.html#PTIICOOR_APXEZO_ART36GESTMA_S36-6STMAPLAPPR

- Check here if attaching an electronic copy of your regulatory mechanism, with the following file naming convention: *MS4NameHere_CSWreg.*

- B. Is your regulatory mechanism at least as stringent as the MPCA general permit to Discharge Stormwater Associated with Construction Activity (as of the effective date of the MS4 Permit)? Yes No

If you answered **yes** to the above question, proceed to C.

If you answered **no** to either of the above permit requirements listed in A. or B., describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

The City's construction site stormwater runoff control regulatory mechanism will be updated to be at least as stringent as the MPCA CSW permit. This effort will be completed within 12 months of the date permit coverage is extended.

- C. Answer **yes** or **no** to indicate whether your regulatory mechanism(s) requires owners and operators of construction activity to develop site plans that incorporate the following erosion and sediment controls and waste controls as described in the Permit (Part III.D.4.a.(1)-(8)), and as listed below:

- | | |
|--|---|
| 1. Best Management Practices (BMPs) to minimize erosion. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 2. BMPs to minimize the discharge of sediment and other pollutants. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 3. BMPs for dewatering activities. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| 4. Site inspections and records of rainfall events | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| 5. BMP maintenance | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 6. Management of solid and hazardous wastes on each project site. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| 7. Final stabilization upon the completion of construction activity, including the use of perennial vegetative cover on all exposed soils or other equivalent means. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| 8. Criteria for the use of temporary sediment basins. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

C. (3.), (4.), (6.), (7.), are addressed in City Design Standards SWPPP Requirements and in the Building Permit - Erosion Protection Maintenance Memorandum. However, they are not reference in the City's Ordinance. The City Engineer to draft these amendments using the MPCA model ECS ordinance as a guideline. The amended ordinances will be place on the City Council's meeting agenda for approval within 12 months following the date permit coverage is extended.

Post-construction stormwater management

A. Do you have a regulatory mechanism(s) to address post-construction stormwater management activities?

Yes No

1. If **yes**:

a. Check which *type* of regulatory mechanism(s) your organization has (check all that apply):

- Ordinance Contract language
 Policy/Standards Permits
 Rules
 Other, explain: _____

b. Provide either a direct link to the mechanism selected above or attach it as an electronic document to this form; or if your regulatory mechanism is either an Ordinance or a Rule, you may provide a citation:

Citation:

Article IV. General Standards and Requirements Sec. 30-154. Dedication of stormwater holding areas or ponds

Article 36. General Stormwater Management Sec. 36-8 Approval Standards.

Direct link:

<http://library.municode.com/index.aspx?clientId=13367&stateID=23&statename=Minnesota>

Check here if attaching an electronic copy of your regulatory mechanism, with the following file naming convention: *MS4NameHere_PostCSWreg.*

B. Answer **yes** or **no** below to indicate whether you have a regulatory mechanism(s) in place that meets the following requirements as described in the Permit (Part III.D.5.a.):

1. **Site plan review:** Requirements that owners and/or operators of construction activity submit site plans with post-construction stormwater management BMPs to the permittee for review and approval, prior to start of construction activity. Yes No

2. **Conditions for post construction stormwater management:** Requires the use of any combination of BMPs, with highest preference given to Green Infrastructure techniques and practices (e.g., infiltration, evapotranspiration, reuse/harvesting, conservation design, urban forestry, green roofs, etc.), necessary to meet the following conditions on the site of a construction activity to the Maximum Extent Practicable (MEP):

a. For new development projects – no net increase from pre-project conditions (on an annual average basis) of: Yes No

- 1) Stormwater discharge volume, unless precluded by the stormwater management limitations in the Permit (Part III.D.5.a(3)(a)).
- 2) Stormwater discharges of Total Suspended Solids (TSS).
- 3) Stormwater discharges of Total Phosphorus (TP).

b. For redevelopment projects – a net reduction from pre-project conditions (on an annual average basis) of: Yes No

- 1) Stormwater discharge volume, unless precluded by the stormwater management limitations in the Permit (Part III.D.5.a(3)(a)).
- 2) Stormwater discharges of TSS.
- 3) Stormwater discharges of TP.

3. **Stormwater management limitations and exceptions:**

a. Limitations

1) Prohibit the use of infiltration techniques to achieve the conditions for post-construction stormwater management in the Permit (Part III.D.5.a(2)) when the infiltration structural stormwater BMP will receive discharges from, or be constructed in areas: Yes No

- a) Where industrial facilities are not authorized to infiltrate industrial stormwater under an NPDES/SDS Industrial Stormwater Permit issued by the MPCA.
- b) Where vehicle fueling and maintenance occur.
- c) With less than three (3) feet of separation distance from the bottom of the infiltration system to the elevation of the seasonally saturated soils or the top of bedrock.
- d) Where high levels of contaminants in soil or groundwater will be mobilized by the infiltrating stormwater.

2) Restrict the use of infiltration techniques to achieve the conditions for post-construction stormwater management in the Permit (Part III.D.5.a(2)), without higher engineering Yes No

review, sufficient to provide a functioning treatment system and prevent adverse impacts to groundwater, when the infiltration device will be constructed in areas:

- a) With predominately Hydrologic Soil Group D (clay) soils.
- b) Within 1,000 feet up-gradient, or 100 feet down-gradient of active karst features.
- c) Within a Drinking Water Supply Management Area (DWSMA) as defined in Minn. R. 4720.5100, subp. 13.
- d) Where soil infiltration rates are more than 8.3 inches per hour.

- 3) For linear projects where the lack of right-of-way precludes the installation of volume control practices that meet the conditions for post-construction stormwater management in the Permit (Part III.D.5.a(2)), the permittee's regulatory mechanism(s) may allow exceptions as described in the Permit (Part III.D.5.a(3)(b)). The permittee's regulatory mechanism(s) shall ensure that a reasonable attempt be made to obtain right-of-way during the project planning process. Yes No

4. **Mitigation provisions:** The permittee's regulatory mechanism(s) shall ensure that any stormwater discharges of TSS and/or TP not addressed on the site of the original construction activity are addressed through mitigation and, at a minimum, shall ensure the following requirements are met:

- a. Mitigation project areas are selected in the following order of preference: Yes No
 - 1) Locations that yield benefits to the same receiving water that receives runoff from the original construction activity.
 - 2) Locations within the same Minnesota Department of Natural Resource (DNR) catchment area as the original construction activity.
 - 3) Locations in the next adjacent DNR catchment area up-stream
 - 4) Locations anywhere within the permittee's jurisdiction.
- b. Mitigation projects must involve the creation of new structural stormwater BMPs or the retrofit of existing structural stormwater BMPs, or the use of a properly designed regional structural stormwater BMP. Yes No
- c. Routine maintenance of structural stormwater BMPs already required by this permit cannot be used to meet mitigation requirements of this part. Yes No
- d. Mitigation projects shall be completed within 24 months after the start of the original construction activity. Yes No
- e. The permittee shall determine, and document, who will be responsible for long-term maintenance on all mitigation projects of this part. Yes No
- f. If the permittee receives payment from the owner and/or operator of a construction activity for mitigation purposes in lieu of the owner or operator of that construction activity meeting the conditions for post-construction stormwater management in Part III.D.5.a(2), the permittee shall apply any such payment received to a public stormwater project, and all projects must be in compliance with Part III.D.5.a(4)(a)-(e). Yes No

5. **Long-term maintenance of structural stormwater BMPs:** The permittee's regulatory mechanism(s) shall provide for the establishment of legal mechanisms between the permittee and owners or operators responsible for the long-term maintenance of structural stormwater BMPs not owned or operated by the permittee, that have been implemented to meet the conditions for post-construction stormwater management in the Permit (Part III.D.5.a(2)). This only includes structural stormwater BMPs constructed after the effective date of this permit and that are directly connected to the permittee's MS4, and that are in the permittee's jurisdiction. The legal mechanism shall include provisions that, at a minimum:

- a. Allow the permittee to conduct inspections of structural stormwater BMPs not owned or operated by the permittee, perform necessary maintenance, and assess costs for those structural stormwater BMPs when the permittee determines that the owner and/or operator of that structural stormwater BMP has not conducted maintenance. Yes No
- b. Include conditions that are designed to preserve the permittee's right to ensure maintenance responsibility, for structural stormwater BMPs not owned or operated by the permittee, when those responsibilities are legally transferred to another party. Yes No
- c. Include conditions that are designed to protect/preserve structural stormwater BMPs and site features that are implemented to comply with the Permit (Part III.D.5.a(2)). If site configurations or structural stormwater BMPs change, causing decreased structural stormwater BMP effectiveness, new or improved structural stormwater BMPs must be implemented to ensure the conditions for post-construction stormwater management in the Permit (Part III.D.5.a(2)) continue to be met. Yes No

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within twelve (12) months of the date permit coverage is extended, these permit requirements are met:

B.2.a, B.2.b. Review and Amend current post-construction stormwater ordinance and City Design Standards, which includes goals for reducing post-development TSS and TP on an annual basis, to include volume-control and be more consistent with permit language for new and redevelopment sites. The City Engineer will draft these amendments they will be placed on the City Council's meeting agenda for approval within 12 months following the date permit coverage is extended.

B.3.a.1: The City will review and amend the ordinance and City Design Standards to include prohibiting the use of infiltration techniques for post-construction stormwater management as described in the Permit (PartIII.D.5.a(3)(a).1). The ordinance will be amended on the same schedule as the items in B.2.a and B.2.b.

B.3.a.2: The City will review and amend the ordinance and City Design Standards to include restricting the use of infiltration techniques for post-construction stormwater management as described in the Permit (PartIII.D.5.a(3)(a).2). This will occur on the same schedule as the items above.

B.3.a.3: The City will review and amend the ordinance and City Design Standards to include the exceptions for linear projects as described in the Permit (PartIII.D.5.a(3)(b)). This will occur on the same schedule as the items above.

B.4.a.: The City will review and amend the ordinance and City Design Standards to include order of preference for selecting mitigation project areas as described in the Permit (PartIII.D.5.a(4)(a)). This will occur on the same schedule as the items above.

B.4.b.: The City will review and amend the ordinance and City Design Standards to include requirements for the creation of mitigation projects as described in the Permit (PartIII.D.5.a(4)(b)). This will occur on the same schedule as the items above.

B.4.c.: The City will review and amend the ordinance and City Design Standards to include the restriction from using routine maintenance of structural BMPs to meet the requirements for mitigation projects as described in the Permit (PartIII.D.5.a(4)(c)). This will occur on the same schedule as the items above.

B.4.d.: The City will review and amend the ordinance and City Design Standards to include the requirement to complete mitigation projects within 24 months after the start of the original construction activity as described in the Permit (PartIII.D.5.a(4)(d)). This will occur on the same schedule as the items above.

B.4.e.: The City will review and amend the ordinance and City Design Standards to include requirement for identifying the person responsible for long-term maintenance of mitigation projects as described in the Permit (PartIII.D.5.a(4)(e)). This will occur on the same schedule as the items above.

B.5.b.: The City will review and amend the ordinance and City Design Standards to mandate that money received from an owner/operator of construction activity, in lieu of meeting the conditions for post-construction stormwater management, shall be used for a public stormwater project as described in the Permit (PartIII.D.5.a(4)(f)). This will occur on the same schedule as the items above.

B.4.f.: The City will amend the ordinance and City Design Standards to include conditions that require maintenance responsibility for structural stormwater BMPs through transfer of ownership as described in the Permit (PartIII.D.5.a(5)(b)). This will occur on the same schedule as the items above.

B.5.c.: The City will review and amend the ordinance and City Design Standards to include conditions to address BMP modification in the future as described in the Permit (PartIII.D.5.a(5)(c)). This will occur on the same schedule as the items above.

III. Enforcement Response Procedures (ERPs): (Part II.D.3)

A. Do you have existing ERPs that satisfy the requirements of the Permit (Part III.B.)? Yes No

1. If **yes**, attach them to this form as an electronic document, with the following file naming convention: *MS4NameHere_ERPs*.
2. If **no**, describe the tasks and corresponding schedules that will be taken to assure that, with twelve (12) months of the date permit coverage is extended, these permit requirements are met:

B. Describe your ERPs:

Sec. 30-43. Enforcement.

(a) Notice of violation.

(1) Upon discovering that a person has violated a prohibition or failed to meet a requirement of this section, under the provisions of this article the city administrator or designee shall serve a notice upon the owner of the property upon which the nuisance exists. Such notice shall be given by certified mail at the last known address as shown on the

property tax records of the county. Such notice shall advise that a nuisance exists and require the property owner to abate the nuisance within a reasonable time, as established by the city administrator or designee and stated in the notice. Such time shall not be less than 14 days. Such notice may require without limitation:

- a. The performance of monitoring, analyses, and reporting;
- b. The elimination of illicit connections or discharges;
- c. That violating discharges, practices, or operations shall cease and desist;
- d. The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property; and
- e. Payment of a fine to cover administrative and remediation costs; and
- f. The implementation of source control or treatment BMPs.

(2) Such notice shall also advise the property owner of the right to request a hearing before the city administrator or designee to contest the contents of the notice.

(3) If requested by the person upon whom the notice is served under subsection (a) of this section, a hearing before the city administrator or designee shall be held at which the person may contest the contents of the notice. The request for such a hearing must be made within five days after receipt of the notice provided for in subsection (a) of this section. After such hearing the city administrator or designee may affirm the notice, modify the notice or quash the notice.

(4) If the property owner does not abate the nuisance as required by the notice provided for in subsection (a) of this section and has not requested a hearing before the city administrator or designee under subsection (2) of this section, authorized agents of the city shall abate the nuisance. The cost of such abatement shall be collected as a special assessment against the property upon which the nuisance was located.

(5) If the property owner requests a hearing before the city administrator or designee under subsection (2) of this section, no abatement actions shall be taken until the hearing is held. If after the hearing the city administrator or designee affirms or modifies the notice and the nuisance is not abated as provided in the notice as affirmed or modified, authorized agents of the city shall abate the nuisance. The cost of such abatement shall be collected as a special assessment against the property upon which the nuisance was located.

(6) Nothing in this section prevents abatement by the city of a public nuisance without notice and hearing in the case of an emergency in which there is an immediate and direct threat to the public health or safety. The expense of such an emergency abatement shall be collected as a special assessment against the property upon which the nuisance was located.

IV. Storm Sewer System Map and Inventory: (Part II.D.4.)

A. Describe how you manage your storm sewer system map and inventory:

Storm Sewer system map is scheduled to be updated during the next permit cycle. City is currently in the process of updating data to a GIS based system.

B. Answer **yes** or **no** to indicate whether your storm sewer system map addresses the following requirements from the Permit (Part III.C.1.a-d), as listed below:

- 1. The permittee's entire small MS4 as a goal, but at a minimum, all pipes 12 inches or greater in diameter, including stormwater flow direction in those pipes. Yes No
- 2. Outfalls, including a unique identification (ID) number assigned by the permittee, and an associated geographic coordinate. Yes No
- 3. Structural stormwater BMPs that are part of the permittee's small MS4. Yes No
- 4. All receiving waters. Yes No

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

Inventory will be updated within 12 months of the date permit coverage is extended.

C. Answer **yes** or **no** to indicate whether you have completed the requirements of 2009 Minnesota Session Law, Ch. 172. Sec. 28: with the following inventories, according to the specifications of the Permit (Part III.C.2.a.-b.), including:

- 1. All ponds within the permittee's jurisdiction that are constructed and operated for purposes of water quality treatment, stormwater detention, and flood control, and that are used for the collection of stormwater via constructed conveyances. Yes No
- 2. All wetlands and lakes, within the permittee's jurisdiction, that collect stormwater via constructed conveyances. Yes No

D. Answer **yes** or **no** to indicate whether you have completed the following information for each feature inventoried.

1. A unique identification (ID) number assigned by the permittee. Yes No
2. A geographic coordinate. Yes No
3. Type of feature (e.g., pond, wetland, or lake). This may be determined by using best professional judgment. Yes No

If you have answered **yes** to all above requirements, and you have already submitted the Pond Inventory Form to the MPCA, then you do not need to resubmit the inventory form below.

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

B.2. The City GIS specialist will update the storm sewer map to include a unique identification number for each stormwater feature inventoried as described in the Permit (Part III.C.2.b). This task will be completed by the submittal date given by the agency. Within 12 months of permit reissuance.

B.3. The City GIS specialist will update the storm sewer map to include a type of feature for each stormwater feature inventoried as described in the Permit (Part III.C.2.b.) This task will be completed by the submittal date given by the agency. Within 12 months of permit reissuance.

- E. Answer **yes** or **no** to indicate if you are attaching your pond, wetland and lake inventory to the MPCA on the form provided on the MPCA website at: <http://www.pca.state.mn.us/ms4> , according to the specifications of Permit (Part III.C.2.b.(1)-(3)). Attach with the following file naming convention: *MS4NameHere_inventory*. Yes No

If you answered **no**, the inventory form must be submitted to the MPCA MS4 Permit Program within 12 months of the date permit coverage is extended.

V. Minimum Control Measures (MCMs) (Part II.D.5)

A. MCM1: Public education and outreach

1. The Permit requires that, within 12 months of the date permit coverage is extended, existing permittees revise their education and outreach program that focuses on illicit discharge recognition and reporting, as well as other specifically selected stormwater-related issue(s) of high priority to the permittee during this permit term. Describe your **current** educational program, including **any high-priority topics included**:

The City of Excelsior is comprised of a mix of commercial business districts, established and new residential developments. Therefore the educational focus rotates through residential issues, construction activities, and illicit discharges around commercial business districts. When able the City partners with Minnehaha Creek Watershed District MCWCD to provide education to our residents and contractors. Newsletter distributed to residents includes stormwater section discussing proper practices for activities such as fall yard practices and winter deicing.

2. List the categories of BMPs that address your public education and outreach program, including the distribution of educational materials and a program implementation plan. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. Refer to the U.S. Environmental Protection Agency's (EPA) *Measurable Goals Guidance for Phase II Small MS4s* (<http://www.epa.gov/npdes/pubs/measurablegoals.pdf>).

If you have more than five categories, hit the tab key after the last line to generate a new row.

Established BMP categories	Measurable goals and timeframes
<i>Education Activity Implementation Plan</i>	<i>Complete outline of education activity implementation program and implementation schedule for the upcoming permit year by June 30th.</i>
<i>Meeting with Building Contractors, Developers, and Excavators</i>	<i>Hold meetings as needed to inform these professionals of stormwater related issues.</i>
<i>Meetings with Educational Professionals</i>	<i>Work with Minnehaha Creek Watershed District to make effective use of stormwater education programs. The goal is 1 partnership per year. Those partnerships will be documented during the next 5 years</i>
<i>Presentations to City Council</i>	<i>Report on yearly NPDES regulations and activities in Annual Report, urban storm water impacts to water bodies, current SWPPP status during an annual presentation each year of permit cycle. Additionally we will provide a specific review of</i>

	<i>SWPPP when considering zoning request.</i>
<i>City Staff Meetings</i>	<i>Provide a presentation at City Department meetings to generate Staff awareness of SWPPP regulations and to develop projects with appropriate BMPs applied.</i>
<i>Newsletter</i>	<i>Published Annual Newsletter to spread awareness of stormwater related issues and distributed about 1,400 copies</i>

BMP categories to be implemented	Measurable goals and timeframes
<i>Citizen Survey</i>	<i>City will look to use the Cities Web page to survey citizen's about Stormwater issues.</i>
<i>City Stormwater Information Link</i>	<i>Measure hits to the web page.</i>

3. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

Public Works Director- Suggest Delegating to Support Staff

City Admin staff

B. MCM2: Public participation and involvement

1. The Permit (Part III.D.2.a.) requires that, within 12 months of the date permit coverage is extended, existing permittees shall revise their current program, as necessary, and continue to implement a public participation/involvement program to solicit public input on the SWPPP. Describe your current program:

An opportunity to hear comments on the SWPPP is provided each year during an annual meeting held in combination with a City Council Meeting.

2. List the categories of BMPs that address your public participation/involvement program, including solicitation and documentation of public input on the SWPPP. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. Refer to the EPA's *Measurable Goals Guidance for Phase II Small MS4s* (<http://www.epa.gov/npdes/pubs/measurablegoals.pdf>). **If you have more than five categories**, hit the tab key after the last line to generate a new row.

Established BMP categories	Measurable goals and timeframes
<i>Annual Meeting</i>	<i>Hold annual public meeting combined with City Council Meeting</i>
<i>Volunteer Storm Drain Stenciling Program</i>	<i>Engage community groups in a storm drain stenciling effort to increase awareness that the drains are connect to lakes and rivers. Program has been completed as part of an eagle/boy scout project during the past permit cycle and will continue as long as there is a want from organizations.</i>

BMP categories to be implemented	Measurable goals and timeframes
Online Availability of Stormwater Pollution Prevention Program Document	Provide an electronic document of Stormwater Pollution Prevention Program document online, to allow anytime, easier access to these documents.
Coordination Meeting	Hold a coordination meeting involving other MS4 permittees, regulatory agencies, and interested stakeholders to discuss progress of the stormwater management program and the next year's activities.
Receive Citizen Input through Website	Incorporate to the City Website a stormwater page which allows residents to provide comments to City Staff for a number of topics. The goal will be to provide a link to one of the high priority topics identified in MCM1

3. Do you have a process for receiving and documenting citizen input? Yes No

If you answered **no** to the above permit requirement, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, this permit requirement is met:

B.3. The City will develop written procedures for receiving, documenting and storing citizen input as described in the permit (Part III.C.2.b). Procedures will be in place within 12 months following the date permit coverage is extended.

4. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

City Engineer - Suggest Delegating to Support Staff

C. MCM 3: Illicit discharge detection and elimination

1. The Permit (Part III.D.3.) requires that, within 12 months of the date permit coverage is extended, existing permittees revise their current program as necessary, and continue to implement and enforce a program to detect and eliminate illicit discharges into the small MS4. Describe your current program:

The City has an ordinance that prohibits illicit discharges and connections. City Staff and public works employees are trained to look for any signs of an illicit discharge while on the job. ERPs (attached) guide what actions the City can take after an illicit discharge has been identified.

2. Does your Illicit Discharge Detection and Elimination Program meet the following requirements, as found in the Permit (Part III.D.3.c.-g.)?

- a. Incorporation of illicit discharge detection into all inspection and maintenance activities conducted under the Permit (Part III.D.6.e.-f.) Where feasible, illicit discharge inspections shall be conducted during dry-weather conditions (e.g., periods of 72 or more hours of no precipitation). Yes No
- b. Detecting and tracking the source of illicit discharges using visual inspections. The permittee may also include use of mobile cameras, collecting and analyzing water samples, and/or other detailed procedures that may be effective investigative tools. Yes No
- c. Training of all field staff, in accordance with the requirements of the Permit (Part III.D.6.g.(2)), in illicit discharge recognition (including conditions which could cause illicit discharges), and reporting illicit discharges for further investigation. Yes No
- d. Identification of priority areas likely to have illicit discharges, including at a minimum, evaluating land use associated with business/industrial activities, areas where illicit discharges have been identified in the past, and areas with storage of large quantities of significant materials that could result in an illicit discharge. Yes No
- e. Procedures for the timely response to known, suspected, and reported illicit discharges. Yes No
- f. Procedures for investigating, locating, and eliminating the source of illicit discharges. Yes No
- g. Procedures for responding to spills, including emergency response procedures to prevent spills from entering the small MS4. The procedures shall also include the immediate notification of the Minnesota Department of Public Safety Duty Officer, if the source of the illicit discharge is a spill or leak as defined in Minn. Stat. § 115.061. Yes No
- h. When the source of the illicit discharge is found, the permittee shall use the ERPs required by the Permit (Part III.B.) to eliminate the illicit discharge and require any needed corrective action(s). Yes No

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

C.2.b., The City will develop written procedures for detecting and tracking source of illicit discharges as described in the permit (Part III.D.3.d). Procedures will be in place within 12 months following the date permit coverage is extended.

C.2.d., The City will develop written procedures for identification of priority areas likely to have illicit discharges as described in the Permit (Part III.D.3.f). Procedures will be in place within 12 months following the date permit coverage is extended.

C.2.e., The City will develop written procedures for a timely response to known, suspected, and reported illicit discharges as described in the permit (Part III.D.3.g). Procedures will be in place within 12 months following the date permit coverage is extended.

C.2.f., The City will develop written procedures for investigating, locating and eliminating the source of illicit discharges as described in the Permit (Part III.D.3.f). Procedures will be in place within 12 months following the date permit coverage is extended.

3. List the categories of BMPs that address your illicit discharge, detection and elimination program. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. Refer to the EPA's *Measurable Goals Guidance for Phase II Small MS4s* (<http://www.epa.gov/npdes/pubs/measurablegoals.pdf>).

If you have more than five categories, hit the tab key after the last line to generate a new row.

Established BMP categories	Measurable goals and timeframes
----------------------------	---------------------------------

Ordinance	Review Ordinance yearly to ensure that it continues to meet the needs of the City and legal requirements.
Training	Conduct an educational seminar to educate the Public and City Employees about the hazards associated with illicit discharges. Invite one member of City Council, County SWCD or other regulatory agency to attend.
BMP categories to be implemented	Measurable goals and timeframes
Illicit Discharge Detection and Elimination (IDDE) Program	Review annually the illicit discharge written procedures, detection, and response procedures connection test performed within. Utilize information document about the IDDE program as described in the Permit (Part III.3.h) to make adjustments to written procedures as necessary.
Inspections	Annually inspect locations identified as high-priority outfalls and around high-risk establishments (fast food restaurants, dumpster, car washes, mechanics, oil changes.)
Illicit Discharge Investigation	If needed hire a consultant to televise a section of our sewer system, collect grab samples or perform other effective testing procedures to find illicit connection in the system.
Community Reporting Options and Documentation Procedures	IT department will update Request Tracker on City webpage to include a link to report Illicit Discharges. This will allow the city to receive, document, and respond to citizen reports of illicit discharges.

4. Do you have procedures for record-keeping within your Illicit Discharge Detection and Elimination (IDDE) program as specified within the Permit (Part III.D.3.h.)? Yes No

If you answered **no**, indicate how you will develop procedures for record-keeping of your Illicit Discharge, Detection and Elimination Program, within 12 months of the date permit coverage is extended:

C.4., The City will develop written procedures for receiving, documenting and storing citizen input as described in the permit (Part III.D.3.h). Procedures will be in place within 12 months following the date permit coverage is extended.

5. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

Public Works Director - Suggest Delegating to public works staff

D. MCM 4: Construction site stormwater runoff control

1. The Permit (Part III.D.4) requires that, within 12 months of the date permit coverage is extended, existing permittees shall revise their current program, as necessary, and continue to implement and enforce a construction site stormwater runoff control program. Describe your current program:

The City requires review of construction site erosion and sediment control (ESC) plans before projects begin, and work with contractors to ensure appropriate and correct use of erosion and sediment control BMPs on sites. The building inspection department is who primarily checks for compliancy with construction site ESC plans.

2. Does your program address the following BMPs for construction stormwater erosion and sediment control as required in the Permit (Part III.D.4.b.):
- Have you established written procedures for site plan reviews that you conduct prior to the start of construction activity? Yes No
 - Does the site plan review procedure include notification to owners and operators proposing construction activity that they need to apply for and obtain coverage under the MPCA's general permit to *Discharge Stormwater Associated with Construction Activity No. MN R10001*? Yes No
 - Does your program include written procedures for receipt and consideration of reports of noncompliance or other stormwater related information on construction activity submitted by the public to the permittee? Yes No
 - Have you included written procedures for the following aspects of site inspections to determine compliance with your regulatory mechanism(s):
 - Does your program include procedures for identifying priority sites for inspection? Yes No
 - Does your program identify a frequency at which you will conduct construction site inspections? Yes No
 - Does your program identify the names of individual(s) or position titles of those responsible for conducting construction site inspections? Yes No
 - Does your program include a checklist or other written means to document construction site inspections when determining compliance? Yes No

- e. Does your program document and retain construction project name, location, total acreage to be disturbed, and owner/operator information? Yes No
- f. Does your program document stormwater-related comments and/or supporting information used to determine project approval or denial? Yes No
- g. Does your program retain construction site inspection checklists or other written materials used to document site inspections? Yes No

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met.

D.2.a., The city uses the MPCA SWPPP Checklist for site plan reviews but does not have any established written procedures. The City will develop written procedures for site plan reviews as described in the Permit (Part III.D.4.b). Procedures will be in place within 12 months following the date permit coverage is extended.

D.2.b., The City will include a notification to owners and operators proposing construction activity to apply for and obtain coverage under the MPCA's construction activity permit into the written procedures fro (D.2.a) as described in the Permit (Part III.D.4.b). Notification will be included in the procedures within 12 months following the date permit coverage is extended.

D.2.c., The City will develop written procedures for receipt and consideration of reports of noncompliance or other stormwater related information on construction activity submitted by the public as described in the Permit (Part III.D.4.c). Procedures will be in place within 12 months following the date permit coverage is extended.

D.2.d., City will develop written procedures for conducting site ESC inspections as described in the Permit (Part III.D.4.d). Procedures will be in place within 12 months following the date permit coverage is extended.

3. List the categories of BMPs that address your construction site stormwater runoff control program. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. Refer to the EPA's *Measurable Goals Guidance for Phase II Small MS4s* (<http://www.epa.gov/npdes/pubs/measurablegoals.pdf>). **If you have more than five categories**, hit the tab key after the last line to generate a new row.

Established BMP categories	Measurable goals and timeframes
Site Plan Review	City Engineering Staff utilizes SWPPP Checklist (wq-strm2-47) for review of NPDES Erosion Control Permits submitted to the department for review.
Erosion Protection Maintenance Memo to Builders	Update the erosion control handout when needed, handout explains how to properly install a silt fence and other erosion control BMPs is given to the application when a building permit is picked up.
BMP categories to be implemented	Measurable goals and timeframes
Permit Update	Update the City Grading, Building, and ROW permits and Construction Site Stormwater Runoff ordinance to meet MPCA General Permit to Discharge Stormwater Associate with Construction Activity within 12 months following the date permit coverage is extended
Checklist for Site Plan Review	Update procedures for site plan review annually and incorporate changes into the review process.
Prioritize Inspections	Ensure at least 10% of inspections conducted annually are performed at deemed high priority inspection sites (e.g., near sensitive receiving waters, projects larger than 5 acres)
Permit Application System	Develop written procedures to track and archive all plan review and inspection documents within 12 months following the date permit coverage is extended.

4. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

City Engineer / City Staff

E. MCM 5: Post-construction stormwater management

1. The Permit (Part III.D.5.) requires that, within 12 months of the date permit coverage is extended, existing permittees shall revise their current program, as necessary, and continue to implement and enforce a post-construction stormwater

management program. Describe your current program:

The City has a post-construction stormwater management ordinance to encourage the utilization of BMPs for stormwater runoff from new and redevelopment projects, as well as to ensure the maintenance and operation of the stormwater BMPs.

2. Have you established written procedures for site plan reviews that you will conduct prior to the start of construction activity? Yes No
3. Answer **yes** or **no** to indicate whether you have the following listed procedures for documentation of post-construction stormwater management according to the specifications of Permit (Part III.D.5.c.):
- a. Any supporting documentation that you use to determine compliance with the Permit (Part III.D.5.a), including the project name, location, owner and operator of the construction activity, any checklists used for conducting site plan reviews, and any calculations used to determine compliance? Yes No
- b. All supporting documentation associated with mitigation projects that you authorize? Yes No
- c. Payments received and used in accordance with Permit (Part III.D.5.a.(4)(f))? Yes No
- d. All legal mechanisms drafted in accordance with the Permit (Part III.D.5.a.(5)), including date(s) of the agreement(s) and names of all responsible parties involved? Yes No

If you answered **no** to any of the above permit requirements, describe the steps that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met.

E.2., The City uses the MPCA SWPPP Checklist for site plan reviews but does not have any established written procedures. The City will develop written procedures for site plan reviews as described in the Permit (Part III.D.5.b.). Procedures will be in place within 12 months following the date permit coverage is extended.

E.3., The City will develop written procedures for documentation of post-construction stormwater management as described in the Permit (Part III.D.5.c.). Procedures will be in place within 12 months following the date permit coverage is extended.

4. List the categories of BMPs that address your post-construction stormwater management program. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. Refer to the EPA's *Measurable Goals Guidance for Phase II Small MS4s* (<http://www.epa.gov/npdes/pubs/measurablegoals.pdf>). **If you have more than five categories**, hit the tab key after the last line to generate a new row.

Established BMP categories	Measurable goals and timeframes
<i>Site Plan Review</i>	<i>Completed plan review process and documentation procedures for sites qualifying as a land disturbance in accordance with definition set in the City Ordinance.</i>
<i>Encourage the use of structural and non-structural BMPs during review of new and redevelopment projects</i>	<i>Implement Stormwater retention/detention ponds as a BMP immediately in areas where it is appropriate Developers encouraged to install rain gardens Possible implantation of sand and organic filters into plan review process</i>
<i>Stormwater Retention/Detention</i>	<i>Implement Stormwater retention/detention ponds as a BMP immediately in areas where it is appropriate</i>
<i>Outlet Structure stabilization</i>	<i>Number of structures stabilized</i>
<i>Land Development Ordinance</i>	<i>Complete Ordinance including illicit discharges, erosion and sediment control at construction sites, and post construction runoff from new development and redevelopment</i>
<i>Inspections to verify proper maintenance of stormwater BMPs</i>	<i>Annual inspections of 20% of completed City-Owned BMPs</i>

BMP categories to be implemented	Measurable goals and timeframes
<i>Update ordinance to meet new permit requirements</i>	<i>Within 12 months of extension of permit coverage, revise ordinance to meet permit requirements</i>
<i>Develop Written Procedures for Site Plan Review</i>	<i>Within 12 months of extension of permit coverage, develop site plan review procedures that must be completed prior to the start of construction activity</i>
<i>Document Pertinent Project Information</i>	<i>Maintain all related documents pertaining to each new or</i>

redeployment project in more user-friendly filing system for better records management. Implement within 6 months.

BMP Construction Guidance

Develop BMP Construction Guidance document for developers and contractors within 12 months of permit coverage extension.

5. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

Public Works Director / City Staff - Consider additional options for coordination.

F. MCM 6: Pollution prevention/good housekeeping for municipal operations

1. The Permit (Part III.D.6.) requires that, within 12 months of the date permit coverage is extended, existing permittees shall revise their current program, as necessary, and continue to implement an operations and maintenance program that prevents or reduces the discharge of pollutants from the permittee owned/operated facilities and operations to the small MS4. Describe your current program:

The City currently inspects its structural pollution control devices on an annual basis and inspects all of its outfalls, sediment basins and ponds every 5 years. The City inspects stockpiles, storage and material handling areas at the maintenance yard for potential discharges and maintenance of BMPs. The City is evaluating the use of road salt for winter road maintenance activities to reduce chlorides entering our water resources. The City sweeps streets on a regular basis. Maintenance staff is trained annually on various topics related to pollution prevention during maintenance activities.

2. Do you have a facilities inventory as outlined in the Permit (Part III.D.6.a.)? Yes No

3. If you answered **no** to the above permit requirement in question 2, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, this permit requirement is met:

The city will create a facilities inventory as outline in the permit within 12 months of the date permit coverage is extended.

4. List the categories of BMPs that address your pollution prevention/good housekeeping for municipal operations program. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. For an explanation of measurable goals, refer to the EPA's *Measurable Goals Guidance for Phase II Small MS4s* (<http://www.epa.gov/npdes/pubs/measurablegoals.pdf>).

If you have more than five categories, hit the tab key after the last line to generate a new row.

Established BMP categories	Measurable goals and timeframes
<i>Park and Open Space Training Program</i>	<i>Training focused on fertilizer application, pesticide/herbicide application, and mowing discharge.</i>
<i>Fleet and Building Maintenance Training Program</i>	<i>Training focused on automotive maintenance program (automotive inspections and washing), spill cleanup training, hazardous materials training, building leak prevention and inspection training.</i>
<i>Stormwater Systems Maintenance Training Program</i>	<i>Training focused on parking lot and street cleaning, storm drain systems cleaning, road salt materials management</i>
<i>Parking Lots & Street Cleaning</i>	<i>Train Employees and document number of times each street is swept annual.</i>
<i>Storm Drain Cleaning System</i>	<i>Document Number of Sumps cleaned per year.</i>
<i>Road Salt Materials Management Program</i>	<i>Document amount of salt applied each year and train employees in road salt management and application rates.</i>
<i>Strom Sewer Inspection Program</i>	<i>Annual inspection of 20% of completed City-Owned BMPs</i>
<i>Evaluate Inspection Frequency</i>	<i>Annual inspection of 100% of pollution control devices</i>
	<i>Evaluate inspection records and determine if inspection frequency needs to increase or decrease.</i>
BMP categories to be implemented	Measurable goals and timeframes
<i>Develop Spill Prevention & Control Plans for Municipal Facilities</i>	<i>Develop plans describing spill prevention and control procedures by the end of Year 1. Conduct annual spill prevention and response training sessions to all municipal</i>

	<i>employees. Distribute education materials, i.e. posters and pamphlets, to each municipal facility by the end of year 2.</i>
<i>Increase Inspection Frequency of Maintenance Yard</i>	<i>Once weekly and after all rain events utilizing a checklist for the inspection that documents findings and allows staff to compare to previous inspections</i>
<i>Facility Inventory</i>	<i>Continue to develop facilities inventory to include potential pollutants. Create a map of all identified facilities.</i>
<i>Pond Assessment Procedures & Schedule</i>	<i>In year 1, develop procedures for determining TSS and TP treatment effectiveness of city owned ponds use for treatment of stormwater. Implement schedule in year 2-5</i>

5. Does discharge from your MS4 affect a Source Water Protection Area (Permit Part III.D.6.c.)? Yes No
- a. If **no**, continue to 6.
- b. If **yes**, the Minnesota Department of Health (MDH) is in the process of mapping the following items. Maps are available at <http://www.health.state.mn.us/divs/eh/water/swp/maps/index.htm>. Is a map including the following items available for your MS4:
- 1) Wells and source waters for drinking water supply management areas identified as vulnerable under Minn. R. 4720.5205, 4720.5210, and 4720.5330? Yes No
- 2) Source water protection areas for surface intakes identified in the source water assessments conducted by or for the Minnesota Department of Health under the federal Safe Drinking Water Act, U.S.C. §§ 300j – 13? Yes No
- c. Have you developed and implemented BMPs to protect any of the above drinking water sources? Yes No
6. Have you developed procedures and a schedule for the purpose of determining the TSS and TP treatment effectiveness of all permittee owned/operated ponds constructed and used for the collection and treatment of stormwater, according to the Permit (Part III.D.6.d.)? Yes No
7. Do you have inspection procedures that meet the requirements of the Permit (Part III.D.6.e.(1)-(3)) for structural stormwater BMPs, ponds and outfalls, and stockpile, storage and material handling areas? Yes No
8. Have you developed and implemented a stormwater management training program commensurate with each employee's job duties that:
- a. Addresses the importance of protecting water quality? Yes No
- b. Covers the requirements of the permit relevant to the duties of the employee? Yes No
- c. Includes a schedule that establishes initial training for new and/or seasonal employees and recurring training intervals for existing employees to address changes in procedures, practices, techniques, or requirements? Yes No
9. Do you keep documentation of inspections, maintenance, and training as required by the Permit (Part III.D.6.h.(1)-(5))? Yes No

If you answered **no** to any of the above permit requirements listed in **Questions 5 – 9**, then describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

F.5.c. As part of the regulatory mechanism updates for (II.B.3.a.1) the City will provide a BMP to protect drinking water sources that the MS4 discharges may affect as described in the Permit (Part III.D.6.c). The amended ordinance will be placed on the City Council's meeting agenda for approval within 12 months following the date permit coverage is extended.

F.6. The City will develop a procedure for assessing ponds to determine TSS and TP effectiveness as described in the Permit (Part III.D.6.d) This study will develop procedures for determining TSS and TP treatment effectiveness of city-owned ponds used for treatment of stormwater. A schedule will be implemented in years 2 thru 5.

F.7., The City will develop written procedures for inspection of structural stormwater BMPs, ponds and outfalls, and stockpile, storage and material handling areas as described in the Permit (Part III.D.6.f.). Procedures will be in place within 12 months following the date permit coverage is extended.

F.8., The City will develop and implement a stormwater management training program commensurate with each employees job duties as described in the Permit (Part III.D.6.g.). Procedures will be in place within 12 months following the date permit coverage is extended.

F.8., The City will develop witten procedures to document inspections, mainenance, and training as described in the

Permit (Part III.D.6.h.). Procedures will be in place within 12 months following the date permit coverage is extended.

10. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

Public works Director - evaluate assign to additional staff.

VI. Compliance Schedule for an Approved Total Maximum Daily Load (TMDL) with an Applicable Waste Load Allocation (WLA) (Part II.D.6.)

- A. Do you have an approved TMDL with a Waste Load Allocation (WLA) prior to the effective date of the Permit? Yes No

1. If **no**, continue to section VII.
2. If **yes**, fill out and attach the MS4 Permit TMDL Attachment Spreadsheet with the following naming convention: *MS4NameHere_TMDL*.

This form is found on the MPCA MS4 website: <http://www.pca.state.mn.us/ms4>.

VII. Alum or Ferric Chloride Phosphorus Treatment Systems (Part II.D.7.)

- A. Do you own and/or operate any Alum or Ferric Chloride Phosphorus Treatment Systems which are regulated by this Permit (Part III.F.)? Yes No

1. If **no**, this section requires no further information.
2. If **yes**, you own and/or operate an Alum or Ferric Chloride Phosphorus Treatment System within your small MS4, then you must submit the Alum or Ferric Chloride Phosphorus Treatment Systems Form supplement to this document, with the following naming convention: *MS4NameHere_TreatmentSystem*.

This form is found on the MPCA MS4 website: <http://www.pca.state.mn.us/ms4>.

VIII. Add any Additional Comments to Describe Your Program

City of Excelsior Facility Inventory

FID	Name	Address	POC Present?	Coordinates	
1	City Hall	339 3rd Street	N	44.90279	-93.56826
2	Band Shell	135 Lake Street	N	44.90729	-93.56701
3	Baseball Concession	135 Lake Street	N	44.90729	-93.56701
4	Sewer Lift Station #1	831 3rd Ave	N	44.90004	-93.55656
5	Sewer Lift Station #2	433 Lafayette Street	N	44.90386	-93.57579
6	Sewer Lift Station #3	38 West Lake Street	N	44.90767	-93.56885
7	Sewer Lift Station #4	601 Hwy 7	N	44.90019	-93.56239
8	Sewer Lift Station #5	860 Excelsior Blvd	N	44.90242	-93.55684
9	Sewer Lift Station #6	680 Excelsior Blvd	N	44.90284	-93.55981
10	Library	343 3rd Street	N	44.90257	-93.56818
11	Bath House, Storage	99 Lake Street	N	44.90719	-93.56778
12	Gazebo (near Municipal Dock)	399 Lake Street	N	44.90459	-93.56514
13	Park	299-399 Lake Street	N	44.90487	-93.56556
14	Holland Center	810 Excelsior Blvd	N	44.90192	-93.55702
15	Well Pump House	Three Rivers Park/Maple Street	N		
16	Grandstand	135 Lake Street	N	44.90688	-93.56761
17	Memorial Fountain	600 Lake Street	N	44.90261	-93.56298
18	Public Works	171 Oak Street	Y	44.90244	-93.57411
19	Water Tower	151 Oak Street	N	44.902155	-93.57369
20	Plant Generator	151 Oak Street	N	44.902155	-93.57369
21	Storage/Water Tank	159 Oak Street	Y	44.90247	-93.57588

APPENDIX F – FISH AND WILDLIFE INFORMATION

RARE SPECIES AND ANIMAL AGGREGATIONS

★ Plants, federally- or state-listed

Fernleaf false foxglove *	†	(<i>Aureolaria pedicularia</i>)
White wild indigo		(<i>Baptisia alba</i>)
Kitten-tails		(<i>Besseyia bullii</i>)
Handsome sedge *	†	(<i>Carex formosa</i>)
Plantain-leaved sedge *		(<i>Carex plantaginea</i>)
Sterile sedge		(<i>Carex sterilis</i>)
Hill's thistle		(<i>Cirsium hillii</i>)
Twig-rush		(<i>Cladium mariscoides</i>)
Ram's-head lady's-slipper *	†	(<i>Cypripedium arietinum</i>)
Small white lady's-slipper		(<i>Cypripedium candidum</i>)
Waterwillow *		(<i>Decodon verticillatus</i>)
Big tick-trefoil *		(<i>Desmodium cuspidatum</i> var. <i>longifolium</i>)
Goldie's fern		(<i>Dryopteris goldiana</i>)
Beaked spike-rush		(<i>Eleocharis rostellata</i>)
Rattlesnake-master		(<i>Eryngium yuccifolium</i>)
Rock clubmoss *		(<i>Huperzia porophila</i>)
Rhombic-petaled evening primrose		(<i>Oenothera rhombipetala</i>)
Clustered broomrape *	†	(<i>Orobanche fasciculata</i>)
American ginseng		(<i>Panax quinquefolius</i>)
Club-spur orchid *	†	(<i>Platanthera clavellata</i>)
Hair-like beak-rush		(<i>Rhynchospora capillacea</i>)
Sessile-flowered cress *	†	(<i>Rorippa sessiliflora</i>)
Tooth-cup *	†	(<i>Rotala ramosior</i>)
Tall nut-rush	†	(<i>Scleria triglomerata</i>)
Whorled nut-rush		(<i>Scleria verticillata</i>)
Snow trillium		(<i>Trillium nivale</i>)
Valerian		(<i>Valeriana edulis</i> var. <i>ciliata</i>)
Narrow-leaved vervain *	†	(<i>Verbena simplex</i>)
Lance-leaved violet *	†	(<i>Viola lanceolata</i>)
Twisted yellow-eyed grass *	†	(<i>Xyris torta</i>)

★ Plants, previously state-listed *

Dragon's-mouth *	(<i>Arethusa bulbosa</i>)
Halberd-leaved tearthumb	(<i>Polygonum arifolium</i>)
Marsh arrow-grass	(<i>Triglochin palustris</i>)

■ Colonial waterbird nesting site

Western grebe	(<i>Aechmophorus occidentalis</i>)
Great egret	(<i>Ardea albus</i>)
Great blue heron	(<i>Ardea herodias</i>)
Green heron	(<i>Butorides virescens</i>)
Black-crowned night-heron	(<i>Nycticorax nycticorax</i>)
Double-crested cormorant	(<i>Phalacrocorax auritus</i>)
Eared grebe	(<i>Podiceps nigricollis</i>)
Forster's tern	(<i>Sterna forsteri</i>)

■ Bat concentration

Big brown bat	(<i>Eptesicus fuscus</i>)
Little brown myotis	(<i>Myotis lucifugus</i>)
Eastern pipistrelle	(<i>Pipistrellus subflavus</i>)

♠ Animals, federally- or state-listed

Mammals		
Prairie vole *	(<i>Microtus ochrogaster</i>)	
Plains pocket mouse	(<i>Perognathus flavescens</i>)	
Eastern pipistrelle	(<i>Pipistrellus subflavus</i>)	
Eastern spotted skunk *	†	(<i>Spylogale putorius</i>)

Birds	
Henslow's sparrow	(<i>Ammodramus henslowii</i>)
Red-shouldered hawk	(<i>Buteo lineatus</i>)
Cerulean warbler	(<i>Dendroica cerulea</i>)
Acadian flycatcher	(<i>Empidonax virescens</i>)
Peregrine falcon	(<i>Falco peregrinus</i>)
Common moorhen	(<i>Gallinula chloropus</i>)
Bald eagle	(<i>Haliaeetus leucocephalus</i>)
Loggerhead shrike	(<i>Lanius ludovicianus</i>)
Hooded warbler	(<i>Wilsonia citrina</i>)

Reptiles	
Smooth softshell	(<i>Apalone mutica</i>)
Blanding's turtle	(<i>Emydoidea blandingii</i>)
Western hognose snake	(<i>Heterodon nasicus</i>)
Gopher snake	(<i>Pituophis catenifer</i>)

Fish	
Skipjack herring *	(<i>Alosa chrysochloris</i>)
Blue sucker	(<i>Cypleptus elongatus</i>)
Least darter	(<i>Etheostoma microperca</i>)
Pugnose shiner	(<i>Notropis anogenus</i>)

Mussels	
Mucket mussel	(<i>Actinonaias ligamentina</i>)
Elktoe mussel	(<i>Alasmodonta marginata</i>)
Rock pocketbook mussel	(<i>Arcidens confragosus</i>)
Ebonyshell mussel	(<i>Fusconia ebena</i>)
Higgins eye mussel	(<i>Lampsilis higginsii</i>)
Yellow sandshell mussel	(<i>Lampsilis teres</i>)
Creek heelsplitter mussel	(<i>Lasmigona compressa</i>)
Fluted-shell mussel	(<i>Lasmigona costata</i>)
Black sandshell mussel	(<i>Ligumia recta</i>)
Hickorynut mussel	(<i>Obovaria olivaria</i>)
Round pigtoe mussel	(<i>Pleurobema coccineum</i>)
Monkeyface mussel	(<i>Quadrula metacera</i>)
Wartyback mussel	(<i>Quadrula nodulata</i>)
Pistolgrip mussel	(<i>Tritogonia verrucosa</i>)

♠ Animals, previously state-listed *

Birds	
Upland sandpiper	(<i>Bartramia longicauda</i>)
American bittern	(<i>Botaurus lentiginosus</i>)
Osprey	(<i>Pandion haliaetus</i>)

Reptiles	
Fox snake	(<i>Elaphe vulpina</i>)
Eastern hognose snake	(<i>Heterodon platyrhinos</i>)
Milk snake	(<i>Lampropeltis triangulum</i>)

Fish	
American brook lamprey	(<i>Lampetra appendix</i>)
Shovelnose sturgeon	(<i>Scaphirhynchus platyrhynchus</i>)

APPENDIX G – POLLUTANT SOURCE INFORMATION

RCRA Investigation/Cleanup Sites

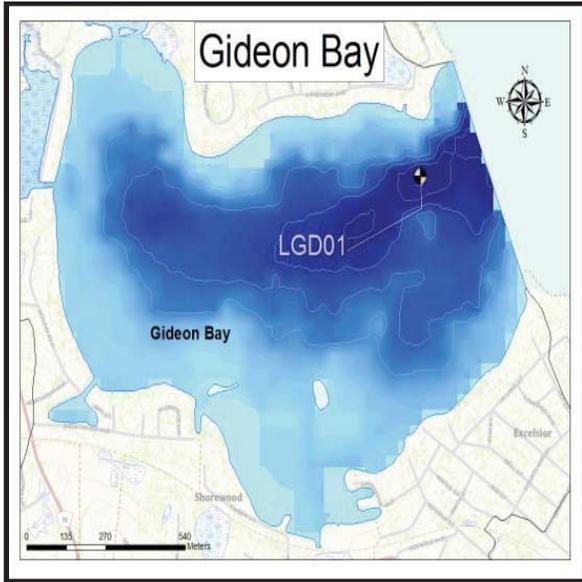
MPCA ID:	Entity Name:	SITE CATEGORY
VP28530	Barrett Retail Development 348, 368, & 374 George St 440 & 470 Water St Excelsior, MN 55331	VIC
BF0000160	Bayview Event Center 687 Excelsior Boulevard Excelsior, MN 55331	VIC/ PETROLEUM BROWNFIELD
VP24230	Excelsior City Park See location description Excelsior, MN 55331	VIC
LS0007589	Former Tom Thumb 5660 County Road 19 Shorewood, MN 55331	BROWNFIELD
VP31190	7 & 41 Crossing 2401-2497 State Hwy 7 Chanhassen, MN 55331	VIC
VP31191	7 & 41 Crossing #2 426 Lake St Chanhassen, MN 55331	VIC
MND982068215	Excelsior Gas Mfg Site 152 Morse Ave Excelsior, MN 55331	CERCLIS
PB4342	Lyman Lumber Co - Excelsior Library 337 Water St Excelsior, MN 55331	PETROLEUM BROWNFIELD
SR0000325	One Hour Cleaners Excelsior 426 Lake St Excelsior, MN 55331	SUPERFUND INVESTIGATION
SR0001430	Pure Oil Bulk Facility 352 3rd St Excelsior, MN 55331	SUPERFUND INVESTIGATION

Excelsior Aboveground / Underground Storage Tanks

Leak ID	Site Name
10881	Excelsior Union 76
11596	Excelsior Community Center
12706	Residential Property
13215	First Class Car Care
13871	Former EZ Stop Bulk Site
13962	Former Pure Oil Company
15028	Amoco Station No 7361
15049	Aghelnejad Commerical Property
15283	Lowe Residence
16177	Hance Building 200
16482	Manning Property
16858	Bruce Gniffke Property
16940	Excelsior Lift Station L-19
17103	Tonk Away
17212	Minnewashta Elementary School
18151	Knapp Residence
18715	Former Mason Motors
19105	Former Minnesota Inboard Water Sports
19273	Parking Area/Brandow Properties LLC
19644	Excelsior Promenade
19647	Harrod Residence
19841	Primeau Residence
2317	Clark Oil Company
4215	Steve Chase Residence
4304	Tonka Building
4375	City Of Excelsior-utility Project
4890	Saint Albans Bay Marina
5404	Minnewashta Elementary School
5422	Saint John Baptist Catholic School
5423	Saint John The Baptist Catholic Church
559	Crown Oil EZ Stop
581	Excelsior Car Wash
5905	Red Wing Mobil Station
6204	Lyman Lumber Company
643	Marcus Development
8794	Apartment At 500 Linden St
8869	Gilbertson Residence
9385	Excelsior Manor Apartments
9911	Poe Residence

APPENDIX H – LAKE AND WATER QUALITY INFORMATION

Gideon Bay (DNR ID: 27-0133-02)



General Characteristics

MCWD Site ID: LGD01
 Sampling GPS Coordinates: N 44.9117, W -93.5746
 Town/City: Tonka Bay/Excelsior
 County: Hennepin
 Ecoregion: North Central Hardwood Forest
 Public Access: Yes (Lake Minnetonka)

Physical Characteristics

Surface Area: 332 acres
 Littoral Area: N/A
 Max. Depth: 66 ft
 Mean Depth: N/A
 Depth Classification: Deep
 % Littoral Area: N/A
 Watershed Area: N/A
 Watershed to Lake Area Ratio: N/A

Impairments

Aquatic consumption:
 Mercury in fish tissue

Aquatic Invasive Species

Eurasian watermilfoil, Zebra mussels
 Flowering Rush

Fishery Information

<http://www.dnr.state.mn.us/lakefind/showreport.html?downum=27013300>

Ten Year Historic Lake Grades Based on May-September Averages

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Gideon Bay		A							A-	A

2012 MPCA Ecoregion Water Quality Guidelines and State Standards

North Central Hardwood Forest Ecoregion	Water Quality Lake Guidelines (25 th -75 th percentile)	Water Quality State Standards Deep Lakes	Gideons Bay (June-Sept)	
			Means	TSI Score
Secchi Depth (m)	1.5 - 3.2	> 1.4	5.24	36
Chlorophyll- <i>a</i> (µg/L)	5 - 22	< 14	2.00	37
Total Phosphorus (µg/L)	23 - 50	< 40	16.13	44
Total TSI Score				39

2012 MPCA Water Quality State Standards

Secchi Depth: Meets Standards

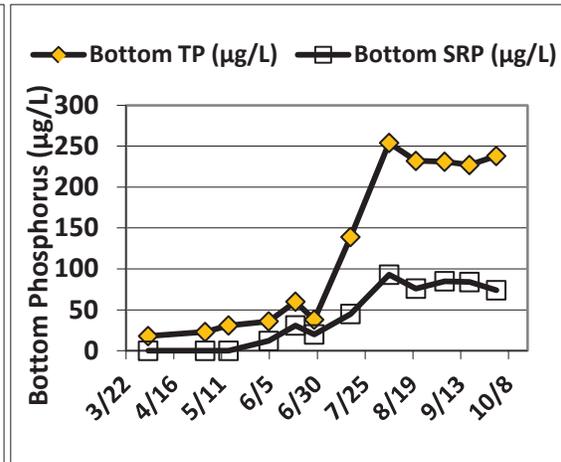
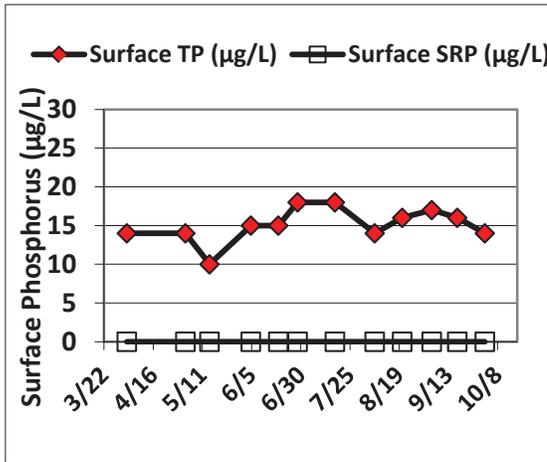
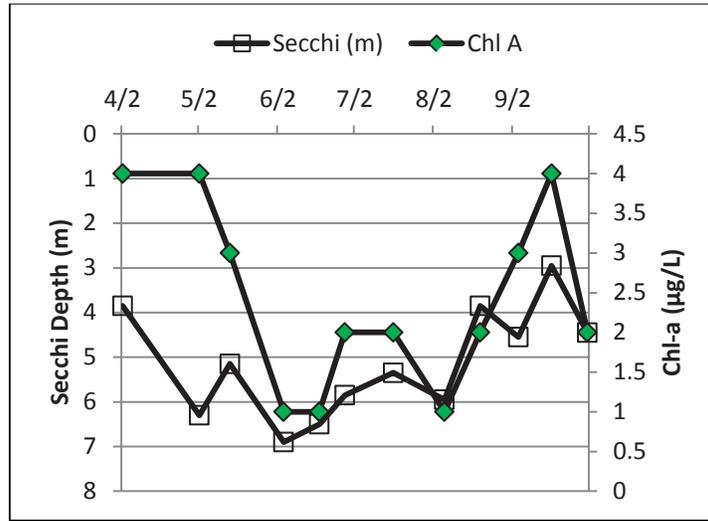
Chlorophyll-a: Meets Standards

Total Phosphorus: Meets Standards

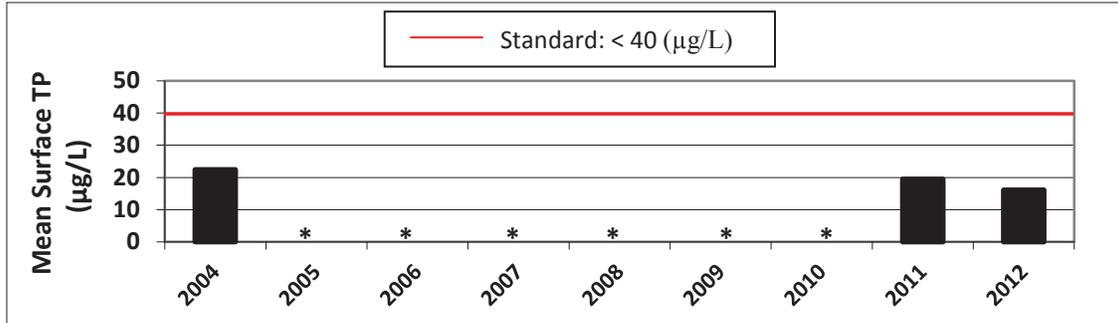
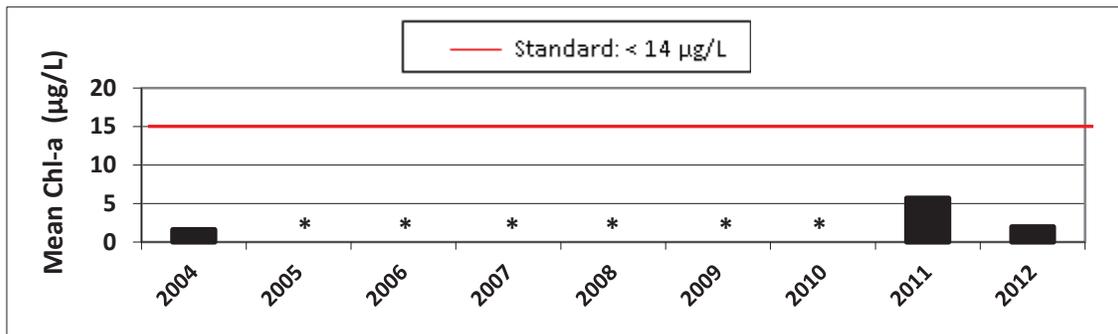
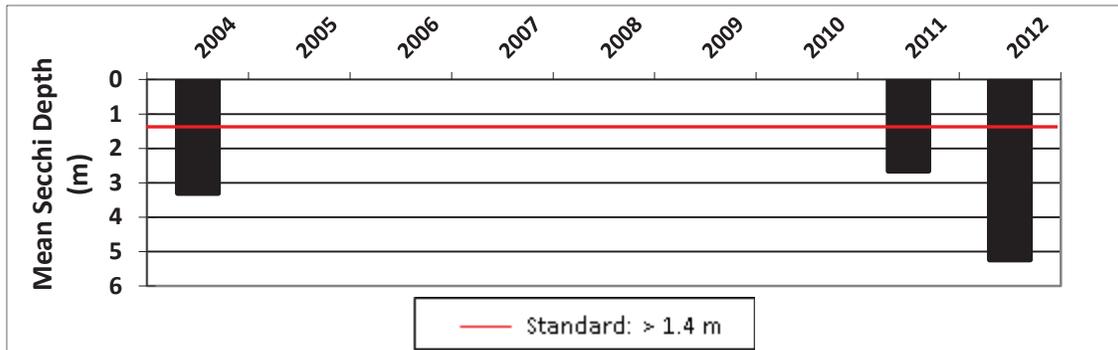
2012 Water Quality Summary

Parameter	Mean	Min	Max	Lake Grade
Months	May - September			
Secchi Depth (m)	5.34	2.95	6.9	A
Chlorophyll- <i>a</i> (µg/L)	2.30	1	4	A
Total Phosphorus (µg/L)	15.30	10	18	A
	Overall Grade			A

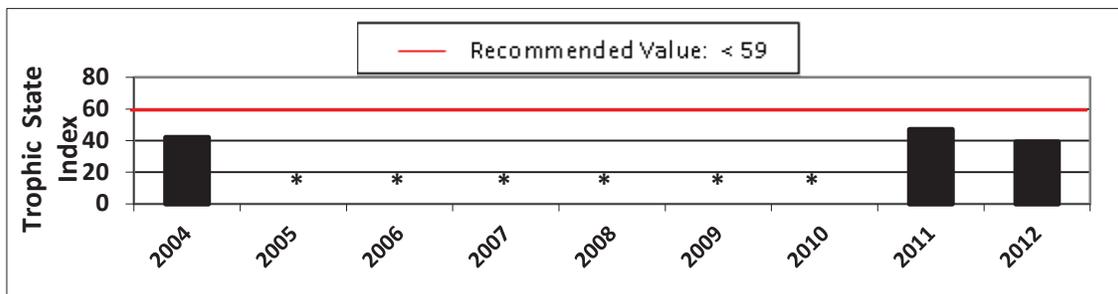
2012 Water Quality Data



Annual Means Based on June – September Averages



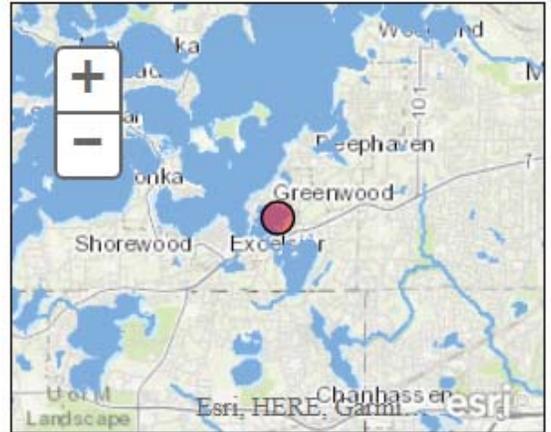
Trophic State Index Based on the Average of the Three Parameters Above



* Indicates that there was insufficient data to calculate a mean for the year

Lake Station Information

Station Name: MINNETONKA (ST. ALBANS BAY)
 Waterbody Name: Minnetonka-St. Albans Bay
 Data Steward Org: MPCA
 Station ID: (Lake ID) 27-0133-04-302
 Hydrologic Unit Code (HUC): 07010206
 Assessment Unit: 27-0133-04
 Period of Record: 2001 through 2017
 Lat/Lon 44.908001,-93.549494



Year 2016 Data																	
Station Data																	
Sample Date	Type	Depth	BOD	Chl-a	Trans	DO	TKN	NO2	NO3	pH	Pheo	TP	TSS	Turb	FC	Ecoli	Secchi
09-19-16	QC-FR	0 m		3.56								0.019					
09-19-16	Routine	0 m		3.56		8.77						0.021					4
09-19-16	Routine	1 m				8.73											
09-19-16	Routine	2 m				8.73											
09-19-16	Routine	3 m				8.70											
09-19-16	Routine	4 m				8.65											
09-19-16	Routine	5 m				8.55											
09-19-16	Routine	6 m				8.39											
09-19-16	Routine	7 m				7.04											
09-19-16	Routine	8 m				6.19											
09-19-16	Routine	9 m				2.21											
09-19-16	Routine	9.5 m										0.055					
09-19-16	Routine	10 m				0.99											
09-19-16	Routine	10.5 m				0.61											
08-09-16	Routine	0 m		1.78		8.45						0.02					2.9
08-09-16	Routine	1 m				8.43											
08-09-16	Routine	2 m				8.42											
08-09-16	Routine	3 m				8.40											
08-09-16	Routine	4 m				8.39											
08-09-16	Routine	5 m				8.16											
08-09-16	Routine	6 m				5.05											
08-09-16	Routine	7 m				2.53											
08-09-16	Routine	8 m				2.18											
08-09-16	Routine	9 m				1.19						0.03					
08-09-16	Routine	10 m				0.88											
07-05-16	Routine	0 m		2.67		8.61						0.021					3
07-05-16	Routine	1 m				8.48											
07-05-16	Routine	2 m				8.45											
07-05-16	Routine	3 m				8.44											
07-05-16	Routine	4 m				8.44											
07-05-16	Routine	5 m				7.60											
07-05-16	Routine	6 m				6.21											
07-05-16	Routine	7 m				5.46											
07-05-16	Routine	8 m				3.27											
07-05-16	Routine	9 m				2.27											
07-05-16	Routine	9.5 m										0.02					

APPENDIX I – WETLAND FUNCTIONAL ASSESSMENT

**Minnehaha Creek Watershed District - Functional Assessment of Wetlands
Wetland Management Classification**

Wetland ID Number	Management Classification	Circular 39 Classification	Vegetative Diversity	Wildlife Habitat Quality	Fishery Habitat Quality	Wetland Water Quality	Aesthetic Quality
D-117-23-34-001	Manage 3	Type 7, Type 2	Not Applicable	Not Applicable	Not Assessed	Not Applicable	Not Applicable
D-117-23-34-003	Manage 3	Type 2	Low	Low	Low	High	Moderate
D-117-23-34-003	Manage 3	Type 2	Low	Low	Low	Low	Moderate
D-117-23-34-003	Manage 3	Type 2	Low	Low	Low	Moderate	Moderate
D-117-23-34-004	Not Classified						
D-117-23-34-005	Not Classified						
D-117-23-34-006	Not Classified						
D-117-23-34-007	Not Classified					Moderate	
D-117-23-34-009	Manage 2	Type 2	Low	Moderate	Low	Moderate	Moderate
D-117-23-34-011	Manage 2	Type 2	Moderate	Moderate	Low	Low	Moderate
D-117-23-34-012	Manage 2	Type 3	Low	Low	Low		Low
D-117-23-35-001	Not Classified						
D-117-23-35-002	Not Classified						
D-117-23-35-003	Manage 1	Type 6	Moderate	Low	Low	Low	Moderate
D-117-23-35-004	Manage 3	Type 5, Type 4	Low	Low	Low		Low
D-117-23-35-005	Manage 2	Type 3, Type 1	Low	Moderate	Low	Moderate	Moderate
D-117-23-35-011	Preserve	Type 3, Type 4	Moderate	Moderate	Exceptional	Low	Exceptional
D-117-23-35-022	Not Classified					Moderate	
D-117-23-35-023	Not Classified					Moderate	
E-117-23-34-002	Manage 1	Type 5	Low	Moderate	Moderate	Moderate	Exceptional
E-117-23-34-003	Manage 1	Type 4, Type 5	Moderate	Moderate	Moderate		Exceptional
E-117-23-34-004	Manage 1	Type 3, Type 5	High	Moderate	Moderate	Low	Exceptional
E-117-23-34-005	Manage 2	Type 5	Moderate	Low	Not Assessed	Low	Moderate
E-117-23-34-006	Manage 1	Type 4	Moderate	Moderate	Moderate	Low	Exceptional

See Figure III-4 for wetland locations

Data from January 2003 Functional Assessment Report from MCWD

APPENDIX J – ORDINANCES

Sec. 30-150. - Erosion and sediment control.

- (a) The development shall conform to the natural limitations presented by topography and soil so as to create the least potential for soil erosion. All erosion sediment control measures and land disturbing activities shall comply with the subdivision design standards, the City's Engineering Design Standards, Article 36 of the Zoning Code, and as required by the city engineer.
- (b) Erosion and siltation control measures shall be coordinated with the different stages of construction. Appropriate control measures shall be installed prior to development when necessary to control erosion.
- (c) Land shall be developed in increments of workable size such that adequate erosion and siltation controls can be provided as construction progresses. The smallest practical area of land shall be exposed at any one period of time.
- (d) In the event that permanent stabilization cannot be feasibly obtained within 14 days after construction activity in that portion of the site has temporarily or permanently ceased, and seven days if discharge points are located within one-mile of an impaired or special waterbody, temporary soil stabilization BMPs must be implemented within the timeframe.
- (e) Where the topsoil is removed, sufficient arable soil shall be set aside for respreading over the developed area. The soil shall be restored to a depth of four inches and shall be of a quality at least equal to the soil quality prior to development.

(Code 1982, § 350:20, subd. 10; Ord. No. 522, § 1, 5-4-2015)

Cross reference— Environment, ch. 16.

ARTICLE II. - SEWER SERVICE^[2]

Footnotes:

--- (2) ---

Editor's note— Ord. No. 522, § 2, adopted May 4, 2015, repealed former Art. II, §§ 34-31—34-38, in its entirety and enacted new provisions as herein set out. Former Art. II pertained to similar subject matter and derived from Ord. No. 434, § 1, adopted Dec. 15, 2008.

Sec. 34-31. - Purpose.

The purpose of this article is to provide for the health, safety, and general welfare of the citizens of the city through the regulation of the sanitary and stormwater sewer systems to the maximum extent possible as required by federal and state law. In addition to requirements relative to the city's sanitary sewer system, this article establishes methods for controlling the introduction of pollutants into the city's municipal separate storm sewer system (MS4) in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process and for controlling the introduction. The objectives of this article are:

- (1) To regulate the contribution of pollutants to the municipal separate storm sewer system (MS4) by stormwater discharges by any user; and
- (2) To prohibit illicit connections and discharges to the municipal separate storm sewer system; and
- (3) To establish legal authority to carry out all inspection, surveillance, enforcement, and monitoring procedures necessary to ensure compliance with this article.
- (4) This article is adopted pursuant to the authorization and policies contained in Minnesota Statutes and Rules.

(Ord. No. 522, § 2, 5-4-2015)

Sec. 34-32. - Sewer and water connection required.

Every owner or occupant with any property having a dwelling, house, or business building situated thereon, which property abuts upon a public street along which a municipal water or sewer main shall have been constructed, shall install a toilet in such dwelling or business property and connect the same with the water or sewer in the street adjacent thereto, within one year from the date of acceptance of the work of constructing the water or sewer main by the council.

(Ord. No. 522, § 2, 5-4-2015)

Sec. 34-33. - Definitions.

For the purposes of this article, the following shall mean:

Authorized enforcement agency. The city or its designee.

Best management practices (BMPs). Schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

Clean Water Act. The federal Water Pollution Control Act, and any subsequent amendments thereto.

Construction activity. Any activity subject to NPDES construction permits. Currently these include construction projects resulting in land disturbance of one acre or more. Such activities include, but are not limited to, clearing and grubbing, grading, excavating and demolition.

Hazardous materials. Any materials, including any substance, waste, or combination thereof, which because of their quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Illegal discharge. Any direct or indirect nonstormwater discharge to the storm drain system.

Illicit connections. An illicit connection is defined as either of the following: Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including but not limited to any conveyances which allow any nonstormwater discharge including sewage, process wastewater, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency or; any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

Municipal separate storm sewer system (MS4). The system of conveyances (including sidewalks, roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) owned and operated by the city and designed or used for collecting or conveying stormwater, and is not used for collecting or conveying sewage.

National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit. A permit issued by EPA (or by a state under authority delegated pursuant to federal law) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area.

Nonstormwater discharge. Any discharge to the storm drain system that is not composed entirely of stormwater.

Pollutant. Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; nonhazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

Storm drainage system. Publicly-owned facilities by which stormwater is collected and/or conveyed, including, but not limited to, any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.

Stormwater. Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation and resulting from such precipitation.

Stormwater pollution prevention plan (SWPPP). A document which describes the best management practices and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to stormwater, stormwater conveyance systems, and/or receiving waters to the maximum extent practicable.

Wastewater. Any water or other liquid, other than uncontaminated stormwater, discharged from a facility.

(Ord. No. 522, § 2, 5-4-2015)

Sec. 34-34. - Compatibility with other regulations.

This article is not intended to modify or repeal any other ordinance, rule, regulation, or other provision of law. The requirements of this ordinance are in addition to the requirements of any other ordinance, rule, regulation, or other provision of law, and where any provision of this ordinance imposes restrictions different from those imposed by any other ordinance, rule, regulation, or other provision of law, whichever provision is more restrictive or imposes higher protective standards for human health or the environment shall control.

(Ord. No. 522, § 2, 5-4-2015)

Sec. 34-35. - Sanitary sewer.

- (a) *Foreign matter restrictions.* No person shall knowingly permit grit, dirt, oil, grease, petroleum, combustibles, toxic substances, acids, dyes, radioactive substances, heavy substances, sewage of quality exceeding 500 parts per million, five-day biological oxygen demand, or any other substance harmful to the treatment process to be introduced into any part of the sanitary sewer system. If any such substance is introduced into such system, the public works superintendent shall immediately notify the owner or occupant in writing specifying the substance, the extent of the spill, the source of the spill, or the probable source.
- (b) *Interception; catchbasins; traps.* Every building or premises used or occupied where any operations are conducted or permitted which could result in the discharge into the municipal sanitary sewer system any of the products, waste products, or other substances in the manner and to the extent prohibited in this article shall be equipped with an adequate and suitable catchbasin, grease trap, filter, or other interceptor, installed in such a manner that the products, waste products, or other substances set forth in this section will not flow into or be discharged into the sanitary sewer system. No person shall knowingly permit the flow of waste from such building or premises into the sanitary sewer system unless such interceptor is installed and in good working order.
- (c) *Prohibition on introduction of stormwater.* No person shall discharge or cause to be discharged directly or indirectly into the sanitary sewer collection system, any stormwater, surface water, groundwater, roof runoff, or subsurface drainage. Any person having a roof drain, foundation drain, sump pump, unauthorized swimming pool discharge, cistern overflow pipe or surface drain connected and/or discharging into the sanitary sewer shall disconnect and remove any piping or system conveying the water to the sanitary sewer system by July 1, 2006.
- (d) *Inspection; compliance required.* Compliance with this section shall be assured through inspection by authorized employees of the city, or its agents, or by a licensed plumber who can certify compliance with the requirements of this section, of all properties or structures connected to the sanitary sewer system to confirm there is no sump pump or other prohibited discharge into the sanitary sewer system. Any owner of any property found to violate this section shall make the necessary changes to comply with this subchapter by July 1, 2006, and the change shall be verified by authorized employees of the city or its agents. Any property or structure not inspected or not in compliance by July 1, 2006, shall, following notification from the city, comply within 21 days or be subject to the surcharge hereinafter provided for.

(Ord. No. 522, § 2, 5-4-2015)

Sec. 34-36. - Stormwater sewer.

- (a) *General discharge prohibitions.*
- (1) *Prohibition of illegal discharges.* No person shall discharge or cause to be discharged into the MS4 or watercourses any materials, including, but not limited to, pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than

stormwater.

- (2) The following discharges are exempt from discharge prohibitions established by this article:
 - a. Water line flushing or other potable water sources, landscape irrigation or lawn watering, diverted stream flows, rising groundwater, groundwater infiltration to storm drains, uncontaminated pumped groundwater, foundation or footing drains (not including active groundwater dewatering systems), crawl space pumps, air conditioning condensation, springs, noncommercial washing of vehicles, natural riparian habitat or wetland flows, swimming pools (if dechlorinated—typically less than one PPM chlorine, or if discharged nondirectly to a public waterbody through a vegetative swale or grass way a minimum of 300 feet as to provide pretreatment prior to entering the city stormwater system), firefighting activities, and any other water source not containing pollutants.
 - b. Discharges specified in writing by the authorized enforcement agency as necessary to protect public health and safety.
 - c. Discharges associated with dye testing; however this activity requires a verbal notification to the city prior to the time of the test.
- (b) *Exceptions.* The general discharge prohibitions provided in subsection (a) above shall not apply to any nonstormwater discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the storm drain system.
- (c) *Prohibition of illicit connections.*
 - (1) The construction, use, maintenance or continued existence of illicit connections to the storm drain system is prohibited.
 - (2) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.
 - (3) A person is considered to be in violation of this article if the person connects a line conveying sewage to the MS4, or allows such a connection to continue.
 - (4) Improper connections in violation of this ordinance must be disconnected and redirected, if necessary, to an approved onsite wastewater management system or the sanitary sewer system upon approval of the city.
 - (5) Any drain or conveyance that has not been documented in plans, maps or equivalent, and which may be connected to the storm sewer system, shall be located by the owner or occupant of that property upon receipt of written notice of violation from the city requiring that such locating be completed. Such notice will specify a reasonable time period within which the location of the drain or conveyance is to be determined, that the drain or conveyance be identified as storm sewer,

sanitary sewer or other, and that the outfall location or point of connection to the storm sewer system, sanitary sewer system or other discharge point be identified. Results of these investigations are to be documented and provided to the city.

(Ord. No. 522, § 2, 5-4-2015)

Sec. 34-37. - Sump and other pumps.

All sump and other pumps designed to remove water from basements, crawl spaces, or other places on a property shall have a discharge pipe installed to the outside wall of the building or location being drained. The pipe must be of a rigid permanent-type pipe such as PVC, copper or galvanized pipe. The discharge of such pumps as well as swimming pools, hot tubs and other such water sources, shall extend at least three feet beyond the foundation or location being drained and may not be pumped directly onto or within five feet of the public right-of-way unless approved by the public works superintendent or an agent thereof. Any disconnects or openings in the sanitary sewer shall be closed and repaired in compliance with applicable codes.

(Ord. No. 522, § 2, 5-4-2015)

Sec. 34-38. - Watercourse protection.

Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.

Sec. 34-39. - Industrial or construction activity discharges.

- (a) Any person subject to an industrial or construction activity NPDES storm water discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the city prior to the allowing of discharges to the MS4.
- (b) The operator of a facility, including construction sites, required to have an NPDES permit to discharge storm water associated with industrial activity shall submit a copy of the notice of intent (NOI) to the city at the same time the operator submits the original notice of intent to the EPA as applicable.
- (c) The copy of the notice of intent may be delivered to the city either in person or by mailing it to:

Notice of Intent to Discharge Stormwater

City of Excelsior

339 Third Street

Excelsior, MN 55331

- (d) A person commits an offense if the person operates a facility that is discharging storm water associated with industrial activity without having submitted a copy of the Notice of intent to do so to the city.

(Ord. No. 522, § 2, 5-4-2015)

Sec. 34-40. - Notification of spills.

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into storm water, the storm drain system, or waters of the United States, said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, said person shall notify the city in person or by phone or facsimile no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the city within three business days of the phone notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least four years.

(Ord. No. 522, § 2, 5-4-2015)

Sec. 34-41. - Enforcement and waivers.

- (a) *Warning notice.* When the city finds that any person has violated, or continues to violate, any provision of this article, or any order issued hereunder, the city may serve upon that person a written warning notice, specifying the particular violation believed to have occurred and requesting the discharger to immediately investigate the matter and to seek a resolution whereby any offending discharge will cease. Investigation and/or resolution of the matter in response to the warning notice in no way relieves the alleged violator of liability for any violations occurring before or after receipt of the warning notice. Nothing in this subsection shall limit the authority of the city to take any action, including emergency action or any other enforcement action, without first issuing a warning notice.

- (b) *Notice of violation.*

- (1) Whenever the city finds that a person has violated a prohibition or failed to meet a requirement of this ordinance, the City may order compliance by written notice of violation to the responsible person. The Notice of Violation shall contain:
- a. The name and address of the alleged violator;
 - b.

The address when available or a description of the building, structure or land upon which the violation is occurring, or has occurred;

- c. A statement specifying the nature of the violation;
- d. A description of the remedial measures necessary to restore compliance with this article and a time schedule for the completion of such remedial action;
- e. A statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed;
- f. A statement that the determination of violation may be appealed to the city by filing a written notice of appeal within three days of service of notice of violation; and
- g. A statement specifying that, should the violator fail to restore compliance within the established time schedule, the work will be done by a designated governmental agency or a contractor and the expense thereof shall be charged to the violator.

(2) Such notice may require without limitation:

- a. The performance of monitoring, analyses, and reporting;
- b. The elimination of illicit connections or discharges;
- c. That violating discharges, practices, or operations shall cease and desist;
- d. The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property;
- e. Payment of a fine or notice of special assessment to cover administrative and remediation costs; and
- f. The implementation of source control or treatment BMPs.

(c) *Suspension of MS4 access.* When the city finds that any person has violated, or continues to violate, any provision of this article, or any order issued hereunder, or that the person's past violations are likely to recur, and that the person's violation(s) has (have) caused or contributed to an actual or threatened discharge to the MS4 or waters of the United States which reasonably appears to present an imminent or substantial endangerment to the health or welfare of persons or to the environment, the city may issue an order to the violator directing it immediately to cease and desist all such violations and directing the violator to:

- (1) Immediately comply with all ordinance requirements; and
- (2) Take such appropriate preventive action as may be needed to properly address a continuing or threatened violation, including immediately halting operations and/or terminating the discharge.

Any person notified of an emergency order directed to it under this subsection shall immediately comply and stop or eliminate its endangering discharge. In the event of a discharger's failure to immediately comply voluntarily with the emergency order, the city may take such steps as deemed necessary to prevent or minimize harm to the MS4 or waters of the United States, and/or endangerment to persons or to the environment, including immediate termination of a facility's water supply, sewer connection, or other municipal utility services.

- (d) *Requests for waivers.* If a property owner is in dispute with the assessment of their stormwater, surface water, groundwater, roof runoff or subsurface drainage, the city will facilitate an appeal process in which a property owner may request a waiver from the provisions of this article where strict enforcement would cause undue hardship because of circumstances unique to the individual property under consideration. Any request for waiver shall be submitted to the city manager in writing. A grievance hearing will be held and a final decision will be determined by a panel appointed by the city council consisting of two city council members and one planning commissioner. The public works superintendent shall participate in the hearing, as an ex-officio member of the panel, to provide information regarding the assessment and any other relevant issues.
- (e) *Additional fees.* Upon approval of a waiver from the provisions of this article, the property owner shall agree to pay an additional fee for sanitary sewer services based on the number of gallons discharged into the sanitary system as estimated by the city.
- (f) *Access to premises.* The city shall be entitled to utilize any lawful authority available to it to gain access to premises for the purposes of enforcing the requirements of this article including, but not limited to, making access at reasonable times a condition of some commercial permits and seeking, where appropriate, judicial assistance.
- (g) *Injunction.* The imposition of the surcharge referred to in section 34-36 shall not limit the right of city to seek an injunction in district court or from pursuing any other legal remedies available.
- (h) *Surcharge.* A nonrefundable surcharge of \$75.00 is hereby established and shall be added to every utility billing mailed on or after July 1, 2006, to any property not in compliance with this subchapter until the property is in compliance. If, after six months, any property is still found to be in violation of the article, the surcharge shall increase to \$150.00.

(Ord. No. 522, § 2, 5-4-2015)

Secs. 34-42—34-60. - Reserved.

ARTICLE 36. - GENERAL STORMWATER MANAGEMENT^[9]*Footnotes:**--- (9) ---**Editor's note— Ord. No. 522, § 3, adopted May 4, 2015, repealed former Art. 36, §§ 36-1—36-9, in its entirety and enacted new provisions as herein set out. Former Art. 36 pertained to similar subject matter and derived from Ord. No. 441, § 2, 7-20-2009; Ord. No. 495, § 3, 4-1-2013.**Cross reference— Subdivision general standards and requirements, § 30-141 et seq.; Sewer service, § 34-31 et seq.*

Sec. 36-1. - Statutory authorization.

This article is adopted pursuant to the authorization and policies contained in Minnesota Statutes and Rules.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-2. - Findings.

The city hereby finds that uncontrolled and inadequately planned use of wetlands, woodlands, natural habitat areas, areas subject to soil erosion and areas containing restrictive soils adversely affects the public health, safety and general welfare by impacting water quality and contributing to other environmental problems, creating nuisances, impairing other beneficial uses of environmental resources and hindering the ability of the city to provide adequate water, sewage, flood control, and other community services. In addition, extraordinary public expenditures may be required for the protection of persons and property in such areas and in areas which may be affected by unplanned land usage.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-3. - Purpose.

The purpose of this article is to promote, preserve and enhance the natural resources within the city and protect them from adverse effects occasioned by poorly sited development or incompatible activities by regulating land disturbing or development activities that would have an adverse and potentially irreversible impact on water quality and unique and fragile environmentally sensitive land; by minimizing conflicts and encouraging compatibility between land disturbing and development activities and water quality and environmentally sensitive lands; and by requiring detailed review standards and procedures for land disturbing or development activities proposed for such areas, thereby achieving a balance between urban growth and development and protection of water quality and natural areas.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-4. - Scope and effect.

- (a) *Applicability.* Every applicant for a building permit, subdivision approval, or a permit to allow land disturbing activities must submit a stormwater management plan to the city. No building permit, subdivision approval, or permit to allow land disturbing activities shall be issued until approval of the stormwater management plan or a variance of the approval requirement has been obtained in strict conformance with section 36-4(f) of this article.
- (b) *Minnesota Pollution Control Agency (MPCA).* The MPCA is the permitting authority for land disturbing activities requiring an NPDES permit for construction activity, including the requirements for developing and implementing a SWPPP. Where required, the NPDES permit is in addition to permits required by the City of Excelsior.
- (c) *Exemptions.* The provisions of this article do not apply to:
- (1) Installation of fence, sign, telephone, and electric poles and other kinds of posts or poles;
 - (2) Interior remodeling;
 - (3) Any activity requiring a building permit which does not disturb any land and does not increase the area of impervious surface of the subject parcel;
 - (4) Emergency work to protect life, limb, or property;
 - (5) A proposed addition or the construction of an accessory structure when the plans have been reviewed and the site has been inspected by the zoning administrator and/or the city engineer and it has been determined that the land is flat and/or drainage will not have an impact on neighboring property(s) or any body of water.
- (d) *Incorporation by reference.* The city's engineering design standards are hereby incorporated into this article by reference. The Standards shall serve as the official guide for stormwater principles methods, and practices for proposed development activities for the City of Excelsior.
- (e) *Variance.* The city council, upon recommendation of the planning commission, may grant a variance to any requirement of this article upon making a finding that compliance with the requirement will involve an unnecessary hardship and the variance of such requirement will not adversely affect the standards and requirements set forth in section 36-5. The city council may require, as a condition of the variance, such dedication or construction or agreement to dedicate or construct as may be necessary to adequately meet said standards and requirements.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-5. - Stormwater management—General and specific standards.

- (a) *Stormwater management.* The following general and specific standards shall apply:
- (1) *General standards.*
 - a. When possible, existing natural drainageways, wetlands, and vegetated soil surfaces must be used to convey, store, filter, and retain stormwater runoff before discharge to public waters.
 - b.

Development must be planned and conducted in a manner that will minimize the extent of disturbed areas, runoff velocities, erosion potential, and reduce and delay runoff volumes. Disturbed areas must be stabilized and protected as soon as possible and facilities or methods used to retain sediment on the site.

- c. When development density, topographic features, and soil and vegetation conditions are not sufficient to adequately handle stormwater 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. Preference must be given to designs using surface drainage, vegetation, and infiltration rather than buried pipes and man-made materials and facilities.

(2) *Specific standards.*

- a. Stormwater management shall be performed according to the policies outlined in the most recent version of the city's surface water management plan.
- b. In addition to the city's policies, stormwater management shall be performed according to the policies of the Minnehaha Creek Watershed District.
- c. For land disturbing activities that require an NPDES general stormwater construction permit, activities shall be performed according to the NPDES permit requirements in addition to the policies of the city.
- d. Maximum impervious surface coverage and green space requirements of lots shall be as follows or as otherwise provided within this article.
- e. New constructed stormwater outfalls to public waters must provide for filtering or settling of suspended solids and skimming of surface debris before discharge.
- f. New constructed stormwater outfalls to public waters must provide for filtering or settling of suspended solids and skimming or surface debris before discharge.

(Ord. No. 522, § 3, 5-4-2015; Ord. No. 558, § 1, 4-17-2017)

Sec. 36-6. - Stormwater management plan approval procedures.

- (a) *Application.* A written application for stormwater management plan approval, along with the proposed stormwater management plan, shall be filed with the city and shall include a statement indicating the grounds upon which the approval is requested, that the proposed use is permitted by right or as an exception in the underlying zoning district, and adequate evidence showing that the proposed use will conform to the standards set forth in this article. Two sets of clearly legible blue or black lined copies of drawings and required information shall be submitted to the zoning administrator. Drawings shall be prepared to a scale appropriate to the site of the project and suitable for the review to be performed. At a minimum the scale shall be one inch equals 100 feet.

The applicant is responsible to apply for, and obtain any necessary permits or approvals required by other agencies, including, but not limited to, permits required by the Minnehaha Creek Watershed District, the Minnesota Pollution Control Agency, the Minnesota Department of Natural Resources, and the [U.S.] Army Corps of Engineers. For stormwater management plans submitted as a part of a preliminary plat application, the applicant must provide copies of the preliminary plat and stormwater management plan to the Minnehaha Creek Watershed District.

(b) Unless otherwise exempted by this Code, an application for stormwater management approval shall include the following as a condition for its consideration:

- (1) A stormwater management plan;
- (2) A maintenance agreement.

The stormwater management plan shall be prepared to meet the requirements of section 36-6, and section 36-8 of this article, as well as the requirements within the city's engineering design standards; the maintenance agreement shall be prepared to meet the requirements of section 36-9 of this article.

(c) *Stormwater management plan.* At a minimum, the stormwater management plan shall contain the following information.

- (1) *Existing site map.* A map of existing site conditions showing the site and immediately adjacent areas, including:
 - a. The name and address of the applicant, the section, township and range, north point, date and scale of drawing and number of sheets;
 - b. Location of the tract by an insert map at a scale sufficient to clearly identify the location of the property and giving such information as the names and numbers of adjoining roads, railroads, utilities, subdivisions, towns and districts or other landmarks;
 - c. Existing topography with a contour interval appropriate to the topography of the land but in no case having a contour interval greater than two feet;
 - d. A delineation of all streams, rivers, public waters and wetlands located on and immediately adjacent to the site and any classification given to the water body or wetland by the Minnesota Department of Natural Resources, Minnesota Pollution Control Agency, and/or the United States Army Corps of Engineers.
 - e. Location and dimensions of existing stormwater drainage systems and natural drainage patterns on and immediately adjacent to the site delineating in which direction stormwater is conveyed from the site, identifying the receiving stream, river, public water, or wetland, and setting forth those areas of the unaltered site where stormwater collects;
 - f. 100-year floodplains, flood fringes and floodways.
 - g. Ordinary high water level of surface waters as established by the Minnesota Department of Natural Resources, normal water level and 100-year high water level of surface waters and detention facilities.

- (2) *Site construction plan.* A site construction plan including:
- a. Locations and dimensions of all proposed land disturbing activities and any phasing of those activities;
 - b. Locations and dimensions of all temporary soil or dirt stockpiles;
 - c. Locations and dimensions of all construction site erosion control measures necessary to meet the requirements of this Appendix E;
 - d. Schedule of anticipated starting and completion date of each land disturbing activity including the installation of construction site erosion control measures needed to meet the requirements of this article; and
 - e. Provisions for maintenance of the construction site erosion control measures during construction, including a stormwater pollution prevention plan (SWPPP) for activities that require an NPDES general construction stormwater permit issued by the Minnesota Pollution Control Agency.
- (3) *Plan of final site conditions.* A plan of final site conditions on the same scale as the existing site map showing the site changes including:
- a. Finished grading shown at contours at the same interval as provided above or as required to clearly indicate the relationship of proposed changes to existing topography and remaining features;
 - b. A drainage plan of the developed site delineating in which direction and at what rate stormwater will be conveyed from the site and setting forth the areas of the site where stormwater will be allowed to collect;
 - c. The proposed size, alignment, low floor elevation, low building opening elevation, and intended use of any structures to be erected on the site;
 - d. A clear delineation and tabulation of all areas which shall be paved or surfaced, including a description of the surfacing material to be used; and
 - e. Ordinary high water level of surface waters as established by the Minnesota Department of Natural Resources, normal water level and 100-year high water level of surface waters and detention facilities.
- (4) *Additional information.* Any other information pertinent to the particular project which in the opinion of the zoning administrator is necessary for the review of the project.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-7. - Plan review procedure.

- (a) *Process.* Stormwater management plans meeting the requirements of section 36-5 shall be submitted to the zoning administrator for review in accordance with the standards of section 36-7. The zoning administrator shall approve, approve with conditions, or deny the stormwater management plan. The decision by the zoning administrator may be appealed in accordance with article 7 of this Appendix E.

- (b) *Duration.* Approval of a plan submitted under the provisions of this article shall expire one year after the date of approval unless construction has commenced in accordance with the plan. However, if prior to the expiration of the approval, the applicant makes a written request to the zoning administrator for an extension of time to commence construction setting forth the reasons for the requested extension, the zoning administrator may grant one extension of not greater than one single year. Receipt of any request for an extension shall be acknowledged by the zoning administrator within 15 days. The zoning administrator shall make a decision on the extension within 30 days of receipt. Any plan may be revised in the same manner as originally approved.
- (c) *Conditions.* A stormwater management plan may be approved subject to compliance with conditions reasonable and necessary to insure that the requirements contained in this article are met. Such conditions may, among other matters, limit the size, kind or character of the proposed development, require the construction of structures, drainage facilities, storage basins and other facilities, require replacement of vegetation, establish required monitoring procedures, stage the work over time, require alteration of the site design to insure buffering and require the conveyance to the city or other public entity of certain lands or interests therein.
- (d) *Financial guarantee.* Prior to approval of any stormwater management plan, the applicant shall submit an agreement to construct such required physical improvements, to dedicate property or easements, or to comply with such conditions as may have been agreed to. Such agreement shall be accompanied by a financial guarantee to cover the amount of the established cost of complying with the agreement. The agreement and guarantee shall insure completion and compliance with conditions within a specific time, which may be extended in accordance with section 36-6(b) of this article.

(Ord. No. 522, § 3, 5-4-2015; Ord. No. 558, § 1, 4-17-2017)

Sec. 36-8. - Approval standards.

- (a) *Standards.* No stormwater management plan which fails to meet the standards contained in this section shall be approved by the zoning administrator.
- (b) All land disturbing activities are required to follow the construction site stormwater runoff control standards set within this Code and the city's engineering design Standards. The standards should follow the following requirements:
- (1) Erosion control;
 - (2) Sediment control practices;
 - (3) Temporary sediment basins;
 - (4) Dewatering and basin draining;
 - (5) Inspection and maintenance;
 - (6) Pollution management measures/construction site waste control;
 - (7) Final stabilization;
 - (8) Training.

- (c) *Design standards.* Stormwater detention facilities constructed in the City of Excelsior shall be designed according to the most current technology as reflected in this code and the city's engineering design standards.
- (d) *Stormwater management criteria for permanent facilities.*
- (1) An applicant shall install or construct, on or for the proposed land disturbing or development activity, all stormwater management facilities necessary to manage increased runoff so that peak discharge rates leaving the site are not increased for the two-year, ten-year, and 100-year critical-duration rainfall events. Accelerated channel erosion shall not occur as a result of the proposed land disturbing or development activity. At the discretion of the city, an applicant may also make an in-kind or monetary contribution to the development and maintenance of community stormwater management facilities designed to serve multiple land disturbing and development activities undertaken by one or more persons, including the applicant.
 - (2) The applicant shall give consideration to reducing the need for stormwater management facilities by incorporating the use of natural topography and land cover such as wetlands, ponds, natural swales and depressions as they exist before development to the degree that they can accommodate the additional flow of water without compromising the integrity or quality of the wetland or pond.
 - (3) Drainage systems shall be designed to convey runoff from contributing drainage areas under fully developed conditions. Capacities of drainage systems shall be designed to meet the following standards:
 - a. Local storm sewer shall convey runoff from the five-year, critical-duration, and rainfall event.
 - b. Trunk storm sewer shall convey runoff from the ten-year, critical-duration, and rainfall event.
 - c. Ponds and open channels shall convey runoff from the 100-year, critical-duration, and rainfall event.
 - (4) Special attention shall be given to existing residential developments which do not currently comply with the 35 percent impervious cover limitation of article 60 of this Appendix E. When installing sidewalk and driveways, adding decks and building additions or constructing garages and storage buildings, the following methods are suggested as solutions to the problem of managing stormwater runoff from impervious surfaces:
 - a. Building additions and decks shall be constructed to direct runoff to more pervious grassed filter strips, such as lawns and gardens.
 - b. Runoff from garages or storage buildings can be separated from impervious surfaces by different roof designs and/or use of gutters and down spouts directing water to pervious areas.
 - c. Sidewalks and driveways shall be sloped to drain towards pervious surfaces, such as lawns or gardens.
 - (5) The following stormwater management practices shall be investigated in developing a stormwater management plan in the following descending order of preference:

- a. Natural infiltration of precipitation on-site;
 - b. Flow attenuation by use of open vegetated swales and natural depressions;
 - c. Stormwater retention facilities; and
 - d. Stormwater detention facilities.
- (6) A combination of successive practices may be used to achieve the applicable minimum control requirements specified in subsection (a) above. Justification shall be provided by the applicant for the method selected.
- (e) *Water quality treatment standards.* Stormwater treatment facilities shall be provided to remove 50 percent of phosphorus and 85 percent of total suspended solids, or a detention pond designed to NURP standards.
- (f) *Volume control standards.* Abstraction via infiltration, evapotranspiration, capture and/or reuse of one inch of rainfall from the site on a regional or site-specific basis is required for development or redevelopment for projects that increase stormwater runoff volume, provided that past and existing land use practices, groundwater elevations, and soil characteristics are suitable for infiltration.
- (g) *Flood control.* Development and land disturbing activities must meet the following criteria:
- (1) The basement floor elevation of any new building shall be placed at least two feet above the elevation of any known historic high groundwater elevations for the area and at least two feet above the 100-year high surfacewater elevation in the area.
 - (2) The low building opening elevation of any new building shall be at least three feet above the projected 100-year high water elevation for the area. If this standard is considered a hardship, the standard may be lowered to placing the low building opening elevation at least two feet above the projected 100-year high water elevation if the following can be demonstrated:
 - a. That within the two-foot freeboard area above the 100-year high water elevation, stormwater storage is at least 50 percent of the stormwater storage capacity below the 100-year high water elevation; and
 - b. That a 25 percent obstruction of the basin outlet for a 100-year critical-duration rainfall event would not result in a high water elevation greater than one foot above the 100-year high water elevation; and
 - c. An adequate overflow route from the basin will assure that water levels, even for extreme rainfall events, will be greater than one foot below the low building opening elevation.
 - (3) An emergency spillway from ponding areas shall be installed a minimum of one foot below the lowest building opening and shall be designed to have a capacity to overflow water at an elevation below the lowest building opening at a rate not less than three times the 100-year peak discharge rate from the basin or the 100-year inflow rate to the basin, whichever is higher.
- (h) *Wetlands.* Minnehaha Creek Watershed District is the local government unit with jurisdictional control for enforcement of the Wetland Conservation Act. For most activities that could affect wetlands, the rules of the Minnehaha Creek Watershed District will apply. In addition to the rules of the district, the

following standards shall apply:

- (1) Runoff shall not be discharged directly into wetlands without presettlement of the runoff.
- (2) A protective buffer strip of natural vegetation shall surround all wetlands. Buffer dimensions shall be as required by the Minnehaha Creek Watershed District, or the City's Engineering Design Standards, whichever is greater.
- (3) Wetlands must not be drained or filled, wholly or partially, unless replaced by restoring or creating wetland areas of at least equal public and natural value. Replacement must be guided by the following principles in descending order of priority:
 - a. Avoiding the direct or indirect impact of the activity that may destroy or diminish the wetland;
 - b. Minimizing the impact by limiting the degree or magnitude of the wetland activity and its implementation;
 - c. Rectifying the impact by repairing, rehabilitating, or restoring the affected wetland environment;
 - d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the activity; and
 - e. Compensating for the impact by replacing or providing substitute wetland resources or environments.
- (i) *Bluffs*. No land disturbing or development activities shall be allowed on bluffs as defined under definitions in article 2 of this Appendix E.
- (j) *Structures*. In a newly constructed or rehabilitated storm sewer system, the last downstream structure before discharge to a receiving water body shall be provided with a sump area for the collection of coarse-grained material. Such sumps shall be cleaned when they are half-filled with material.
- (k) *Drain leaders*. All newly constructed and reconstructed buildings will route drain leaders to pervious areas wherein the runoff can be allowed to infiltrate. The flow rate of water exiting the leaders shall be controlled so no erosion occurs in the pervious areas.
- (l) *Models/methodologies/computations*. Hydrologic models and design methodologies used for the determination of runoff and analysis of stormwater management structures shall be approved by the city engineer. Plans, specifications and computations for stormwater management facilities submitted for review shall be sealed and signed by a registered professional engineer. All computations shall appear on the plans submitted for review, unless otherwise approved by the city engineer.
- (m) *Watershed management plans/groundwater management plans*. Stormwater management plans shall be consistent with adopted watershed management plans and groundwater management plans prepared in accordance with applicable Minnesota Statutes and as approved by the Minnesota Board of Water and Soil Resources in accordance with state law.
- (n) *Easements*. If a stormwater management plan involves direction of some or all runoff off of the site, it shall be the responsibility of the applicant to obtain from adjacent property owners any necessary easements or other property interests concerning flowage of water.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-9. - Stormwater treatment maintenance plan and agreement.

- (a) *Maintenance agreement.* The responsible party shall enter into a maintenance agreement with the city that documents all responsibilities for operation and maintenance of all stormwater treatment practices. Such responsibility shall be documented in a maintenance plan and executed through a maintenance agreement. The maintenance agreement shall be executed and recorded against the parcel. The maintenance agreement shall be in a form approved by the city shall describe the inspection and maintenance obligations of this section and shall, at a minimum:
- (1) Designate the responsible party, which shall be permanently responsible for maintenance of the structural or nonstructural measures.
 - (2) Pass responsibility for such maintenance to successors in title.
 - (3) Grant the city and its representatives the right of entry for the purposes of inspecting all stormwater treatment practices.
 - (4) Allow the city the right to repair and maintain the facility, if necessary maintenance is not performed after proper and reasonable notice to the responsible party.
 - (5) Include a maintenance plan that contains, but is not limited to the following:
 - a. Identification of all structural stormwater treatment practices.
 - b. A schedule for regular inspection, monitoring, and maintenance for each practice. Monitoring shall verify whether the practice is functioning as designed and may include, but is not limited to quality, temperature, and quantity of runoff.
 - c. Identification of the responsible party for conducting the inspection, monitoring, and maintenance for each practice.
 - (6) Identify a schedule and format for reporting compliance with the maintenance plan to the city.
- (b) *Inspection of stormwater facility.* Inspection programs shall be established on any reasonable basis, including but not limited to: routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; inspection of drainage basins or areas identified as higher than typical sources of sediment or other contaminants or pollutants; inspections of businesses or industries of a type associated with higher than usual discharges of contaminants or pollutants or with discharges of a type which are more likely than the typical discharge to cause violations of state or federal water or sediment quality standards or the National Pollutant Discharge Elimination System (NPDES) stormwater permit; and joint inspections with other agencies inspecting under environmental or safety laws. Inspections may include, but are not limited to, reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in drainage control facilities; and evaluating the condition of drainage control facilities and other stormwater treatment practices.

As a part of an approved stormwater treatment plan and agreement, when any new stormwater treatment practice is installed on private property, or when any new connection is made between private property and a public drainage control system, or sanitary sewer; the property owner shall grant to the city the right to enter the property at reasonable times and in a reasonable manner for the purpose of inspection. This includes the right to enter a property when the city has a reasonable basis to believe that a violation of this article is occurring or has occurred, and to enter when necessary for abatement of a public nuisance or correction of a violation of this article.

The director of public works, or designated representative, shall inspect all stormwater management facilities during construction, during the first year of operation, and at least once every five years thereafter. The inspection records will be kept on file at the public works department for a period of six years. It shall be responsibility of the applicant to dedicate or obtain any necessary easements or other property interests to allow the city access to the stormwater management facilities for inspection and maintenance purposes.

- (c) *Records of installation and maintenance activities.* The responsible party shall make records of the installation and of all maintenance and repairs of the stormwater treatment practices, and shall retain the records for at least three years. These records shall be made available to the city during inspection of the stormwater treatment practice and at other reasonable times upon request.
- (d) *Failure to maintain practices.* If a responsible party fails or refuses to meet the requirements of the maintenance agreement, the city, after reasonable notice, may correct a violation of the design standards or maintenance needs by performing all necessary work to place the stormwater treatment practice in proper working condition. In the event that the stormwater treatment practice becomes a danger to public safety or public health, the city shall notify the responsible party in writing. Upon receipt of that notice, the Responsible Party shall have thirty days to perform maintenance and repair of the facility in an approved manner. After proper notice, the city may specially assess the owner(s) of the stormwater treatment practice for the cost of repair work and any penalties; and the cost of the work shall be assessed against the property and collected along with ordinary taxes by the county.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-10. - Lawn fertilizer regulations.

- (a) *Use of impervious surfaces.* No person shall apply fertilizer to or deposit grass clippings, leaves or other vegetative materials on impervious surfaces, or within stormwater drainage systems, natural drainageways, or within wetland buffer areas.
- (b) *Unimproved land areas.* Except for driveways, sidewalks, patios, areas occupied by structures or areas which have been improved by landscaping, all areas shall be covered by plants or vegetative growth.
- (c) *Fertilizer content.* No person shall apply any lawn fertilizer, liquid or granular, that contains any amount of phosphorous or other compounds containing phosphorous, such as phosphate, except small quantities when a soil text indicates added phosphorous is needed to support healthy turf growth, or during the first year when new area of turf is being established.

- (d) *Buffer zone.* Fertilizer applications shall not be made within one rod (16.5 feet) of any wetland or water resource.
- (e) *Sale and display of lawn fertilizer.* No person, firm, corporation, franchise, or commercial establishment shall sell or display for sale any lawn fertilizer, liquid or granular, within the city that contains any amount of phosphorous or other compound containing phosphorous, such as phosphate, unless:
 - (1) Phosphorous-free fertilizer is also available for sale.
 - (2) Phosphorous-free fertilizer and fertilizer with phosphorous are separately displayed which each display being clearly marked as to whether or not the fertilizer contains phosphorous.
 - (3) Displays of phosphorous-free fertilizer are of equal or greater size and prominence.
 - (4) A sign or brochure is on prominent display next to any fertilizer display containing the city's regulations concerning the use of fertilizer with phosphorous.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-11. - Right-of-entry.

The issuance of a building permit or a permit to allow land disturbing activities constitutes a right-of-entry for the city or its contractor to enter the construction site. The applicant shall allow the city and its authorized representatives to:

- (a) Enter the permitted site for the purpose of obtaining information, examining records, conducting investigations or surveys;
- (b) Bring such equipment on the Site as is necessary to conduct such surveys and investigations;
- (c) Examine and copy any books, papers, or digital files pertaining to activities or records required to be kept under the terms and conditions of the permitted site;
- (d) Inspect the stormwater treatment practices;
- (e) Sample and monitor any items or activities pertaining to stormwater pollution control measures;
- (f) Correct deficiencies in stormwater and erosion and sediment control measures consistent with this Code and the city's engineering design standards.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-12: - Search warrants.

If city employees have been refused access to any part of the premises from which stormwater is discharged, and he/she is able to demonstrate probable cause to believe that there may be a violation of this ordinance, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this Code or any order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then the city may seek issuance of a search warrant from any court of competent jurisdiction.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-13: - Penalty.

Any violation of this Article 36 may be enforced via the procedures outlined in Article 10 of this Appendix E.

- (a) *Notice of violation.* When the city determines that an activity is not being carried out in accordance with the requirements of the stormwater management regulations of this Code, it shall issue a written notice of violation to the owner of the property. The notice of violation shall contain:
- (1) The name and address of the owner of applicant;
 - (2) The address when available or a description of the land upon which the violation is occurring;
 - (3) A statement specifying the nature of the violation;
 - (4) A description of the remedial measures necessary to bring the development activity into compliance with this ordinance and a time schedule for the completion of such remedial action;
 - (5) A statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed; and
 - (6) A statement that the determination of violation may be appealed to the city by filing a written notice of appeal within 15 days of services notice of violation.
- (b) *Stop work orders.* Persons receiving a notice of violation will be required to halt all construction activities. This stop work order will be in effect until the city confirms that the land disturbance activity is in compliance and the violation has been satisfactorily addressed. Failure to address a notice of violation in a timely manner may result in civil, criminal, or monetary penalties in accordance with the enforcement measures authorized in this Code.
- (c) *Civil and criminal penalties.* In addition to or as an alternative to any penalty provided herein or by law, any person who violates the provisions of the stormwater management regulations of this Code shall be guilty of a misdemeanor and subject to prosecution. Such person shall be guilty of a separate offense for each day during which the violation occurs or continues.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-14. - Appeals.

Any person aggrieved by the action of any official charged with the enforcement of the stormwater management regulations of this Code, as the result of the disapproval of a properly filed application for approval, issuance of a written notice of violation, or an alleged failure to properly enforce the ordinance in regard to a specific application, shall have the right to appeal the action pursuant to the procedures outlined in Article 7 of this Appendix E.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-15. - Other controls.

In the event of any conflict between the provisions of the stormwater management regulations of this Code and the provisions of an erosion control or shoreland protection ordinance adopted by the city council, the more restrictive standard prevails.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-16. - Severability.

The provisions of the stormwater management regulations of this Code are severable. If any provision of these stormwater management regulations or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applicants of these stormwater management regulations which can be given effect without the invalid provision or application.

(Ord. No. 522, § 3, 5-4-2015)

ARTICLE 60. - SHORELAND MANAGEMENT DISTRICT

Sec. 60-1. - Statutory authorization and policy.

- (1) *Statutory authorization.* The shoreland regulations contained in this section are adopted pursuant to the authorization and policies contained in Minn. Stats. ch. 103F, Minnesota Regulations, Parts 6120.2500 through 6120.3900, and the planning and zoning enabling legislation in Minn. Stats. ch. 462.
- (2) *Policy.* The uncontrolled use of shorelands of the city affects the public health, safety and general welfare not only by contributing to pollution of public waters, but also by impairing the local tax base. Therefore, it is in the best interests of the public health, safety and welfare to provide for the wise subdivision, use and development of shorelands of public waters. The Legislature of Minnesota has mandated responsibility to local governments of the State to regulate the subdivision, use and development of the shorelands of public waters and thus preserve and enhance the quality of surface waters, conserve the economic and natural environmental values of shorelands, and provide for the wise use of waters and related land resources. This responsibility is hereby recognized by the city.
- (3) *Jurisdiction.* The provisions of this Appendix E shall apply to the shorelands of the public water bodies as classified in section 60-3.

Sec. 60-2. - Administration.

- (a) *Permits required.* In addition to building permits required by section 9-11, a permit shall be required for those grading and filling activities not exempted by [sub]section 60-4(d). Application for a permit shall be made to the zoning administrator on the forms provided. The application shall include the necessary information so that the zoning administrator can determine the site's suitability for the intended use.
- (b) *Variances.*
 - (1) Variances may only be granted in accordance with Minn. Stats., chapter 462 and as prescribed by article 6. No variance may be granted that would allow any use that is prohibited in the zoning district in which the subject property is located.
 - (2) When a variance is approved after the department of natural resources has formally recommended denial in the hearing record, the notification of the approved variance required in [sub]section 60-2(c)(2) below shall also include the city council's summary of the public record/testimony and the findings of facts and conclusions which supported the issuance of the variance.
- (c) *Notifications to the department of natural resources.*
 - (1)

Copies of all notices of any public hearings to consider variances, amendments, or conditional uses under Excelsior's shoreland management controls must be sent to the commissioner or the commissioner's designated representative and postmarked at least ten days before the hearings. Notices of hearings to consider proposed subdivisions/plats must include copies of the subdivision/plat.

- (2) A copy of approved amendments and subdivisions/plats, and final decisions granting variances or conditional uses under Excelsior's shoreland management controls must be sent to the commissioner or the commissioner's designated representative and postmarked within ten days of final action.
- (d) *[Shoreland management district.]* Activities within and adjacent to the shoreland management district shall be performed in accordance with the rules of the Minnesota Creek Watershed District.
- (Ord. No. 441, § 3, 7-20-2009)

Sec. 60-3. - Shoreland classification system.

The public waters within and adjacent to Excelsior have been classified below consistent with the criteria found in Minnesota Regulations, part 6120.3300, and the Protected Waters Inventory Map for Hennepin County, Minnesota.

<u>General Development Lake</u>	<u>DNR I.D. #</u>
Lake Minnetonka	27-133P
Sections 27, 34, 35	
T117 R23	
<u>Recreational Development Lake</u>	
Galpin Lake	27-144P
Sections 34, 35	
T117 R23	

The shoreland area to which the regulations of this article apply is as shown on the official zoning map. The area includes land located within 1,000 feet of the ordinary high water level of the above lakes, or a lesser distance if the topographic divide is less than 1,000 feet. In the area where Lake Minnetonka shoreland overlaps Galpin Lake shoreland, the regulations pertaining to Lake Minnetonka shall apply.

(Ord. No. 441, § 3, 7-20-2009)

Sec. 60-4. - Zoning provisions.

- (a) *Lot area and width standards.* The minimum lot area (in square feet) and lot width standards (in feet) for residential lots created after the date of enactment of this Appendix E are as found in the individual district standards of this Appendix E.
- (b) *Additional special provisions.* Minimum lot area requirements within shoreland areas may be calculated on an average lot area basis, so long as the overall net density requirements of subsection 60-4(a) above are met. The absolute minimum lot area shall be as permitted by the underlying zoning district. Residential subdivisions with dwelling unit densities exceeding those in the above tables can only be allowed if designed and approved as a conditional use permit under subsection 60-4(h) of this Appendix E. Only land above the ordinary high water level of public waters can be used to meet lot area standards, and lot width standards must be met at both the ordinary high water level and at the building line.
- (c) *Placement, design, and height of structures.*
 - (1) *Placement of structures on lots.* Where structures exist on the adjoining lots on both sides of a proposed building site, structure setbacks may be altered in accordance with section 17-6 of this Appendix E, provided the proposed building site is not located in a shore impact zone or in a bluff impact zone. Principal and accessory structures shall be located as follows.
 - a. The minimum setback of principal and accessory structures from the ordinary high water level of Minnetonka and Galpin Lakes shall be 50 feet.
 - b. *Additional structure setbacks.*

<u>Setback From:</u>		<u>Setback (feet)</u>
1.	Top of bluff;	30
2.	Unplatted cemetery;	50
3.	Right-of-way line of federal, state or county highway; and	30

4.	Right-of-way line of city streets or other roads or streets not classified.	As regulated by articles 41 through <u>52</u> of this Appendix E
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- c. *Bluff impact zones.* Structures and accessory facilities, except stairways and landings, must not be placed within bluff impact zones.
- d. *Uses without water-oriented needs.* Uses without water-oriented needs that are located on lots or parcels with public waters frontage must either be set back double the normal ordinary high water level setback or be substantially screened from view from the water by vegetation or topography, assuming summer, leaf-on conditions.

(2) *Design criteria for structures.*

- a. *High water elevations.* Structures must be placed in accordance with any floodplain regulations applicable to the site. Where these controls do not exist, the elevation to which the lowest floor, including basement, is placed or flood-proofed must be determined:
 1. By placing the lowest floor at a level at least three feet above the highest known water level, or three feet above the ordinary high water level, whichever is higher.
 2. Water-oriented accessory structures may have the lowest floor placed lower than the elevation determined in this item if the structure is constructed of flood-resistant materials to the elevation, electrical and mechanical equipment is placed above the elevation and, if long duration flooding is anticipated, the structure is built to withstand ice action and wind-driven waves and debris.
- b. *Accessory structures.* Accessory structures shall be permitted as regulated by article 18 of this Appendix E. Detached decks must not exceed eight feet above grade at any point.
- c. *Stairways, lifts, and landings.* Stairways and lifts are the preferred alternative to major topographic alterations for achieving access up and down bluffs and steep slopes to shore areas. Stairways and lifts must meet the following design requirements:
 1. Stairways and lifts must not exceed four feet in width on residential lots. Wider stairways may be used for commercial properties, public open-space recreational properties, and planned unit developments;
 2. Landings for stairways and lifts on residential lots must not exceed 32 square feet in area. Landings larger than 32 square feet may be used for commercial properties, public open-space recreational properties, and conditional use permit allowances for development;
 3. Canopies or roofs are not allowed on stairways, lifts, or landings;
 4. Stairways, lifts, and landings may be either constructed above the ground on posts or pilings, or placed into the ground, provided they are designed and built in a manner that ensures control of soil erosion;

5. Stairways, lifts, and landings must be located in the most visually inconspicuous portions of lots, as viewed from the surface of the public water assuming summer, leaf-on conditions, whenever practical; and
 6. Facilities such as ramps, lifts, or mobility paths for physically handicapped persons are also allowed for achieving access to shore areas, provided that the dimensional and performance standards of subsection 60-4(c)(2)c.1. through 60-4(c)(2)c.5. are complied with in addition to the requirements of Minnesota Regulations, chapter 1340.
- d. *Historic buildings and sites.* No structure may be placed on a historic building or site in a manner that affects the values of the site unless adequate information about the site has been removed and documented in a public repository.
- e. *Steep slopes.* The city engineer must evaluate possible soil erosion impacts and development visibility from public waters before issuing a permit for construction of roads, driveways, structures, or other improvements on steep slopes. When determined necessary, conditions must be attached to issued permits to prevent erosion and to preserve existing vegetation screening of structures, vehicles, and other facilities as viewed from the surface of public waters, assuming summer, leaf-on vegetation.
- (3) *Height of structures.* All structures shall comply with the height standards of this Appendix E.
- (d) *Shoreland alterations.* Alterations of vegetation and topography will be regulated to prevent erosion into public waters, fix nutrients, preserve shoreland aesthetics, preserve historic values, prevent bank slumping, and protect fish and wildlife habitat.
- (1) *Vegetation alterations.*
- a. Vegetation alteration necessary for the construction of structures and the construction of roads and parking areas regulated by subsection 60-4(e) below are exempt from the vegetation alteration standards that follow.
 - b. Removal or alteration of vegetation is allowed subject to the following standards:
 1. Intensive vegetation clearing within the shore and bluff impact zones and on steep slopes is not allowed.
 2. In shore and bluff impact zones and on steep slopes, limited clearing of trees and shrubs and cutting, pruning, and trimming of trees is allowed to provide a view to the water from the principal dwelling site and to accommodate the placement of stairways and landings, picnic areas, access paths, beach and watercraft access areas, and permitted water-oriented accessory structures or facilities, provided that:
 - i. The general character of the shoreline is not changed as viewed from the water, assuming summer, leaf-on conditions, is not substantially reduced;
 - ii. The above provisions are not applicable to the removal of trees, limbs, or branches that are dead, diseased, or pose safety hazards.

c.

Use of fertilizers and pesticides shall be strongly discouraged, but at the very least, shall be done in such a way as to minimize runoff into the shore impact zone or public water by the use of earth, vegetation or both.

(2) *Topographic alterations/grading and filling.*

- a. Grading and filling and excavations necessary for the construction of structures and driveways under validly issued construction permits for these facilities do not require the issuance of a separate grading and filling permit; however, the grading and filling standards in this section must be incorporated into the issuance of such permits.
- b. Public roads and parking areas are regulated by subsection 60-4(e) below.
- c. Notwithstanding subsection 60-4(d)(2)a. and b. above, a grading and filling permit will be required for:
 1. The movement of more than ten cubic yards of material on steep slopes or within shore or bluff impact zones; and
 2. The movement of more than 50 cubic yards of material outside of steep slopes and shore and bluff impact zones shall require a conditional use permit pursuant to article 4 and subsection 60-4(h).
- d. The following considerations and conditions must be adhered to during the issuance of construction permits, grading and filling permits, conditional use permits, variances and subdivision approvals:
 1. In addition to requirements of the State of Minnesota Wetland Conservation Act of 1991, grading or filling in any type 2 through 8 wetland must be evaluated to determine how extensively the proposed activity would affect the following functional qualities of the wetland*:
 - i. Sediment and pollutant trapping and retention;
 - ii. Storage of surface runoff to prevent or reduce flood damage;
 - iii. Fish and wildlife habitat;
 - iv. Recreational use;
 - v. Shoreline or bank stabilization; and
 - vi. Noteworthiness, including special qualities such as historic significance, critical habitat for endangered plants and animals, or others.

* This evaluation must also include a determination of whether the wetland alteration being proposed requires permits, reviews, or approvals by other local, state, or federal agencies such as the Minnehaha Creek Watershed District, the Minnesota Department of Natural Resources, or the United States Army Corps of Engineers. The applicant will be so advised.

2. Alterations must be designed and conducted in a manner that ensures only the smallest amount of bare ground is exposed for the shortest time possible;

3. Mulches or similar materials must be used, where necessary, for temporary bare soil coverage, and a permanent vegetation cover must be established as soon as possible;
 4. Methods to minimize soil erosion and to trap sediments before they reach any surface water feature must be used;
 5. Altered areas must be stabilized to acceptable erosion control standards consistent with the field office technical guides of the local soil and water conservation districts and the United States Soil Conservation Service;
 6. Fill or excavated material must not be placed in a manner that creates an unstable slope;
 7. Plans to place fill or excavated material on steep slopes must be reviewed by qualified professionals for continued slope stability and must not create finished slopes of 30 percent or greater;
 8. Fill or excavated material must not be placed in bluff impact zones;
 9. Any alterations below the ordinary high water level of public waters must first be authorized by the commissioner under Minn. Stats. § 103G.245;
 10. Alterations of topography must only be allowed if they are accessory to permitted or conditional uses and do not adversely affect adjacent or nearby properties; and
 11. Placement of natural rock riprap, including associated grading of the shoreline and placement of a filter blanket, is permitted if the finished slope does not exceed three feet horizontal to one foot vertical, the landward extent of the riprap is within ten feet of the ordinary high water level, and the height of the riprap above the ordinary high water level does not exceed three feet.
- e. *Connections to public waters.* Excavations where the intended purpose is connection to a public water, such as boat slips, canals, lagoons, and harbors, must be controlled by local shoreland controls. Permission for excavations may be given only after the commissioner has approved the proposed connection to public waters.
- (e) *Placement and design of roads, driveways, and parking areas:*
- (1) Public and private roads and parking areas must be designed to take advantage of natural vegetation and topography to achieve maximum screening from view from public waters. Documentation must be provided by a qualified individual that all roads and parking areas are designed and constructed to minimize and control erosion to public waters consistent with the field office technical guides of the local soil and water conservation district, or other applicable technical materials.
 - (2) Roads, driveways, and parking areas must meet structure setbacks and must not be placed within bluff and shore impact zones, when other reasonable and feasible placement alternatives exist. If no alternatives exist, they may be placed within these areas, and must be designed to minimize adverse impacts.
 - (3)

Public and private watercraft access ramps, approach roads, and access-related parking areas may be placed within shore impact zones provided the vegetative screening and erosion control conditions of this subpart are met. For private facilities, the grading and filling provisions of subsection 60-4(d)(2) above must be met.

(f) *Reserved.*

(g) *Special provisions for commercial, and public/semipublic uses.*

- (1) Surface water-oriented commercial uses and industrial, public, or semipublic uses with similar needs to have access to and use of public waters may be located on parcels or lots with frontage on public waters. Those uses with water-oriented needs must meet the following standards:
 - a. In addition to meeting impervious coverage limits, setbacks, and other zoning standards in this Appendix E, the uses must be designed to incorporate topographic and vegetative screening of parking areas and structures;
 - b. Uses that require short-term watercraft mooring for patrons must centralize these facilities and design them to avoid obstructions of navigation and to be the minimum size necessary to meet the need; and
 - c. Uses that depend on patrons arriving by watercraft may use signs and lighting to convey needed information to the public, subject to the following general standards:
 1. No advertising signs or supporting facilities for signs may be placed in or upon public waters. Signs conveying information or safety messages may be placed in or on public waters by a public authority or under a permit issued by the county sheriff;
 2. Signs may be placed, when necessary, within the shore impact zone if they are designed and sized to be the minimum necessary to convey needed information. The signs must not be located higher than ten feet above the ground, and must not exceed 32 square feet in size. If illuminated by artificial lights, the lights must be shielded or directed to prevent illumination out across public waters; and
 3. Other outside lighting may be located within the shore impact zone or over public waters if it is used primarily to illuminate potential safety hazards and is shielded or otherwise directed to prevent direct illumination out across public waters. This does not preclude use of navigational lights.
 - (2) Uses without water-oriented needs must be located on lots or parcels without public waters frontage, or, if located on lots or parcels with public waters frontage, must either be set back double the normal ordinary high water level setback or be substantially screened from view from the water by vegetation or topography, assuming summer, leaf-on conditions.
- (h) *Conditional use criteria and conditions.* Conditional uses allowable within shoreland areas shall be subject to the review and approval procedures, and criteria and conditions for review of conditional uses established community-wide. The following additional evaluation criteria and conditions apply within shoreland areas:

- (1) *Evaluation criteria.* A thorough evaluation of the waterbody and the topographic, vegetation, and soils conditions on the site must be made to ensure:
 - a. The prevention of soil erosion or other possible pollution of public waters, both during and after construction;
 - b. The visibility of structures and other facilities as viewed from public waters is limited;
 - c. The types, uses, and numbers of watercraft that the project will generate are compatible in relation to the suitability of public waters to safely accommodate these watercraft.
- (2) *Conditions attached to conditional use permits.* The city council, upon consideration of the criteria listed above and the purposes of this section, may attach such conditions to the issuance of the conditional use permits as it deems necessary to fulfill the purposes of this Appendix E. Such conditions may include, but are not limited to, the following:
 - a. Increased setbacks from the ordinary high water level;
 - b. Limitations on the natural vegetation to be removed or the requirement that additional vegetation be planted; and
 - c. Special provisions for the location, design, and use of structures, watercraft launching and docking areas, and vehicle parking areas.

(Ord. No. 401, 10-2-2006; Ord. No. 441, § 4, 7-20-2009; Ord. No. 495, § 10, 4-1-2013; Ord. No. 558, § 2, 4-17-2017)

Sec. 60-5. - Nonconformities.

All legally established nonconformities as of the date of this Appendix E may continue as provided in article 15. In addition, the following standards will also apply in shoreland areas:

- (1) *Construction on nonconforming lots of record.*
 - a. Lots of record in the office of the county recorder on the date of enactment of article 60 that do not meet the requirements of subsection 60-4(a) may be allowed as building sites without variances from lot size requirements provided the use is permitted in the zoning district, the lot has been in separate ownership from abutting lands at all times since it became substandard, was created compliant with official controls in effect at the time, setback requirements of this Appendix E are met, and the requirements of section 15-5 of this Appendix E are met.
 - b. A variance from setback requirements must be obtained before any use or building permit is issued for a lot. In evaluating the variance, the city council shall consider capabilities or constraints of the lot and shall deny the variance if adequate facilities cannot be provided.
 - c. If, in a group of two or more contiguous lots which have come under the same ownership after February 9, 2003, any individual lot does not meet the requirements of section 60-4(a) of this Appendix E, the lot must not be considered as a separate parcel of land for the purposes of

sale or development. The lot must be combined with one or more contiguous lots so they equal one or more parcels of land, each meeting the requirements of subsection 60-4(a) as much as possible.

(2) *Additions/expansions to nonconforming structures.*

- a. All additions or expansions to the outside dimensions of an existing nonconforming structure must meet the setback, height, and other requirements of subsection 60-4(a) of this Appendix E. Any deviation from these requirements must be authorized by a variance pursuant to article 6 of this Appendix E.
- b. Deck additions which do not extend above the ground level of the principal building shall be permitted as provided by section 17-6, but shall be located no closer than ten feet from the OHWL.
- c. Deck additions which extend above the height of the ground level of the principal building may be allowed without a variance to a structure not meeting the required setback from the ordinary high water level, if all of the following criteria and standards are met:
 1. The structure existed on the date the structure setbacks were established;
 2. A thorough evaluation of the property and structure reveals no reasonable location for a deck meeting or exceeding the existing ordinary high water level setback of the structure;
 3. The deck encroachment toward the ordinary high water level does not exceed 15 percent of the existing setback of the structure from the ordinary high water level or does not encroach closer than 30 feet, whichever is more restrictive; and
 4. The deck is constructed primarily of wood, and is not roofed or screened.

ARTICLE 61. - GENERAL FLOODPLAIN DISTRICT^[14]*Footnotes:*

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Editor's note— Ord. No. 547, adopted Oct. 17, 2016, amended former Art. 61, §§ 61-1—61-13, in its entirety to read as herein set out. Former Art. 61 pertained to similar subject matter and derived from Ord. of 2-9-2003; Ord. No. 380, 8-16-2004; Ord. No. 441, § 5, 7-20-2009.

Sec. 61-1. - Statutory authorization and purpose.

- (a) *Statutory authorization:* The legislature of the State of Minnesota has, in Minnesota Statutes Chapter 103F and Chapter 462 delegated the responsibility to local government units to adopt regulations designed to minimize flood losses. Therefore, the city council of Excelsior, Minnesota, does ordain as follows.
- (b) *Purpose:*
- (1) This article regulates development in the flood hazard areas of the city. These flood hazard areas are subject to periodic inundation, which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base. It is the purpose of this article to promote the public health, safety, and general welfare by minimizing these losses and disruptions.
 - (2) National Flood Insurance Program compliance. This article is adopted to comply with the rules and regulations of the National Flood Insurance Program codified as 44 Code of Federal Regulations Parts 59—78, as amended, so as to maintain the community's eligibility in the National Flood Insurance Program.
 - (3) This article is also intended to preserve the natural characteristics and functions of watercourses and floodplains in order to moderate flood and stormwater impacts, improve water quality, reduce soil erosion, protect aquatic and riparian habitat, provide recreational opportunities, provide aesthetic benefits and enhance community and economic development.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-2. - General provisions.

- (a) *How to use this article.* This article adopts the floodplain maps applicable to the City of Excelsior and includes three floodplain districts: floodway, flood fringe, and general floodplain.
- (1) Where floodway and flood fringe districts are delineated on the floodplain maps, the standards in sections 61-4 or 61-5 will apply, depending on the location of a property.
 - (2) Locations where floodway and flood fringe districts are not delineated on the floodplain maps are considered to fall within the general floodplain district. Within the general floodplain district, the floodway district standards in section 61-4 apply unless the floodway boundary is determined,

according to the process outlined in section 61-6. Once the floodway boundary is determined, the flood fringe district standards in section 61-5 may apply outside the floodway.

- (b) *Lands to which this article applies:* This article applies to all lands within the jurisdiction of the City of Excelsior shown on the official zoning map and/or the attachments to the map as being located within the boundaries of the floodway, flood fringe, or general floodplain districts.
- (1) The floodway, flood fringe and general floodplain districts are overlay districts that are superimposed on all existing zoning districts. The standards imposed in the overlay districts are in addition to any other requirements in this article. In case of a conflict, the more restrictive standards will apply.
- (c) *Incorporation of maps by reference:* The following maps together with all attached material are hereby adopted by reference and declared to be a part of the official zoning map and this article. The attached material includes the Flood Insurance Study for Hennepin County, Minnesota, and Incorporated Areas, dated November 4, 2016 and the Flood Insurance Rate Map panels enumerated below, dated November 4, 2016, all prepared by the Federal Emergency Management Agency. These materials are on file at City Hall.

Effective Flood Insurance Rate Map panels:

27053C031F

27053C031F

27053C031F

- (d) *Regulatory flood protection elevation:* The regulatory flood protection elevation (RFPE) is an elevation no lower than one foot above the elevation of the regional flood plus any increases in flood elevation caused by encroachments on the floodplain that result from designation of a floodway.
- (e) *Interpretation:* The boundaries of the zoning districts are determined by scaling distances on the flood insurance rate map.
- (1) Where a conflict exists between the floodplain limits illustrated on the official zoning map and actual field conditions, the flood elevations shall be the governing factor. The zoning administrator must interpret the boundary location based on the ground elevations that existed on the site on the date of the first National Flood Insurance Program map showing the area within the regulatory floodplain, and other available technical data.
- (2) Persons contesting a determination on the location of the district boundaries will be given a reasonable opportunity to present their case to the zoning administrator and to submit technical evidence.
- (f) *Abrogation and greater restrictions:* It is not intended by this article to repeal, abrogate, or impair any existing easements, covenants, or other private agreements. However, where this article imposes greater restrictions, the provisions of this ordinance prevail. All other ordinances inconsistent with this article are hereby repealed to the extent of the inconsistency only.

- (g) *Warning and disclaimer of liability:* This article does not imply that areas outside the floodplain districts or land uses permitted within such districts will be free from flooding or flood damages. This article does not create liability on the part of the city or its officers or employees for any flood damages that result from reliance on this article or any administrative decision lawfully made hereunder.
- (h) *Severability:* If any section, clause, provision, or portion of this article is adjudged unconstitutional or invalid by a court of law, the remainder of this article shall not be affected and shall remain in full force.
- (i) *Definitions:* Unless specifically defined below, words or phrases used in this article must be interpreted according to common usage and so as to give this article its most reasonable application.

Accessory use or structure. A use or structure on the same lot with, and of a nature customarily incidental and subordinate to, the principal use or structure.

Base flood elevation. The elevation of the "regional flood." The term "base flood elevation" is used in the flood insurance survey.

Basement. Any area of a structure, including crawl spaces, having its floor or base subgrade (below ground level) on all four sides, regardless of the depth of excavation below ground level.

Conditional use. A specific type of structure or land use listed in the official control that may be allowed but only after an in-depth review procedure and with appropriate conditions or restrictions as provided in the official zoning controls or building codes and upon a finding that:

- (1) Certain conditions as detailed in the zoning ordinance exist.
- (2) The structure and/or land use conform to the comprehensive land use plan if one exists and are compatible with the existing neighborhood.

Critical facilities. Facilities necessary to a community's public health and safety, those that store or produce highly volatile, toxic or water-reactive materials, and those that house occupants that may be insufficiently mobile to avoid loss of life or injury. Examples of critical facilities include hospitals, correctional facilities, schools, daycare facilities, nursing homes, fire and police stations, wastewater treatment facilities, public electric utilities, water plants, fuel storage facilities, and waste handling and storage facilities.

Development. Any manmade change to improved or unimproved real estate, including buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.

Equal degree of encroachment. A method of determining the location of floodway boundaries so that floodplain lands on both sides of a stream are capable of conveying a proportionate share of flood flows.

Farm fence. A fence as defined by Minn. Statutes Section 344.02, Subd. 1(a)—(d). An open type fence of posts and wire is not considered to be a structure under this ordinance. Fences that have the potential to obstruct flood flows, such as chain link fences and rigid walls, are regulated as structures under this article.

Flood. A temporary increase in the flow or stage of a stream or in the stage of a wetland or lake that results in the inundation of normally dry areas.

Flood frequency. The frequency for which it is expected that a specific flood stage or discharge may be equaled or exceeded.

Flood fringe. The portion of the special flood hazard area (one percent annual chance flood) located outside of the floodway. Flood fringe is synonymous with the term "floodway fringe" used in the Flood Insurance Study for Hennepin County, Minnesota.

Flood insurance rate map. Consistent with 44 CFR Section 59.1.

Flood prone area. Any land susceptible to being inundated by water from any source (see "flood").

Floodplain. The beds proper and the areas adjoining a wetland, lake or watercourse which have been or hereafter may be covered by the regional flood.

Floodproofing. A combination of structural provisions, changes, or adjustments to properties and structures subject to flooding, primarily for the reduction or elimination of flood damages.

Floodway. The bed of a wetland or lake and the channel of a watercourse and those portions of the adjoining floodplain which are reasonably required to carry or store the regional flood discharge.

Lowest floor. The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, used solely for parking of vehicles, building access, or storage in an area other than a basement area, is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of 44 Code of Federal Regulations, Part 60.3.

Manufactured home. A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured home" does not include the term "recreational vehicle."

New construction. Structures, including additions and improvements, and placement of manufactured homes, for which the start of construction commenced on or after the effective date of the ordinance from which this article derives.

Obstruction. Any dam, wall, wharf, embankment, levee, dike, pile, abutment, projection, excavation, channel modification, culvert, building, wire, fence, stockpile, refuse, fill, structure, or matter in, along, across, or projecting into any channel, watercourse, or regulatory floodplain which may impede, retard, or change the direction of the flow of water, either in itself or by catching or collecting debris carried by such water.

One hundred-year floodplain. Lands inundated by the "regional flood" (see definition).

Principal use or structure. All uses or structures that are not accessory uses or structures.

Reach. A hydraulic engineering term to describe a longitudinal segment of a stream or river influenced by a natural or man-made obstruction. In an urban area, the segment of a stream or river between two consecutive bridge crossings would most typically constitute a reach.

Recreational vehicle. A vehicle that is built on a single chassis, is 400 square feet or less when measured at the largest horizontal projection, is designed to be self-propelled or permanently towable by a light duty truck, and is designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use. For the purposes of this ordinance, the term recreational vehicle is synonymous with the term "travel trailer/travel vehicle."

Regional flood. A flood which is representative of large floods known to have occurred generally in Minnesota and reasonably characteristic of what can be expected to occur on an average frequency in the magnitude of the 1% chance or 100-year recurrence interval. Regional flood is synonymous with the term "base flood" used in a flood insurance study.

Regulatory flood protection elevation (RFPE). An elevation not less than one foot above the elevation of the regional flood plus any increases in flood elevation caused by encroachments on the floodplain that result from designation of a floodway.

Repetitive loss: Flood related damages sustained by a structure on two separate occasions during a ten-year period for which the cost of repairs at the time of each such flood event on the average equals or exceeds 25 percent of the market value of the structure before the damage occurred.

Special flood hazard area. A term used for flood insurance purposes synonymous with "one hundred-year floodplain."

Start of construction. Includes substantial improvement, and means the actual start of construction, repair, reconstruction, rehabilitation, addition, placement or other improvement that occurred before the permit's expiration date. The actual start is either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, foundations, or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

Structure. Anything constructed or erected on the ground or attached to the ground or on-site utilities, including, but not limited to, buildings, factories, sheds, detached garages, cabins, manufactured homes, recreational vehicles not meeting the exemption criteria specified in subsection 61-9(b)(2) and other similar items.

Substantial damage means damage of any origin sustained by a structure where the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

Substantial improvement. Within any consecutive 365-day period, any reconstruction, rehabilitation (including normal maintenance and repair), repair after damage, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures that have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either:

- (1) Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions.
 - (2) Any alteration of a "historic structure," provided that the alteration will not preclude the structure's continued designation as a "historic structure." For the purpose of this ordinance, "historic structure" is as defined in 44 Code of Federal Regulations, Part 59.1.
- (j) *Annexations:* The flood insurance rate map panels adopted by reference into subsection 61-2(c) above may include floodplain areas that lie outside of the corporate boundaries of the city at the time of adoption of the ordinance from which this article derives. If any of these floodplain land areas are annexed into the city after the date of adoption of the ordinance from which this article derives, the newly annexed floodplain lands will be subject to the provisions of this article immediately upon the date of annexation.
- (k) *Detachments.* The flood insurance rate map panels adopted by reference into subsection 61-2(c) above will include floodplain areas that lie inside the corporate boundaries of municipalities at the time of adoption of the ordinance from which this article derives. If any of these floodplain land areas are detached from a municipality and come under the jurisdiction of the city after the date of adoption of the ordinance from which this article derives, the newly detached floodplain lands will be subject to the provisions of this article immediately upon the date of detachment.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-3. - Establishment of zoning districts.

(a) *Districts:*

(1)

Floodway district. The floodway district includes those areas within zones AE that have a floodway delineated as shown on the flood insurance rate map adopted in subsection 61-2(c) as well as portions of other lakes, wetlands, and basins within zones AE (that do not have a floodway delineated) that are located at or below the ordinary high water level as defined in Minnesota Statutes, Section 103G.005, subdivision 14.

(2) Flood fringe district. The flood fringe district includes areas within Zones AE that have a floodway delineated on the flood insurance rate map adopted in subsection 61-2(c), but are located outside of the floodway. For lakes, wetlands and other basins within zones AE that do not have a floodway delineated, the flood fringe district also includes those areas below the 1% annual chance (100-year) flood elevation but above the ordinary high water level as defined in Minnesota Statutes, Section 103G.005, subdivision 14.

(3) Reserved for general floodplain district (GF).

(b) *Applicability:* Within the floodplain districts established in this ordinance, the use, size, type and location of development must comply with the terms of this ordinance and other applicable regulations. In no cases shall floodplain development adversely affect the efficiency or unduly restrict the capacity of the channels or floodways of any tributaries to the main stream, drainage ditches, or any other drainage facilities or systems. All uses not listed as permitted uses or conditional uses in sections 61-4, 61-5 and 61-6 are prohibited. In addition, critical facilities, as defined in subsection 61-2(i), are prohibited in all floodplain districts.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-4. - Floodway district (FW).

- (a) *Permitted uses:* The following uses, subject to the standards set forth in subsection 61-4(b), are permitted uses if otherwise allowed in the underlying zoning district or any applicable overlay district:
- (1) Open space uses, including but not limited to picnic grounds, boat launching ramps, swimming areas, parks, wildlife and nature preserves, hunting and fishing areas
 - (2) Residential lawns, gardens.
 - (3) Railroads, streets, bridges, utility transmission lines and pipelines, provided that the Department of Natural Resources' area hydrologist is notified at least ten days prior to issuance of any permit.
- (b) *Standards for floodway permitted uses:*
- (1) The use must have a low flood damage potential.
 - (2) The use must not obstruct flood flows or cause any increase in flood elevations and must not involve structures, obstructions, or storage of materials or equipment.
- (c) *Conditional uses:* The following uses may be allowed as conditional uses following the standards and procedures set forth in subsection 61-10(d) and further subject to the standards set forth in subsection 61-10(d), if otherwise allowed in the underlying zoning district or any applicable overlay district.

- (1) Marinas, boat rentals, permanent docks, piers, wharves, and water control structures.
 - (2) Storage yards for equipment, machinery, or materials.
 - (3) Placement of fill or construction of fences that obstruct flood flows.
- (d) *Standards for floodway conditional uses:*
- (1) All uses. A conditional use must not cause any increase in the stage of the one-percent chance or regional flood or cause an increase in flood damages in the reach or reaches affected.
 - (2) Fill; storage of materials:
 - a. The storage or processing of materials that are, in time of flooding, flammable, explosive, or potentially injurious to human, animal, or plant life is prohibited.
 - b. Fill, dredge spoil, and other similar materials deposited or stored in the floodplain must be protected from erosion by vegetative cover, mulching, riprap or other acceptable method.
 - c. Temporary placement of fill, other materials, or equipment which would cause an increase to the stage of the 1% percent chance or regional flood may only be allowed if the City of Excelsior has approved a plan that assures removal of the materials from the floodway based upon the flood warning time available.
 - (3) Structural works for flood control that will change the course, current or cross section of protected wetlands or public waters are subject to the provisions of Minnesota Statutes, Section 103G.245.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-5. - Flood fringe district (FF).

- (a) *Permitted uses:* Permitted uses are those uses of land or structures allowed in the underlying zoning district(s) that comply with the standards in subsection 61-5(b). If no pre-existing, underlying zoning districts exist, then any residential or nonresidential structure or use of a structure or land is a permitted use provided it does not constitute a public nuisance.
- (b) *Standards for flood fringe permitted uses:*
- (1) All structures, including accessory structures, must be elevated on fill so that the lowest floor, as defined, is at or above the regulatory flood protection elevation. The finished fill elevation for structures must be no lower than one foot below the regulatory flood protection elevation and the fill must extend at the same elevation at least 15 feet beyond the outside limits of the structure.
 - (2) Accessory structures. As an alternative to the fill requirements of subsection 61-5(b)(1), structures accessory to the uses identified in subsection 61-55(a) may be permitted to be internally/wet floodproofed to the FP3 or FP4 floodproofing classifications in the State Building Code, provided that:
 - a. The accessory structure constitutes a minimal investment, does not exceed 576 square feet in size, and is only used for parking and storage.
 - b.

All portions of floodproofed accessory structures below the regulatory flood protection elevation must be: (i) adequately anchored to prevent flotation, collapse or lateral movement and designed to equalize hydrostatic flood forces on exterior walls, (ii) be constructed with materials resistant to flood damage, and (iii) must have all service utilities be water-tight or elevated to above the regulatory flood protection elevation.

- c. Designs for meeting this requirement must either be certified by a registered professional engineer or meet or exceed the following criteria:
1. To allow for the equalization of hydrostatic pressure, there must be a minimum of two "automatic" openings in the outside walls of the structure, with a total net area of not less than one square inch for every square foot of enclosed area subject to flooding; and
 2. There must be openings on at least two sides of the structure and the bottom of all openings must be no higher than one foot above the lowest adjacent grade to the structure. Using human intervention to open a garage door prior to flooding will not satisfy this requirement for automatic openings.
- (3) The cumulative placement of fill or similar material on a parcel must not exceed 1,000 cubic yards, unless the fill is specifically intended to elevate a structure in accordance with subsection 61-5(b)(1) of this article, or if allowed as a conditional use under subsection 61-5(c)(3) below.
- (4) The storage of any materials or equipment must be elevated on fill to the regulatory flood protection elevation.
- (5) All service utilities, including ductwork, must be elevated or water-tight to prevent infiltration of floodwaters.
- (6) The storage or processing of materials that are, in time of flooding, flammable, explosive, or potentially injurious to human, animal, or plant life is prohibited.
- (7) All fill must be properly compacted and the slopes must be properly protected by the use of riprap, vegetative cover or other acceptable method.
- (8) All new principal structures must have vehicular access at or above an elevation not more than two feet below the regulatory flood protection elevation, or must have a flood warning /emergency evacuation plan acceptable to the city.
- (9) Accessory uses such as yards, railroad tracks, and parking lots may be at an elevation lower than the regulatory flood protection elevation. However, any facilities used by employees or the general public must be designed with a flood warning system that provides adequate time for evacuation if the area is inundated to a depth and velocity such that the depth (in feet) multiplied by the velocity (in feet per second) would exceed a product of four upon occurrence of the regional (one-percent chance) flood.
- (10) Interference with normal manufacturing/industrial plant operations must be minimized, especially along streams having protracted flood durations. In considering permit applications, due consideration must be given to the needs of industries with operations that require a floodplain

location.

(11) Manufactured homes and recreational vehicles must meet the standards of section 61-9.

(c) *Conditional uses:* The following uses and activities may be allowed as conditional uses, if allowed in the underlying zoning district(s) or any applicable overlay district, following the procedures in subsection 61-10(d).

(1) Any structure that is not elevated on fill or floodproofed in accordance with subsections 61-5(b)(1) and (2).

(2) Storage of any material or equipment below the regulatory flood protection elevation.

(3) The cumulative placement of more than 1,000 cubic yards of fill when the fill is not being used to elevate a structure in accordance with subsection 61-5(b)(1)e.

(d) *Standards for flood fringe conditional uses:*

(1) The standards listed in subsections 61-5(4) through 61-5(b)(10) apply to all conditional uses.

(2) Basements, as defined by Section 2.913 of this ordinance, are subject to the following:

a. Residential basement construction is not allowed below the regulatory flood protection elevation.

b. Non-residential basements may be allowed below the regulatory flood protection elevation provided the basement is structurally dry floodproofed in accordance with subsection 61-5(d) (3).

(3) All areas of nonresidential structures, including basements, to be placed below the regulatory flood protection elevation must be floodproofed in accordance with the structurally dry floodproofing classifications in the state building code. Structurally dry floodproofing must meet the FP1 or FP2 floodproofing classification in the state building code, which requires making the structure watertight with the walls substantially impermeable to the passage of water and with structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy.

(4) The placement of more than 1,000 cubic yards of fill or other similar material on a parcel (other than for the purpose of elevating a structure to the regulatory flood protection elevation) must comply with an approved erosion/sedimentation control plan.

a. The plan must clearly specify methods to be used to stabilize the fill on site for a flood event at a minimum of the regional (1% chance) flood event.

b. The plan must be prepared and certified by a registered professional engineer or other qualified individual acceptable to the city.

c. The plan may incorporate alternative procedures for removal of the material from the floodplain if adequate flood warning time exists.

(5) Storage of materials and equipment below the regulatory flood protection elevation must comply with an approved emergency plan providing for removal of such materials within the time available after a flood warning.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-6. - Reserved for general floodplain district (GF).

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-7. - Land development standards.

- (a) *In general:* Recognizing that flood prone areas may exist outside of the designated floodplain districts, the requirements of this section apply to all land within the city.
- (b) *Subdivisions:* No land may be subdivided which is unsuitable for reasons of flooding or inadequate drainage, water supply or sewage treatment facilities. Manufactured home parks and recreational vehicle parks or campgrounds are considered subdivisions under this article.
- (1) All lots within the floodplain districts must be able to contain a building site outside of the floodway district at or above the regulatory flood protection elevation.
 - (2) All subdivisions must have road access both to the subdivision and to the individual building sites no lower than two feet below the regulatory flood protection elevation, unless a flood warning emergency plan for the safe evacuation of all vehicles and people during the regional (one-percent chance) flood has been approved by the city. The plan must be prepared by a registered engineer or other qualified individual, and must demonstrate that adequate time and personnel exist to carry out the evacuation.
 - (3) For all subdivisions in the floodplain, the floodway and flood fringe district boundaries, the regulatory flood protection elevation and the required elevation of all access roads must be clearly labeled on all required subdivision drawings and platting documents.
 - (4) If a subdivision proposal or other proposed new development is in a flood prone area, any such proposal must be reviewed to assure that:
 - a. All such proposals are consistent with the need to minimize flood damage within the flood prone area;
 - b. All public utilities and facilities, such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damage; and
 - c. Adequate drainage is provided to reduce exposure of flood hazard.
- (c) *Building sites.* If a proposed building site is in a flood prone area, all new construction and substantial improvements (including the placement of manufactured homes) must be:
- (1) Designed (or modified) and adequately anchored to prevent floatation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;
 - (2) Constructed with materials and utility equipment resistant to flood damage;
 - (3) Constructed by methods and practices that minimize flood damage; and
 - (4)

Constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-8. - Public utilities, railroads, roads, and bridges.

- (a) *Public utilities:* All public utilities and facilities such as gas, electrical, sewer, and water supply systems to be located in the floodplain must be floodproofed in accordance with the state building code or elevated to the regulatory flood protection elevation.
- (b) *Public transportation facilities:* Railroad tracks, roads, and bridges to be located within the floodplain must comply with sections 61-4 and 61-5 of this article. These transportation facilities must be elevated to the regulatory flood protection elevation where failure or interruption of these facilities would result in danger to the public health or safety or where such facilities are essential to the orderly functioning of the area. Minor or auxiliary roads or railroads may be constructed at a lower elevation where failure or interruption of transportation services would not endanger the public health or safety.
- (c) *On-site water supply and sewage treatment systems:* Where public utilities are not provided: 1) On-site water supply systems must be designed to minimize or eliminate infiltration of flood waters into the systems and are subject to the provisions in Minnesota Rules Chapter 4725.4350, as amended; and 2) New or replacement on-site sewage treatment systems must be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters, they must not be subject to impairment or contamination during times of flooding, and are subject to the provisions in Minnesota Rules Chapter 7080.2270, as amended.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-9. - Manufactured homes, manufactured home parks, and recreational vehicles.

- (a) *Manufactured homes:* New manufactured home parks and expansions to existing manufactured home parks are prohibited in any floodplain district. For existing manufactured home parks or lots of record, the following requirements apply:
 - (1) Placement or replacement of manufactured home units is prohibited in the floodway district.
 - (2) If allowed in the flood fringe district, placement or replacement of manufactured home units is subject to the requirements of section 61-5 of this article and the following standards.
 - a. New and replacement manufactured homes must be elevated in compliance with section 61-55 and must be securely anchored to an adequately anchored foundation system that resists flotation, collapse and lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state or local anchoring requirements for resisting wind forces.

b.

New or replacement manufactured homes in existing manufactured home parks must meet the vehicular access requirements for subdivisions in subsection 61-7(b)(2).

- (b) *Recreational vehicles:* New recreational vehicle parks or campgrounds and expansions to existing recreational vehicle parks or campgrounds are prohibited in any floodplain district. Placement of recreational vehicles in existing recreational vehicle parks or campgrounds in the floodplain must meet the exemption criteria below or be treated as new structures meeting the requirements of this article.
- (1) Recreational vehicles are exempt from the provisions of this article if they are placed in any of the following areas and meet the criteria listed in subsection 61-9(b)(2):
- a. Individual lots or parcels of record.
 - b. Existing commercial recreational vehicle parks or campgrounds.
 - c. Existing condominium-type associations.
- (2) Criteria for exempt recreational vehicles:
- a. The vehicle must have a current license required for highway use.
 - b. The vehicle must be highway ready, meaning on wheels or the internal jacking system, attached to the site only by quick disconnect type utilities commonly used in campgrounds and recreational vehicle parks.
 - c. No permanent structural type additions may be attached to the vehicle.
 - d. The vehicle and associated use must be permissible in any pre-existing, underlying zoning district.
 - e. Accessory structures are not permitted within the Floodway District. Any accessory structure in the Flood Fringe District must be constructed of flood-resistant materials and be securely anchored, meeting the requirements applicable to manufactured homes in Section 9.22.
 - f. An accessory structure must constitute a minimal investment.
- (3) Recreational vehicles that are exempt in subsection 61-9(b)(2) lose this exemption when development occurs on the site that exceeds a minimal investment for an accessory structure such as a garage or storage building. The recreational vehicle and all accessory structures will then be treated as new structures subject to the elevation and floodproofing requirements of section 61-5 of this article. No development or improvement on the parcel or attachment to the recreational vehicle is allowed that would hinder the removal of the vehicle should flooding occur.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-10. - Administration.

- (a) *Zoning administrator:* A zoning administrator or other official designated by the city council must administer and enforce this article.
- (b) *Permit requirements:*
- (1)

Permit required. A permit must be obtained from the zoning administrator prior to conducting the following activities:

- a. The erection, addition, modification, rehabilitation, or alteration of any building, structure, or portion thereof. Normal maintenance and repair also requires a permit if such work, separately or in conjunction with other planned work, constitutes a substantial improvement as defined in this article.
 - b. The use or change of use of a building, structure, or land.
 - c. The construction of a dam, fence, or on-site septic system, although a permit is not required for a farm fence as defined in this article.
 - d. The change or extension of a nonconforming use.
 - e. The repair of a structure that has been damaged by flood, fire, tornado, or any other source.
 - f. The placement of fill, excavation of materials, or the storage of materials or equipment within the floodplain.
 - g. Relocation or alteration of a watercourse (including new or replacement culverts and bridges), unless a public waters work permit has been applied for.
 - h. Any other type of "development" as defined in this article.
- (2) *Application for permit.* Permit applications must be submitted to the zoning administrator on forms provided by the zoning administrator. The permit application must include the following as applicable:
- a. A site plan showing all pertinent dimensions, existing or proposed buildings, structures, and significant natural features having an influence on the permit.
 - b. Location of fill or storage of materials in relation to the stream channel.
 - c. Copies of any required municipal, county, state or federal permits or approvals.
 - d. Other relevant information requested by the zoning administrator as necessary to properly evaluate the permit application.
- (3) ***Certificate of zoning compliance for a new, altered, or nonconforming use.*** No building, land or structure may be occupied or used in any manner until a certificate of zoning compliance has been issued by the zoning administrator stating that the use of the building or land conforms to the requirements of this article.
- (4) *Certification.* The applicant is required to submit certification by a registered professional engineer, registered architect, or registered land surveyor that the finished fill and building elevations were accomplished in compliance with the provisions of this ordinance. Floodproofing measures must be certified by a registered professional engineer or registered architect.
- (5) *Record of First Floor Elevation.* The zoning administrator must maintain a record of the elevation of the lowest floor (including basement) of all new structures and alterations or additions to existing structures in the floodplain. The zoning administrator must also maintain a record of the elevation to which structures and alterations or additions to structures are floodproofed.

(6) *Notification to FEMA when physical changes increase or decrease base flood elevations.* As soon as is practicable, but not later than six months after the date such supporting information becomes available, the zoning administrator must notify the Chicago Regional Office of FEMA of the changes by submitting a copy of the relevant technical or scientific data.

(c) *Variances:*

- (1) *Variance applications.* An application for a variance to the provisions of this article will be processed and reviewed in accordance with applicable state statutes and Article 6 of this Appendix E of the City of Excelsior of the Code of Ordinances.
- (2) *Adherence to state floodplain management standards.* A variance must not allow a use that is not allowed in that district, permit a lower degree of flood protection than the regulatory flood protection elevation for the particular area, or permit standards lower than those required by state law.
- (3) *Additional variance criteria.* The following additional variance criteria of the Federal Emergency Management Agency must be satisfied:
 - a. Variances must not be issued by a community within any designated regulatory floodway if any increase in flood levels during the base flood discharge would result.
 - b. Variances may only be issued by a community upon (i) a showing of good and sufficient cause, (ii) a determination that failure to grant the variance would result in exceptional hardship to the applicant, and (iii) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
 - c. Variances may only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- (4) *Flood insurance notice.* The zoning administrator must notify the applicant for a variance that: 1) The issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance up to amounts as high as \$25.00 for \$100.00 of insurance coverage; and 2) Such construction below the base or regional flood level increases risks to life and property. Such notification must be maintained with a record of all variance actions.
- (5) *General considerations.* The community may consider the following factors in granting variances and imposing conditions on variances and conditional uses in floodplains:
 - a. The potential danger to life and property due to increased flood heights or velocities caused by encroachments;
 - b. The danger that materials may be swept onto other lands or downstream to the injury of others;
 - c. The proposed water supply and sanitation systems, if any, and the ability of these systems to minimize the potential for disease, contamination and unsanitary conditions;

- d. The susceptibility of any proposed use and its contents to flood damage and the effect of such damage on the individual owner;
 - e. The importance of the services to be provided by the proposed use to the community;
 - f. The requirements of the facility for a waterfront location;
 - g. The availability of viable alternative locations for the proposed use that are not subject to flooding;
 - h. The compatibility of the proposed use with existing development and development anticipated in the foreseeable future;
 - i. The relationship of the proposed use to the Comprehensive Land Use Plan and flood plain management program for the area;
 - j. The safety of access to the property in times of flood for ordinary and emergency vehicles;
 - k. The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters expected at the site.
- (6) *Submittal of hearing notices to the Department of Natural Resources (DNR).* The zoning administrator must submit hearing notices for proposed variances to the DNR sufficiently in advance to provide at least ten days' notice of the hearing. The notice may be sent by electronic mail or U.S. Mail to the respective DNR area hydrologist.
- (7) *Submittal of final decisions to the DNR.* A copy of all decisions granting variances must be forwarded to the DNR within ten days of such action. The notice may be sent by electronic mail or U.S. Mail to the respective DNR area hydrologist.
- (8) *Record-keeping.* The ZONING Administrator must maintain a record of all variance actions, including justification for their issuance, and must report such variances in an annual or biennial report to the Administrator of the National Flood Insurance Program, when requested by the Federal Emergency Management Agency.
- (d) *Conditional uses:*
- (1) *Administrative review.* An application for a conditional use permit under the provisions of this article will be processed and reviewed in accordance with Article 4 of Appendix E of City Code of Ordinances.
 - (2) *Factors used in decision-making.* In passing upon conditional use applications, the city council must consider all relevant factors specified in other sections of this article, and those factors identified in subsection 61-10(c)(5) of this article.
 - (3) *Conditions attached to conditional use permits.* The city council may attach such conditions to the granting of conditional use permits as it deems necessary to fulfill the purposes of this article. Such conditions may include, but are not limited to, the following:
 - a. Modification of waste treatment and water supply facilities.
 - b. Limitations on period of use, occupancy, and operation.
 - c. Imposition of operational controls, sureties, and deed restrictions.

- d. Requirements for construction of channel modifications, compensatory storage, dikes, levees, and other protective measures.
 - e. Floodproofing measures, in accordance with the state building code and this article. The applicant must submit a plan or document certified by a registered professional engineer or architect that the floodproofing measures are consistent with the regulatory flood protection elevation and associated flood factors for the particular area.
- (4) *Submittal of hearing notices to the Department of Natural Resources (DNR).* The zoning administrator must submit hearing notices for proposed conditional uses to the DNR sufficiently in advance to provide at least ten days' notice of the hearing. The notice may be sent by electronic mail or U.S. Mail to the respective DNR area hydrologist.
- (5) *Submittal of final decisions to the DNR.* A copy of all decisions granting conditional uses must be forwarded to the DNR within ten days of such action. The notice may be sent by electronic mail or U.S. Mail to the respective DNR area hydrologist.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-11. - Nonconformities.

- (a) *Continuance of nonconformities:* A use, structure, or occupancy of land which was lawful before the passage or amendment of the ordinance from which this article derives but which is not in conformity with the provisions of this article may be continued subject to the following conditions. Historic structures, as defined in subsection 61-2(i) of this article, are subject to the provisions of subsections 61-11(a)(1)—61-11(a)(6) of this article.
- (1) A nonconforming use, structure, or occupancy must not be expanded, changed, enlarged, or altered in a way that increases its flood damage potential or degree of obstruction to flood flows except as provided in subsection 61-11(a)(2) below. Expansion or enlargement of uses, structures or occupancies within the floodway district is prohibited.
 - (2) Any addition or structural alteration to a nonconforming structure or nonconforming use that would result in increasing its flood damage potential must be protected to the regulatory flood protection elevation in accordance with any of the elevation on fill or floodproofing techniques (i.e., FP1 thru FP4 floodproofing classifications) allowable in the State Building Code, except as further restricted in subsection 61-11-(a)(3) and 61-11(a)(7) below.
 - (3) If the cost of all previous and proposed alterations and additions exceeds 50 percent of the market value of any nonconforming structure, that shall be considered substantial improvement, and the entire structure must meet the standards of section 61-4 or 61-5 of this article for new structures, depending upon whether the structure is in the floodway or flood fringe district, respectively. The cost of all structural alterations and additions must include all costs such as construction materials and a reasonable cost placed on all manpower or labor.
 - (4)

If any nonconforming use, or any use of a nonconforming structure, is discontinued for more than one year, any future use of the premises must conform to this article. The assessor must notify the zoning administrator in writing of instances of nonconformities that have been discontinued for a period of more than one year.

- (5) If any nonconformity is substantially damaged, as defined in subsection 61-2(i) of this article, it may not be reconstructed except in conformity with the provisions of this ordinance. The applicable provisions for establishing new uses or new structures in sections 61-4 or 61-5 will apply depending upon whether the use or structure is in the floodway or flood fringe, respectively.
- (6) If any nonconforming use or structure experiences a repetitive loss, as defined in subsection 61-2(i) of this article, it must not be reconstructed except in conformity with the provisions of this article.
- (7) Any substantial improvement, as defined in subsection 61-2(i) of this article, to a nonconforming structure requires that the existing structure and any additions must meet the requirements of sections 61-4 or 61-5 of this article for new structures, depending upon whether the structure is in the floodway or flood fringe district.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-12. - Penalties and enforcement.

- (a) *Violation constitutes a misdemeanor:* Violation of the provisions of this article or failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with grants of variances or conditional uses) constitute a misdemeanor and will be punishable as defined by law.
- (b) *Other lawful action:* Nothing in this article restricts the city from taking such other lawful action as is necessary to prevent or remedy any violation. If the responsible party does not appropriately respond to the zoning administrator within the specified period of time, each additional day that lapses will constitute an additional violation of this ordinance and will be prosecuted accordingly.
- (c) *Enforcement:* Violations of the provisions of this article will be investigated and resolved in accordance with the provisions of Article 10 of Appendix E of the City Code of Ordinances. In responding to a suspected ordinance violation, the zoning administrator and city may utilize the full array of enforcement actions available to it including but not limited to prosecution and fines, injunctions, after-the-fact permits, orders for corrective measures or a request to the National Flood Insurance Program for denial of flood insurance availability to the guilty party. The city must act in good faith to enforce these official controls and to correct ordinance violations to the extent possible so as not to jeopardize its eligibility in the National Flood Insurance Program.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-13. - Amendments.

- (a) *Floodplain designation—Restrictions on removal:* The floodplain designation on the official zoning map must not be removed from floodplain areas unless it can be shown that the designation is in error or that the area has been filled to or above the elevation of the regulatory flood protection elevation and is contiguous to lands outside the floodplain. Special exceptions to this rule may be permitted by the Commissioner of the Department of Natural Resources (DNR) if the Commissioner determines that, through other measures, lands are adequately protected for the intended use.
- (b) *Amendments require DNR approval:* All amendments to this article must be submitted to and approved by the Commissioner of the Department of Natural Resources (DNR) prior to adoption. The commissioner must approve the amendment prior to community approval.
- (c) *Map revisions require ordinance amendments.* The floodplain district regulations must be amended to incorporate any revisions by the Federal Emergency Management Agency to the floodplain maps adopted in subsection 61-2(c) of this article.

(Ord. No. 547, § 1, 10-17-2016)

ARTICLE 36. - GENERAL STORMWATER MANAGEMENT^[9]*Footnotes:**--- (9) ---**Editor's note— Ord. No. 522, § 3, adopted May 4, 2015, repealed former Art. 36, §§ 36-1—36-9, in its entirety and enacted new provisions as herein set out. Former Art. 36 pertained to similar subject matter and derived from Ord. No. 441, § 2, 7-20-2009; Ord. No. 495, § 3, 4-1-2013.**Cross reference— Subdivision general standards and requirements, § 30-141 et seq.; Sewer service, § 34-31 et seq.*

Sec. 36-1. - Statutory authorization.

This article is adopted pursuant to the authorization and policies contained in Minnesota Statutes and Rules.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-2. - Findings.

The city hereby finds that uncontrolled and inadequately planned use of wetlands, woodlands, natural habitat areas, areas subject to soil erosion and areas containing restrictive soils adversely affects the public health, safety and general welfare by impacting water quality and contributing to other environmental problems, creating nuisances, impairing other beneficial uses of environmental resources and hindering the ability of the city to provide adequate water, sewage, flood control, and other community services. In addition, extraordinary public expenditures may be required for the protection of persons and property in such areas and in areas which may be affected by unplanned land usage.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-3. - Purpose.

The purpose of this article is to promote, preserve and enhance the natural resources within the city and protect them from adverse effects occasioned by poorly sited development or incompatible activities by regulating land disturbing or development activities that would have an adverse and potentially irreversible impact on water quality and unique and fragile environmentally sensitive land; by minimizing conflicts and encouraging compatibility between land disturbing and development activities and water quality and environmentally sensitive lands; and by requiring detailed review standards and procedures for land disturbing or development activities proposed for such areas, thereby achieving a balance between urban growth and development and protection of water quality and natural areas.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-4. - Scope and effect.

- (a) *Applicability.* Every applicant for a building permit, subdivision approval, or a permit to allow land disturbing activities must submit a stormwater management plan to the city. No building permit, subdivision approval, or permit to allow land disturbing activities shall be issued until approval of the stormwater management plan or a variance of the approval requirement has been obtained in strict conformance with section 36-4(f) of this article.
- (b) *Minnesota Pollution Control Agency (MPCA).* The MPCA is the permitting authority for land disturbing activities requiring an NPDES permit for construction activity, including the requirements for developing and implementing a SWPPP. Where required, the NPDES permit is in addition to permits required by the City of Excelsior.
- (c) *Exemptions.* The provisions of this article do not apply to:
- (1) Installation of fence, sign, telephone, and electric poles and other kinds of posts or poles;
 - (2) Interior remodeling;
 - (3) Any activity requiring a building permit which does not disturb any land and does not increase the area of impervious surface of the subject parcel;
 - (4) Emergency work to protect life, limb, or property;
 - (5) A proposed addition or the construction of an accessory structure when the plans have been reviewed and the site has been inspected by the zoning administrator and/or the city engineer and it has been determined that the land is flat and/or drainage will not have an impact on neighboring property(s) or any body of water.
- (d) *Incorporation by reference.* The city's engineering design standards are hereby incorporated into this article by reference. The Standards shall serve as the official guide for stormwater principles methods, and practices for proposed development activities for the City of Excelsior.
- (e) *Variance.* The city council, upon recommendation of the planning commission, may grant a variance to any requirement of this article upon making a finding that compliance with the requirement will involve an unnecessary hardship and the variance of such requirement will not adversely affect the standards and requirements set forth in section 36-5. The city council may require, as a condition of the variance, such dedication or construction or agreement to dedicate or construct as may be necessary to adequately meet said standards and requirements.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-5. - Stormwater management—General and specific standards.

- (a) *Stormwater management.* The following general and specific standards shall apply:
- (1) *General standards.*
 - a. When possible, existing natural drainageways, wetlands, and vegetated soil surfaces must be used to convey, store, filter, and retain stormwater runoff before discharge to public waters.
 - b.

Development must be planned and conducted in a manner that will minimize the extent of disturbed areas, runoff velocities, erosion potential, and reduce and delay runoff volumes. Disturbed areas must be stabilized and protected as soon as possible and facilities or methods used to retain sediment on the site.

- c. When development density, topographic features, and soil and vegetation conditions are not sufficient to adequately handle stormwater 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. Preference must be given to designs using surface drainage, vegetation, and infiltration rather than buried pipes and man-made materials and facilities.

(2) *Specific standards.*

- a. Stormwater management shall be performed according to the policies outlined in the most recent version of the city's surface water management plan.
- b. In addition to the city's policies, stormwater management shall be performed according to the policies of the Minnehaha Creek Watershed District.
- c. For land disturbing activities that require an NPDES general stormwater construction permit, activities shall be performed according to the NPDES permit requirements in addition to the policies of the city.
- d. Maximum impervious surface coverage and green space requirements of lots shall be as follows or as otherwise provided within this article.
- e. New constructed stormwater outfalls to public waters must provide for filtering or settling of suspended solids and skimming of surface debris before discharge.
- f. New constructed stormwater outfalls to public waters must provide for filtering or settling of suspended solids and skimming or surface debris before discharge.

(Ord. No. 522, § 3, 5-4-2015; Ord. No. 558, § 1, 4-17-2017)

Sec. 36-6. - Stormwater management plan approval procedures.

- (a) *Application.* A written application for stormwater management plan approval, along with the proposed stormwater management plan, shall be filed with the city and shall include a statement indicating the grounds upon which the approval is requested, that the proposed use is permitted by right or as an exception in the underlying zoning district, and adequate evidence showing that the proposed use will conform to the standards set forth in this article. Two sets of clearly legible blue or black lined copies of drawings and required information shall be submitted to the zoning administrator. Drawings shall be prepared to a scale appropriate to the site of the project and suitable for the review to be performed. At a minimum the scale shall be one inch equals 100 feet.

The applicant is responsible to apply for, and obtain any necessary permits or approvals required by other agencies, including, but not limited to, permits required by the Minnehaha Creek Watershed District, the Minnesota Pollution Control Agency, the Minnesota Department of Natural Resources, and the [U.S.] Army Corps of Engineers. For stormwater management plans submitted as a part of a preliminary plat application, the applicant must provide copies of the preliminary plat and stormwater management plan to the Minnehaha Creek Watershed District.

(b) Unless otherwise exempted by this Code, an application for stormwater management approval shall include the following as a condition for its consideration:

- (1) A stormwater management plan;
- (2) A maintenance agreement.

The stormwater management plan shall be prepared to meet the requirements of section 36-6, and section 36-8 of this article, as well as the requirements within the city's engineering design standards; the maintenance agreement shall be prepared to meet the requirements of section 36-9 of this article.

(c) *Stormwater management plan.* At a minimum, the stormwater management plan shall contain the following information.

- (1) *Existing site map.* A map of existing site conditions showing the site and immediately adjacent areas, including:
 - a. The name and address of the applicant, the section, township and range, north point, date and scale of drawing and number of sheets;
 - b. Location of the tract by an insert map at a scale sufficient to clearly identify the location of the property and giving such information as the names and numbers of adjoining roads, railroads, utilities, subdivisions, towns and districts or other landmarks;
 - c. Existing topography with a contour interval appropriate to the topography of the land but in no case having a contour interval greater than two feet;
 - d. A delineation of all streams, rivers, public waters and wetlands located on and immediately adjacent to the site and any classification given to the water body or wetland by the Minnesota Department of Natural Resources, Minnesota Pollution Control Agency, and/or the United States Army Corps of Engineers.
 - e. Location and dimensions of existing stormwater drainage systems and natural drainage patterns on and immediately adjacent to the site delineating in which direction stormwater is conveyed from the site, identifying the receiving stream, river, public water, or wetland, and setting forth those areas of the unaltered site where stormwater collects;
 - f. 100-year floodplains, flood fringes and floodways.
 - g. Ordinary high water level of surface waters as established by the Minnesota Department of Natural Resources, normal water level and 100-year high water level of surface waters and detention facilities.

- (2) *Site construction plan.* A site construction plan including:
- a. Locations and dimensions of all proposed land disturbing activities and any phasing of those activities;
 - b. Locations and dimensions of all temporary soil or dirt stockpiles;
 - c. Locations and dimensions of all construction site erosion control measures necessary to meet the requirements of this Appendix E;
 - d. Schedule of anticipated starting and completion date of each land disturbing activity including the installation of construction site erosion control measures needed to meet the requirements of this article; and
 - e. Provisions for maintenance of the construction site erosion control measures during construction, including a stormwater pollution prevention plan (SWPPP) for activities that require an NPDES general construction stormwater permit issued by the Minnesota Pollution Control Agency.
- (3) *Plan of final site conditions.* A plan of final site conditions on the same scale as the existing site map showing the site changes including:
- a. Finished grading shown at contours at the same interval as provided above or as required to clearly indicate the relationship of proposed changes to existing topography and remaining features;
 - b. A drainage plan of the developed site delineating in which direction and at what rate stormwater will be conveyed from the site and setting forth the areas of the site where stormwater will be allowed to collect;
 - c. The proposed size, alignment, low floor elevation, low building opening elevation, and intended use of any structures to be erected on the site;
 - d. A clear delineation and tabulation of all areas which shall be paved or surfaced, including a description of the surfacing material to be used; and
 - e. Ordinary high water level of surface waters as established by the Minnesota Department of Natural Resources, normal water level and 100-year high water level of surface waters and detention facilities.
- (4) *Additional information.* Any other information pertinent to the particular project which in the opinion of the zoning administrator is necessary for the review of the project.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-7. - Plan review procedure.

- (a) *Process.* Stormwater management plans meeting the requirements of section 36-5 shall be submitted to the zoning administrator for review in accordance with the standards of section 36-7. The zoning administrator shall approve, approve with conditions, or deny the stormwater management plan. The decision by the zoning administrator may be appealed in accordance with article 7 of this Appendix E.

- (b) *Duration.* Approval of a plan submitted under the provisions of this article shall expire one year after the date of approval unless construction has commenced in accordance with the plan. However, if prior to the expiration of the approval, the applicant makes a written request to the zoning administrator for an extension of time to commence construction setting forth the reasons for the requested extension, the zoning administrator may grant one extension of not greater than one single year. Receipt of any request for an extension shall be acknowledged by the zoning administrator within 15 days. The zoning administrator shall make a decision on the extension within 30 days of receipt. Any plan may be revised in the same manner as originally approved.
- (c) *Conditions.* A stormwater management plan may be approved subject to compliance with conditions reasonable and necessary to insure that the requirements contained in this article are met. Such conditions may, among other matters, limit the size, kind or character of the proposed development, require the construction of structures, drainage facilities, storage basins and other facilities, require replacement of vegetation, establish required monitoring procedures, stage the work over time, require alteration of the site design to insure buffering and require the conveyance to the city or other public entity of certain lands or interests therein.
- (d) *Financial guarantee.* Prior to approval of any stormwater management plan, the applicant shall submit an agreement to construct such required physical improvements, to dedicate property or easements, or to comply with such conditions as may have been agreed to. Such agreement shall be accompanied by a financial guarantee to cover the amount of the established cost of complying with the agreement. The agreement and guarantee shall insure completion and compliance with conditions within a specific time, which may be extended in accordance with section 36-6(b) of this article.

(Ord. No. 522, § 3, 5-4-2015; Ord. No. 558, § 1, 4-17-2017)

Sec. 36-8. - Approval standards.

- (a) *Standards.* No stormwater management plan which fails to meet the standards contained in this section shall be approved by the zoning administrator.
- (b) All land disturbing activities are required to follow the construction site stormwater runoff control standards set within this Code and the city's engineering design Standards. The standards should follow the following requirements:
- (1) Erosion control;
 - (2) Sediment control practices;
 - (3) Temporary sediment basins;
 - (4) Dewatering and basin draining;
 - (5) Inspection and maintenance;
 - (6) Pollution management measures/construction site waste control;
 - (7) Final stabilization;
 - (8) Training.

- (c) *Design standards.* Stormwater detention facilities constructed in the City of Excelsior shall be designed according to the most current technology as reflected in this code and the city's engineering design standards.
- (d) *Stormwater management criteria for permanent facilities.*
- (1) An applicant shall install or construct, on or for the proposed land disturbing or development activity, all stormwater management facilities necessary to manage increased runoff so that peak discharge rates leaving the site are not increased for the two-year, ten-year, and 100-year critical-duration rainfall events. Accelerated channel erosion shall not occur as a result of the proposed land disturbing or development activity. At the discretion of the city, an applicant may also make an in-kind or monetary contribution to the development and maintenance of community stormwater management facilities designed to serve multiple land disturbing and development activities undertaken by one or more persons, including the applicant.
 - (2) The applicant shall give consideration to reducing the need for stormwater management facilities by incorporating the use of natural topography and land cover such as wetlands, ponds, natural swales and depressions as they exist before development to the degree that they can accommodate the additional flow of water without compromising the integrity or quality of the wetland or pond.
 - (3) Drainage systems shall be designed to convey runoff from contributing drainage areas under fully developed conditions. Capacities of drainage systems shall be designed to meet the following standards:
 - a. Local storm sewer shall convey runoff from the five-year, critical-duration, and rainfall event.
 - b. Trunk storm sewer shall convey runoff from the ten-year, critical-duration, and rainfall event.
 - c. Ponds and open channels shall convey runoff from the 100-year, critical-duration, and rainfall event.
 - (4) Special attention shall be given to existing residential developments which do not currently comply with the 35 percent impervious cover limitation of article 60 of this Appendix E. When installing sidewalk and driveways, adding decks and building additions or constructing garages and storage buildings, the following methods are suggested as solutions to the problem of managing stormwater runoff from impervious surfaces:
 - a. Building additions and decks shall be constructed to direct runoff to more pervious grassed filter strips, such as lawns and gardens.
 - b. Runoff from garages or storage buildings can be separated from impervious surfaces by different roof designs and/or use of gutters and down spouts directing water to pervious areas.
 - c. Sidewalks and driveways shall be sloped to drain towards pervious surfaces, such as lawns or gardens.
 - (5) The following stormwater management practices shall be investigated in developing a stormwater management plan in the following descending order of preference:

- a. Natural infiltration of precipitation on-site;
 - b. Flow attenuation by use of open vegetated swales and natural depressions;
 - c. Stormwater retention facilities; and
 - d. Stormwater detention facilities.
- (6) A combination of successive practices may be used to achieve the applicable minimum control requirements specified in subsection (a) above. Justification shall be provided by the applicant for the method selected.
- (e) *Water quality treatment standards.* Stormwater treatment facilities shall be provided to remove 50 percent of phosphorus and 85 percent of total suspended solids, or a detention pond designed to NURP standards.
- (f) *Volume control standards.* Abstraction via infiltration, evapotranspiration, capture and/or reuse of one inch of rainfall from the site on a regional or site-specific basis is required for development or redevelopment for projects that increase stormwater runoff volume, provided that past and existing land use practices, groundwater elevations, and soil characteristics are suitable for infiltration.
- (g) *Flood control.* Development and land disturbing activities must meet the following criteria:
- (1) The basement floor elevation of any new building shall be placed at least two feet above the elevation of any known historic high groundwater elevations for the area and at least two feet above the 100-year high surfacewater elevation in the area.
 - (2) The low building opening elevation of any new building shall be at least three feet above the projected 100-year high water elevation for the area. If this standard is considered a hardship, the standard may be lowered to placing the low building opening elevation at least two feet above the projected 100-year high water elevation if the following can be demonstrated:
 - a. That within the two-foot freeboard area above the 100-year high water elevation, stormwater storage is at least 50 percent of the stormwater storage capacity below the 100-year high water elevation; and
 - b. That a 25 percent obstruction of the basin outlet for a 100-year critical-duration rainfall event would not result in a high water elevation greater than one foot above the 100-year high water elevation; and
 - c. An adequate overflow route from the basin will assure that water levels, even for extreme rainfall events, will be greater than one foot below the low building opening elevation.
 - (3) An emergency spillway from ponding areas shall be installed a minimum of one foot below the lowest building opening and shall be designed to have a capacity to overflow water at an elevation below the lowest building opening at a rate not less than three times the 100-year peak discharge rate from the basin or the 100-year inflow rate to the basin, whichever is higher.
- (h) *Wetlands.* Minnehaha Creek Watershed District is the local government unit with jurisdictional control for enforcement of the Wetland Conservation Act. For most activities that could affect wetlands, the rules of the Minnehaha Creek Watershed District will apply. In addition to the rules of the district, the

following standards shall apply:

- (1) Runoff shall not be discharged directly into wetlands without presettlement of the runoff.
- (2) A protective buffer strip of natural vegetation shall surround all wetlands. Buffer dimensions shall be as required by the Minnehaha Creek Watershed District, or the City's Engineering Design Standards, whichever is greater.
- (3) Wetlands must not be drained or filled, wholly or partially, unless replaced by restoring or creating wetland areas of at least equal public and natural value. Replacement must be guided by the following principles in descending order of priority:
 - a. Avoiding the direct or indirect impact of the activity that may destroy or diminish the wetland;
 - b. Minimizing the impact by limiting the degree or magnitude of the wetland activity and its implementation;
 - c. Rectifying the impact by repairing, rehabilitating, or restoring the affected wetland environment;
 - d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the activity; and
 - e. Compensating for the impact by replacing or providing substitute wetland resources or environments.
- (i) *Bluffs*. No land disturbing or development activities shall be allowed on bluffs as defined under definitions in article 2 of this Appendix E.
- (j) *Structures*. In a newly constructed or rehabilitated storm sewer system, the last downstream structure before discharge to a receiving water body shall be provided with a sump area for the collection of coarse-grained material. Such sumps shall be cleaned when they are half-filled with material.
- (k) *Drain leaders*. All newly constructed and reconstructed buildings will route drain leaders to pervious areas wherein the runoff can be allowed to infiltrate. The flow rate of water exiting the leaders shall be controlled so no erosion occurs in the pervious areas.
- (l) *Models/methodologies/computations*. Hydrologic models and design methodologies used for the determination of runoff and analysis of stormwater management structures shall be approved by the city engineer. Plans, specifications and computations for stormwater management facilities submitted for review shall be sealed and signed by a registered professional engineer. All computations shall appear on the plans submitted for review, unless otherwise approved by the city engineer.
- (m) *Watershed management plans/groundwater management plans*. Stormwater management plans shall be consistent with adopted watershed management plans and groundwater management plans prepared in accordance with applicable Minnesota Statutes and as approved by the Minnesota Board of Water and Soil Resources in accordance with state law.
- (n) *Easements*. If a stormwater management plan involves direction of some or all runoff off of the site, it shall be the responsibility of the applicant to obtain from adjacent property owners any necessary easements or other property interests concerning flowage of water.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-9. - Stormwater treatment maintenance plan and agreement.

- (a) *Maintenance agreement.* The responsible party shall enter into a maintenance agreement with the city that documents all responsibilities for operation and maintenance of all stormwater treatment practices. Such responsibility shall be documented in a maintenance plan and executed through a maintenance agreement. The maintenance agreement shall be executed and recorded against the parcel. The maintenance agreement shall be in a form approved by the city shall describe the inspection and maintenance obligations of this section and shall, at a minimum:
- (1) Designate the responsible party, which shall be permanently responsible for maintenance of the structural or nonstructural measures.
 - (2) Pass responsibility for such maintenance to successors in title.
 - (3) Grant the city and its representatives the right of entry for the purposes of inspecting all stormwater treatment practices.
 - (4) Allow the city the right to repair and maintain the facility, if necessary maintenance is not performed after proper and reasonable notice to the responsible party.
 - (5) Include a maintenance plan that contains, but is not limited to the following:
 - a. Identification of all structural stormwater treatment practices.
 - b. A schedule for regular inspection, monitoring, and maintenance for each practice. Monitoring shall verify whether the practice is functioning as designed and may include, but is not limited to quality, temperature, and quantity of runoff.
 - c. Identification of the responsible party for conducting the inspection, monitoring, and maintenance for each practice.
 - (6) Identify a schedule and format for reporting compliance with the maintenance plan to the city.
- (b) *Inspection of stormwater facility.* Inspection programs shall be established on any reasonable basis, including but not limited to: routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; inspection of drainage basins or areas identified as higher than typical sources of sediment or other contaminants or pollutants; inspections of businesses or industries of a type associated with higher than usual discharges of contaminants or pollutants or with discharges of a type which are more likely than the typical discharge to cause violations of state or federal water or sediment quality standards or the National Pollutant Discharge Elimination System (NPDES) stormwater permit; and joint inspections with other agencies inspecting under environmental or safety laws. Inspections may include, but are not limited to, reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in drainage control facilities; and evaluating the condition of drainage control facilities and other stormwater treatment practices.

As a part of an approved stormwater treatment plan and agreement, when any new stormwater treatment practice is installed on private property, or when any new connection is made between private property and a public drainage control system, or sanitary sewer; the property owner shall grant to the city the right to enter the property at reasonable times and in a reasonable manner for the purpose of inspection. This includes the right to enter a property when the city has a reasonable basis to believe that a violation of this article is occurring or has occurred, and to enter when necessary for abatement of a public nuisance or correction of a violation of this article.

The director of public works, or designated representative, shall inspect all stormwater management facilities during construction, during the first year of operation, and at least once every five years thereafter. The inspection records will be kept on file at the public works department for a period of six years. It shall be responsibility of the applicant to dedicate or obtain any necessary easements or other property interests to allow the city access to the stormwater management facilities for inspection and maintenance purposes.

- (c) *Records of installation and maintenance activities.* The responsible party shall make records of the installation and of all maintenance and repairs of the stormwater treatment practices, and shall retain the records for at least three years. These records shall be made available to the city during inspection of the stormwater treatment practice and at other reasonable times upon request.
- (d) *Failure to maintain practices.* If a responsible party fails or refuses to meet the requirements of the maintenance agreement, the city, after reasonable notice, may correct a violation of the design standards or maintenance needs by performing all necessary work to place the stormwater treatment practice in proper working condition. In the event that the stormwater treatment practice becomes a danger to public safety or public health, the city shall notify the responsible party in writing. Upon receipt of that notice, the Responsible Party shall have thirty days to perform maintenance and repair of the facility in an approved manner. After proper notice, the city may specially assess the owner(s) of the stormwater treatment practice for the cost of repair work and any penalties; and the cost of the work shall be assessed against the property and collected along with ordinary taxes by the county.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-10. - Lawn fertilizer regulations.

- (a) *Use of impervious surfaces.* No person shall apply fertilizer to or deposit grass clippings, leaves or other vegetative materials on impervious surfaces, or within stormwater drainage systems, natural drainageways, or within wetland buffer areas.
- (b) *Unimproved land areas.* Except for driveways, sidewalks, patios, areas occupied by structures or areas which have been improved by landscaping, all areas shall be covered by plants or vegetative growth.
- (c) *Fertilizer content.* No person shall apply any lawn fertilizer, liquid or granular, that contains any amount of phosphorous or other compounds containing phosphorous, such as phosphate, except small quantities when a soil text indicates added phosphorous is needed to support healthy turf growth, or during the first year when new area of turf is being established.

- (d) *Buffer zone.* Fertilizer applications shall not be made within one rod (16.5 feet) of any wetland or water resource.
- (e) *Sale and display of lawn fertilizer.* No person, firm, corporation, franchise, or commercial establishment shall sell or display for sale any lawn fertilizer, liquid or granular, within the city that contains any amount of phosphorous or other compound containing phosphorous, such as phosphate, unless:
 - (1) Phosphorous-free fertilizer is also available for sale.
 - (2) Phosphorous-free fertilizer and fertilizer with phosphorous are separately displayed which each display being clearly marked as to whether or not the fertilizer contains phosphorous.
 - (3) Displays of phosphorous-free fertilizer are of equal or greater size and prominence.
 - (4) A sign or brochure is on prominent display next to any fertilizer display containing the city's regulations concerning the use of fertilizer with phosphorous.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-11. - Right-of-entry.

The issuance of a building permit or a permit to allow land disturbing activities constitutes a right-of-entry for the city or its contractor to enter the construction site. The applicant shall allow the city and its authorized representatives to:

- (a) Enter the permitted site for the purpose of obtaining information, examining records, conducting investigations or surveys;
- (b) Bring such equipment on the Site as is necessary to conduct such surveys and investigations;
- (c) Examine and copy any books, papers, or digital files pertaining to activities or records required to be kept under the terms and conditions of the permitted site;
- (d) Inspect the stormwater treatment practices;
- (e) Sample and monitor any items or activities pertaining to stormwater pollution control measures;
- (f) Correct deficiencies in stormwater and erosion and sediment control measures consistent with this Code and the city's engineering design standards.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-12: - Search warrants.

If city employees have been refused access to any part of the premises from which stormwater is discharged, and he/she is able to demonstrate probable cause to believe that there may be a violation of this ordinance, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this Code or any order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then the city may seek issuance of a search warrant from any court of competent jurisdiction.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-13: - Penalty.

Any violation of this Article 36 may be enforced via the procedures outlined in Article 10 of this Appendix E.

- (a) *Notice of violation.* When the city determines that an activity is not being carried out in accordance with the requirements of the stormwater management regulations of this Code, it shall issue a written notice of violation to the owner of the property. The notice of violation shall contain:
- (1) The name and address of the owner of applicant;
 - (2) The address when available or a description of the land upon which the violation is occurring;
 - (3) A statement specifying the nature of the violation;
 - (4) A description of the remedial measures necessary to bring the development activity into compliance with this ordinance and a time schedule for the completion of such remedial action;
 - (5) A statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed; and
 - (6) A statement that the determination of violation may be appealed to the city by filing a written notice of appeal within 15 days of services notice of violation.
- (b) *Stop work orders.* Persons receiving a notice of violation will be required to halt all construction activities. This stop work order will be in effect until the city confirms that the land disturbance activity is in compliance and the violation has been satisfactorily addressed. Failure to address a notice of violation in a timely manner may result in civil, criminal, or monetary penalties in accordance with the enforcement measures authorized in this Code.
- (c) *Civil and criminal penalties.* In addition to or as an alternative to any penalty provided herein or by law, any person who violates the provisions of the stormwater management regulations of this Code shall be guilty of a misdemeanor and subject to prosecution. Such person shall be guilty of a separate offense for each day during which the violation occurs or continues.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-14. - Appeals.

Any person aggrieved by the action of any official charged with the enforcement of the stormwater management regulations of this Code, as the result of the disapproval of a properly filed application for approval, issuance of a written notice of violation, or an alleged failure to properly enforce the ordinance in regard to a specific application, shall have the right to appeal the action pursuant to the procedures outlined in Article 7 of this Appendix E.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-15. - Other controls.

In the event of any conflict between the provisions of the stormwater management regulations of this Code and the provisions of an erosion control or shoreland protection ordinance adopted by the city council, the more restrictive standard prevails.

(Ord. No. 522, § 3, 5-4-2015)

Sec. 36-16. - Severability.

The provisions of the stormwater management regulations of this Code are severable. If any provision of these stormwater management regulations or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applicants of these stormwater management regulations which can be given effect without the invalid provision or application.

(Ord. No. 522, § 3, 5-4-2015)

ARTICLE 60. - SHORELAND MANAGEMENT DISTRICT

Sec. 60-1. - Statutory authorization and policy.

- (1) *Statutory authorization.* The shoreland regulations contained in this section are adopted pursuant to the authorization and policies contained in Minn. Stats. ch. 103F, Minnesota Regulations, Parts 6120.2500 through 6120.3900, and the planning and zoning enabling legislation in Minn. Stats. ch. 462.
- (2) *Policy.* The uncontrolled use of shorelands of the city affects the public health, safety and general welfare not only by contributing to pollution of public waters, but also by impairing the local tax base. Therefore, it is in the best interests of the public health, safety and welfare to provide for the wise subdivision, use and development of shorelands of public waters. The Legislature of Minnesota has mandated responsibility to local governments of the State to regulate the subdivision, use and development of the shorelands of public waters and thus preserve and enhance the quality of surface waters, conserve the economic and natural environmental values of shorelands, and provide for the wise use of waters and related land resources. This responsibility is hereby recognized by the city.
- (3) *Jurisdiction.* The provisions of this Appendix E shall apply to the shorelands of the public water bodies as classified in section 60-3.

Sec. 60-2. - Administration.

- (a) *Permits required.* In addition to building permits required by section 9-11, a permit shall be required for those grading and filling activities not exempted by [sub]section 60-4(d). Application for a permit shall be made to the zoning administrator on the forms provided. The application shall include the necessary information so that the zoning administrator can determine the site's suitability for the intended use.
- (b) *Variances.*
 - (1) Variances may only be granted in accordance with Minn. Stats., chapter 462 and as prescribed by article 6. No variance may be granted that would allow any use that is prohibited in the zoning district in which the subject property is located.
 - (2) When a variance is approved after the department of natural resources has formally recommended denial in the hearing record, the notification of the approved variance required in [sub]section 60-2(c)(2) below shall also include the city council's summary of the public record/testimony and the findings of facts and conclusions which supported the issuance of the variance.
- (c) *Notifications to the department of natural resources.*
 - (1)

Copies of all notices of any public hearings to consider variances, amendments, or conditional uses under Excelsior's shoreland management controls must be sent to the commissioner or the commissioner's designated representative and postmarked at least ten days before the hearings. Notices of hearings to consider proposed subdivisions/plats must include copies of the subdivision/plat.

- (2) A copy of approved amendments and subdivisions/plats, and final decisions granting variances or conditional uses under Excelsior's shoreland management controls must be sent to the commissioner or the commissioner's designated representative and postmarked within ten days of final action.
- (d) *[Shoreland management district.]* Activities within and adjacent to the shoreland management district shall be performed in accordance with the rules of the Minnesota Creek Watershed District.
- (Ord. No. 441, § 3, 7-20-2009)

Sec. 60-3. - Shoreland classification system.

The public waters within and adjacent to Excelsior have been classified below consistent with the criteria found in Minnesota Regulations, part 6120.3300, and the Protected Waters Inventory Map for Hennepin County, Minnesota.

<u>General Development Lake</u>	<u>DNR I.D. #</u>
Lake Minnetonka	27-133P
Sections 27, 34, 35	
T117 R23	
<u>Recreational Development Lake</u>	
Galpin Lake	27-144P
Sections 34, 35	
T117 R23	

The shoreland area to which the regulations of this article apply is as shown on the official zoning map. The area includes land located within 1,000 feet of the ordinary high water level of the above lakes, or a lesser distance if the topographic divide is less than 1,000 feet. In the area where Lake Minnetonka shoreland overlaps Galpin Lake shoreland, the regulations pertaining to Lake Minnetonka shall apply.

(Ord. No. 441, § 3, 7-20-2009)

Sec. 60-4. - Zoning provisions.

- (a) *Lot area and width standards.* The minimum lot area (in square feet) and lot width standards (in feet) for residential lots created after the date of enactment of this Appendix E are as found in the individual district standards of this Appendix E.
- (b) *Additional special provisions.* Minimum lot area requirements within shoreland areas may be calculated on an average lot area basis, so long as the overall net density requirements of subsection 60-4(a) above are met. The absolute minimum lot area shall be as permitted by the underlying zoning district. Residential subdivisions with dwelling unit densities exceeding those in the above tables can only be allowed if designed and approved as a conditional use permit under subsection 60-4(h) of this Appendix E. Only land above the ordinary high water level of public waters can be used to meet lot area standards, and lot width standards must be met at both the ordinary high water level and at the building line.
- (c) *Placement, design, and height of structures.*
 - (1) *Placement of structures on lots.* Where structures exist on the adjoining lots on both sides of a proposed building site, structure setbacks may be altered in accordance with section 17-6 of this Appendix E, provided the proposed building site is not located in a shore impact zone or in a bluff impact zone. Principal and accessory structures shall be located as follows.
 - a. The minimum setback of principal and accessory structures from the ordinary high water level of Minnetonka and Galpin Lakes shall be 50 feet.
 - b. *Additional structure setbacks.*

<u>Setback From:</u>		<u>Setback (feet)</u>
1.	Top of bluff;	30
2.	Unplatted cemetery;	50
3.	Right-of-way line of federal, state or county highway; and	30

4.	Right-of-way line of city streets or other roads or streets not classified.	As regulated by articles 41 through <u>52</u> of this Appendix E
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- c. *Bluff impact zones.* Structures and accessory facilities, except stairways and landings, must not be placed within bluff impact zones.
 - d. *Uses without water-oriented needs.* Uses without water-oriented needs that are located on lots or parcels with public waters frontage must either be set back double the normal ordinary high water level setback or be substantially screened from view from the water by vegetation or topography, assuming summer, leaf-on conditions.
- (2) *Design criteria for structures.*
- a. *High water elevations.* Structures must be placed in accordance with any floodplain regulations applicable to the site. Where these controls do not exist, the elevation to which the lowest floor, including basement, is placed or flood-proofed must be determined:
 1. By placing the lowest floor at a level at least three feet above the highest known water level, or three feet above the ordinary high water level, whichever is higher.
 2. Water-oriented accessory structures may have the lowest floor placed lower than the elevation determined in this item if the structure is constructed of flood-resistant materials to the elevation, electrical and mechanical equipment is placed above the elevation and, if long duration flooding is anticipated, the structure is built to withstand ice action and wind-driven waves and debris.
 - b. *Accessory structures.* Accessory structures shall be permitted as regulated by article 18 of this Appendix E. Detached decks must not exceed eight feet above grade at any point.
 - c. *Stairways, lifts, and landings.* Stairways and lifts are the preferred alternative to major topographic alterations for achieving access up and down bluffs and steep slopes to shore areas. Stairways and lifts must meet the following design requirements:
 1. Stairways and lifts must not exceed four feet in width on residential lots. Wider stairways may be used for commercial properties, public open-space recreational properties, and planned unit developments;
 2. Landings for stairways and lifts on residential lots must not exceed 32 square feet in area. Landings larger than 32 square feet may be used for commercial properties, public open-space recreational properties, and conditional use permit allowances for development;
 3. Canopies or roofs are not allowed on stairways, lifts, or landings;
 4. Stairways, lifts, and landings may be either constructed above the ground on posts or pilings, or placed into the ground, provided they are designed and built in a manner that ensures control of soil erosion;

5. Stairways, lifts, and landings must be located in the most visually inconspicuous portions of lots, as viewed from the surface of the public water assuming summer, leaf-on conditions, whenever practical; and
 6. Facilities such as ramps, lifts, or mobility paths for physically handicapped persons are also allowed for achieving access to shore areas, provided that the dimensional and performance standards of subsection 60-4(c)(2)c.1. through 60-4(c)(2)c.5. are complied with in addition to the requirements of Minnesota Regulations, chapter 1340.
- d. *Historic buildings and sites.* No structure may be placed on a historic building or site in a manner that affects the values of the site unless adequate information about the site has been removed and documented in a public repository.
- e. *Steep slopes.* The city engineer must evaluate possible soil erosion impacts and development visibility from public waters before issuing a permit for construction of roads, driveways, structures, or other improvements on steep slopes. When determined necessary, conditions must be attached to issued permits to prevent erosion and to preserve existing vegetation screening of structures, vehicles, and other facilities as viewed from the surface of public waters, assuming summer, leaf-on vegetation.
- (3) *Height of structures.* All structures shall comply with the height standards of this Appendix E.
- (d) *Shoreland alterations.* Alterations of vegetation and topography will be regulated to prevent erosion into public waters, fix nutrients, preserve shoreland aesthetics, preserve historic values, prevent bank slumping, and protect fish and wildlife habitat.
- (1) *Vegetation alterations.*
- a. Vegetation alteration necessary for the construction of structures and the construction of roads and parking areas regulated by subsection 60-4(e) below are exempt from the vegetation alteration standards that follow.
 - b. Removal or alteration of vegetation is allowed subject to the following standards:
 1. Intensive vegetation clearing within the shore and bluff impact zones and on steep slopes is not allowed.
 2. In shore and bluff impact zones and on steep slopes, limited clearing of trees and shrubs and cutting, pruning, and trimming of trees is allowed to provide a view to the water from the principal dwelling site and to accommodate the placement of stairways and landings, picnic areas, access paths, beach and watercraft access areas, and permitted water-oriented accessory structures or facilities, provided that:
 - i. The general character of the shoreline is not changed as viewed from the water, assuming summer, leaf-on conditions, is not substantially reduced;
 - ii. The above provisions are not applicable to the removal of trees, limbs, or branches that are dead, diseased, or pose safety hazards.

c.

Use of fertilizers and pesticides shall be strongly discouraged, but at the very least, shall be done in such a way as to minimize runoff into the shore impact zone or public water by the use of earth, vegetation or both.

(2) *Topographic alterations/grading and filling.*

- a. Grading and filling and excavations necessary for the construction of structures and driveways under validly issued construction permits for these facilities do not require the issuance of a separate grading and filling permit; however, the grading and filling standards in this section must be incorporated into the issuance of such permits.
- b. Public roads and parking areas are regulated by subsection 60-4(e) below.
- c. Notwithstanding subsection 60-4(d)(2)a. and b. above, a grading and filling permit will be required for:
 1. The movement of more than ten cubic yards of material on steep slopes or within shore or bluff impact zones; and
 2. The movement of more than 50 cubic yards of material outside of steep slopes and shore and bluff impact zones shall require a conditional use permit pursuant to article 4 and subsection 60-4(h).
- d. The following considerations and conditions must be adhered to during the issuance of construction permits, grading and filling permits, conditional use permits, variances and subdivision approvals:
 1. In addition to requirements of the State of Minnesota Wetland Conservation Act of 1991, grading or filling in any type 2 through 8 wetland must be evaluated to determine how extensively the proposed activity would affect the following functional qualities of the wetland*:
 - i. Sediment and pollutant trapping and retention;
 - ii. Storage of surface runoff to prevent or reduce flood damage;
 - iii. Fish and wildlife habitat;
 - iv. Recreational use;
 - v. Shoreline or bank stabilization; and
 - vi. Noteworthiness, including special qualities such as historic significance, critical habitat for endangered plants and animals, or others.

* This evaluation must also include a determination of whether the wetland alteration being proposed requires permits, reviews, or approvals by other local, state, or federal agencies such as the Minnehaha Creek Watershed District, the Minnesota Department of Natural Resources, or the United States Army Corps of Engineers. The applicant will be so advised.

2. Alterations must be designed and conducted in a manner that ensures only the smallest amount of bare ground is exposed for the shortest time possible;

3. Mulches or similar materials must be used, where necessary, for temporary bare soil coverage, and a permanent vegetation cover must be established as soon as possible;
 4. Methods to minimize soil erosion and to trap sediments before they reach any surface water feature must be used;
 5. Altered areas must be stabilized to acceptable erosion control standards consistent with the field office technical guides of the local soil and water conservation districts and the United States Soil Conservation Service;
 6. Fill or excavated material must not be placed in a manner that creates an unstable slope;
 7. Plans to place fill or excavated material on steep slopes must be reviewed by qualified professionals for continued slope stability and must not create finished slopes of 30 percent or greater;
 8. Fill or excavated material must not be placed in bluff impact zones;
 9. Any alterations below the ordinary high water level of public waters must first be authorized by the commissioner under Minn. Stats. § 103G.245;
 10. Alterations of topography must only be allowed if they are accessory to permitted or conditional uses and do not adversely affect adjacent or nearby properties; and
 11. Placement of natural rock riprap, including associated grading of the shoreline and placement of a filter blanket, is permitted if the finished slope does not exceed three feet horizontal to one foot vertical, the landward extent of the riprap is within ten feet of the ordinary high water level, and the height of the riprap above the ordinary high water level does not exceed three feet.
- e. *Connections to public waters.* Excavations where the intended purpose is connection to a public water, such as boat slips, canals, lagoons, and harbors, must be controlled by local shoreland controls. Permission for excavations may be given only after the commissioner has approved the proposed connection to public waters.
- (e) *Placement and design of roads, driveways, and parking areas:*
- (1) Public and private roads and parking areas must be designed to take advantage of natural vegetation and topography to achieve maximum screening from view from public waters. Documentation must be provided by a qualified individual that all roads and parking areas are designed and constructed to minimize and control erosion to public waters consistent with the field office technical guides of the local soil and water conservation district, or other applicable technical materials.
 - (2) Roads, driveways, and parking areas must meet structure setbacks and must not be placed within bluff and shore impact zones, when other reasonable and feasible placement alternatives exist. If no alternatives exist, they may be placed within these areas, and must be designed to minimize adverse impacts.
 - (3)

Public and private watercraft access ramps, approach roads, and access-related parking areas may be placed within shore impact zones provided the vegetative screening and erosion control conditions of this subpart are met. For private facilities, the grading and filling provisions of subsection 60-4(d)(2) above must be met.

(f) *Reserved.*

(g) *Special provisions for commercial, and public/semipublic uses.*

- (1) Surface water-oriented commercial uses and industrial, public, or semipublic uses with similar needs to have access to and use of public waters may be located on parcels or lots with frontage on public waters. Those uses with water-oriented needs must meet the following standards:
 - a. In addition to meeting impervious coverage limits, setbacks, and other zoning standards in this Appendix E, the uses must be designed to incorporate topographic and vegetative screening of parking areas and structures;
 - b. Uses that require short-term watercraft mooring for patrons must centralize these facilities and design them to avoid obstructions of navigation and to be the minimum size necessary to meet the need; and
 - c. Uses that depend on patrons arriving by watercraft may use signs and lighting to convey needed information to the public, subject to the following general standards:
 1. No advertising signs or supporting facilities for signs may be placed in or upon public waters. Signs conveying information or safety messages may be placed in or on public waters by a public authority or under a permit issued by the county sheriff;
 2. Signs may be placed, when necessary, within the shore impact zone if they are designed and sized to be the minimum necessary to convey needed information. The signs must not be located higher than ten feet above the ground, and must not exceed 32 square feet in size. If illuminated by artificial lights, the lights must be shielded or directed to prevent illumination out across public waters; and
 3. Other outside lighting may be located within the shore impact zone or over public waters if it is used primarily to illuminate potential safety hazards and is shielded or otherwise directed to prevent direct illumination out across public waters. This does not preclude use of navigational lights.
 - (2) Uses without water-oriented needs must be located on lots or parcels without public waters frontage, or, if located on lots or parcels with public waters frontage, must either be set back double the normal ordinary high water level setback or be substantially screened from view from the water by vegetation or topography, assuming summer, leaf-on conditions.
- (h) *Conditional use criteria and conditions.* Conditional uses allowable within shoreland areas shall be subject to the review and approval procedures, and criteria and conditions for review of conditional uses established community-wide. The following additional evaluation criteria and conditions apply within shoreland areas:

- (1) *Evaluation criteria.* A thorough evaluation of the waterbody and the topographic, vegetation, and soils conditions on the site must be made to ensure:
 - a. The prevention of soil erosion or other possible pollution of public waters, both during and after construction;
 - b. The visibility of structures and other facilities as viewed from public waters is limited;
 - c. The types, uses, and numbers of watercraft that the project will generate are compatible in relation to the suitability of public waters to safely accommodate these watercraft.
- (2) *Conditions attached to conditional use permits.* The city council, upon consideration of the criteria listed above and the purposes of this section, may attach such conditions to the issuance of the conditional use permits as it deems necessary to fulfill the purposes of this Appendix E. Such conditions may include, but are not limited to, the following:
 - a. Increased setbacks from the ordinary high water level;
 - b. Limitations on the natural vegetation to be removed or the requirement that additional vegetation be planted; and
 - c. Special provisions for the location, design, and use of structures, watercraft launching and docking areas, and vehicle parking areas.

(Ord. No. 401, 10-2-2006; Ord. No. 441, § 4, 7-20-2009; Ord. No. 495, § 10, 4-1-2013; Ord. No. 558, § 2, 4-17-2017)

Sec. 60-5. - Nonconformities.

All legally established nonconformities as of the date of this Appendix E may continue as provided in article 15. In addition, the following standards will also apply in shoreland areas:

- (1) *Construction on nonconforming lots of record.*
 - a. Lots of record in the office of the county recorder on the date of enactment of article 60 that do not meet the requirements of subsection 60-4(a) may be allowed as building sites without variances from lot size requirements provided the use is permitted in the zoning district, the lot has been in separate ownership from abutting lands at all times since it became substandard, was created compliant with official controls in effect at the time, setback requirements of this Appendix E are met, and the requirements of section 15-5 of this Appendix E are met.
 - b. A variance from setback requirements must be obtained before any use or building permit is issued for a lot. In evaluating the variance, the city council shall consider capabilities or constraints of the lot and shall deny the variance if adequate facilities cannot be provided.
 - c. If, in a group of two or more contiguous lots which have come under the same ownership after February 9, 2003, any individual lot does not meet the requirements of section 60-4(a) of this Appendix E, the lot must not be considered as a separate parcel of land for the purposes of

sale or development. The lot must be combined with one or more contiguous lots so they equal one or more parcels of land, each meeting the requirements of subsection 60-4(a) as much as possible.

(2) *Additions/expansions to nonconforming structures.*

- a. All additions or expansions to the outside dimensions of an existing nonconforming structure must meet the setback, height, and other requirements of subsection 60-4(a) of this Appendix E. Any deviation from these requirements must be authorized by a variance pursuant to article 6 of this Appendix E.
- b. Deck additions which do not extend above the ground level of the principal building shall be permitted as provided by section 17-6, but shall be located no closer than ten feet from the OHWL.
- c. Deck additions which extend above the height of the ground level of the principal building may be allowed without a variance to a structure not meeting the required setback from the ordinary high water level, if all of the following criteria and standards are met:
 1. The structure existed on the date the structure setbacks were established;
 2. A thorough evaluation of the property and structure reveals no reasonable location for a deck meeting or exceeding the existing ordinary high water level setback of the structure;
 3. The deck encroachment toward the ordinary high water level does not exceed 15 percent of the existing setback of the structure from the ordinary high water level or does not encroach closer than 30 feet, whichever is more restrictive; and
 4. The deck is constructed primarily of wood, and is not roofed or screened.

ARTICLE 61. - GENERAL FLOODPLAIN DISTRICT^[14]*Footnotes:*

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Editor's note— Ord. No. 547, adopted Oct. 17, 2016, amended former Art. 61, §§ 61-1—61-13, in its entirety to read as herein set out. Former Art. 61 pertained to similar subject matter and derived from Ord. of 2-9-2003; Ord. No. 380, 8-16-2004; Ord. No. 441, § 5, 7-20-2009.

Sec. 61-1. - Statutory authorization and purpose.

- (a) *Statutory authorization:* The legislature of the State of Minnesota has, in Minnesota Statutes Chapter 103F and Chapter 462 delegated the responsibility to local government units to adopt regulations designed to minimize flood losses. Therefore, the city council of Excelsior, Minnesota, does ordain as follows.
- (b) *Purpose:*
- (1) This article regulates development in the flood hazard areas of the city. These flood hazard areas are subject to periodic inundation, which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base. It is the purpose of this article to promote the public health, safety, and general welfare by minimizing these losses and disruptions.
 - (2) National Flood Insurance Program compliance. This article is adopted to comply with the rules and regulations of the National Flood Insurance Program codified as 44 Code of Federal Regulations Parts 59—78, as amended, so as to maintain the community's eligibility in the National Flood Insurance Program.
 - (3) This article is also intended to preserve the natural characteristics and functions of watercourses and floodplains in order to moderate flood and stormwater impacts, improve water quality, reduce soil erosion, protect aquatic and riparian habitat, provide recreational opportunities, provide aesthetic benefits and enhance community and economic development.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-2. - General provisions.

- (a) *How to use this article.* This article adopts the floodplain maps applicable to the City of Excelsior and includes three floodplain districts: floodway, flood fringe, and general floodplain.
- (1) Where floodway and flood fringe districts are delineated on the floodplain maps, the standards in sections 61-4 or 61-5 will apply, depending on the location of a property.
 - (2) Locations where floodway and flood fringe districts are not delineated on the floodplain maps are considered to fall within the general floodplain district. Within the general floodplain district, the floodway district standards in section 61-4 apply unless the floodway boundary is determined,

according to the process outlined in section 61-6. Once the floodway boundary is determined, the flood fringe district standards in section 61-5 may apply outside the floodway.

- (b) *Lands to which this article applies:* This article applies to all lands within the jurisdiction of the City of Excelsior shown on the official zoning map and/or the attachments to the map as being located within the boundaries of the floodway, flood fringe, or general floodplain districts.
- (1) The floodway, flood fringe and general floodplain districts are overlay districts that are superimposed on all existing zoning districts. The standards imposed in the overlay districts are in addition to any other requirements in this article. In case of a conflict, the more restrictive standards will apply.
- (c) *Incorporation of maps by reference:* The following maps together with all attached material are hereby adopted by reference and declared to be a part of the official zoning map and this article. The attached material includes the Flood Insurance Study for Hennepin County, Minnesota, and Incorporated Areas, dated November 4, 2016 and the Flood Insurance Rate Map panels enumerated below, dated November 4, 2016, all prepared by the Federal Emergency Management Agency. These materials are on file at City Hall.

Effective Flood Insurance Rate Map panels:

27053C031F

27053C031F

27053C031F

- (d) *Regulatory flood protection elevation:* The regulatory flood protection elevation (RFPE) is an elevation no lower than one foot above the elevation of the regional flood plus any increases in flood elevation caused by encroachments on the floodplain that result from designation of a floodway.
- (e) *Interpretation:* The boundaries of the zoning districts are determined by scaling distances on the flood insurance rate map.
- (1) Where a conflict exists between the floodplain limits illustrated on the official zoning map and actual field conditions, the flood elevations shall be the governing factor. The zoning administrator must interpret the boundary location based on the ground elevations that existed on the site on the date of the first National Flood Insurance Program map showing the area within the regulatory floodplain, and other available technical data.
- (2) Persons contesting a determination on the location of the district boundaries will be given a reasonable opportunity to present their case to the zoning administrator and to submit technical evidence.
- (f) *Abrogation and greater restrictions:* It is not intended by this article to repeal, abrogate, or impair any existing easements, covenants, or other private agreements. However, where this article imposes greater restrictions, the provisions of this ordinance prevail. All other ordinances inconsistent with this article are hereby repealed to the extent of the inconsistency only.

- (g) *Warning and disclaimer of liability:* This article does not imply that areas outside the floodplain districts or land uses permitted within such districts will be free from flooding or flood damages. This article does not create liability on the part of the city or its officers or employees for any flood damages that result from reliance on this article or any administrative decision lawfully made hereunder.
- (h) *Severability:* If any section, clause, provision, or portion of this article is adjudged unconstitutional or invalid by a court of law, the remainder of this article shall not be affected and shall remain in full force.
- (i) *Definitions:* Unless specifically defined below, words or phrases used in this article must be interpreted according to common usage and so as to give this article its most reasonable application.

Accessory use or structure. A use or structure on the same lot with, and of a nature customarily incidental and subordinate to, the principal use or structure.

Base flood elevation. The elevation of the "regional flood." The term "base flood elevation" is used in the flood insurance survey.

Basement. Any area of a structure, including crawl spaces, having its floor or base subgrade (below ground level) on all four sides, regardless of the depth of excavation below ground level.

Conditional use. A specific type of structure or land use listed in the official control that may be allowed but only after an in-depth review procedure and with appropriate conditions or restrictions as provided in the official zoning controls or building codes and upon a finding that:

- (1) Certain conditions as detailed in the zoning ordinance exist.
- (2) The structure and/or land use conform to the comprehensive land use plan if one exists and are compatible with the existing neighborhood.

Critical facilities. Facilities necessary to a community's public health and safety, those that store or produce highly volatile, toxic or water-reactive materials, and those that house occupants that may be insufficiently mobile to avoid loss of life or injury. Examples of critical facilities include hospitals, correctional facilities, schools, daycare facilities, nursing homes, fire and police stations, wastewater treatment facilities, public electric utilities, water plants, fuel storage facilities, and waste handling and storage facilities.

Development. Any manmade change to improved or unimproved real estate, including buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.

Equal degree of encroachment. A method of determining the location of floodway boundaries so that floodplain lands on both sides of a stream are capable of conveying a proportionate share of flood flows.

Farm fence. A fence as defined by Minn. Statutes Section 344.02, Subd. 1(a)—(d). An open type fence of posts and wire is not considered to be a structure under this ordinance. Fences that have the potential to obstruct flood flows, such as chain link fences and rigid walls, are regulated as structures under this article.

Flood. A temporary increase in the flow or stage of a stream or in the stage of a wetland or lake that results in the inundation of normally dry areas.

Flood frequency. The frequency for which it is expected that a specific flood stage or discharge may be equaled or exceeded.

Flood fringe. The portion of the special flood hazard area (one percent annual chance flood) located outside of the floodway. Flood fringe is synonymous with the term "floodway fringe" used in the Flood Insurance Study for Hennepin County, Minnesota.

Flood insurance rate map. Consistent with 44 CFR Section 59.1.

Flood prone area. Any land susceptible to being inundated by water from any source (see "flood").

Floodplain. The beds proper and the areas adjoining a wetland, lake or watercourse which have been or hereafter may be covered by the regional flood.

Floodproofing. A combination of structural provisions, changes, or adjustments to properties and structures subject to flooding, primarily for the reduction or elimination of flood damages.

Floodway. The bed of a wetland or lake and the channel of a watercourse and those portions of the adjoining floodplain which are reasonably required to carry or store the regional flood discharge.

Lowest floor. The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, used solely for parking of vehicles, building access, or storage in an area other than a basement area, is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of 44 Code of Federal Regulations, Part 60.3.

Manufactured home. A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured home" does not include the term "recreational vehicle."

New construction. Structures, including additions and improvements, and placement of manufactured homes, for which the start of construction commenced on or after the effective date of the ordinance from which this article derives.

Obstruction. Any dam, wall, wharf, embankment, levee, dike, pile, abutment, projection, excavation, channel modification, culvert, building, wire, fence, stockpile, refuse, fill, structure, or matter in, along, across, or projecting into any channel, watercourse, or regulatory floodplain which may impede, retard, or change the direction of the flow of water, either in itself or by catching or collecting debris carried by such water.

One hundred-year floodplain. Lands inundated by the "regional flood" (see definition).

Principal use or structure. All uses or structures that are not accessory uses or structures.

Reach. A hydraulic engineering term to describe a longitudinal segment of a stream or river influenced by a natural or man-made obstruction. In an urban area, the segment of a stream or river between two consecutive bridge crossings would most typically constitute a reach.

Recreational vehicle. A vehicle that is built on a single chassis, is 400 square feet or less when measured at the largest horizontal projection, is designed to be self-propelled or permanently towable by a light duty truck, and is designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use. For the purposes of this ordinance, the term recreational vehicle is synonymous with the term "travel trailer/travel vehicle."

Regional flood. A flood which is representative of large floods known to have occurred generally in Minnesota and reasonably characteristic of what can be expected to occur on an average frequency in the magnitude of the 1% chance or 100-year recurrence interval. Regional flood is synonymous with the term "base flood" used in a flood insurance study.

Regulatory flood protection elevation (RFPE). An elevation not less than one foot above the elevation of the regional flood plus any increases in flood elevation caused by encroachments on the floodplain that result from designation of a floodway.

Repetitive loss: Flood related damages sustained by a structure on two separate occasions during a ten-year period for which the cost of repairs at the time of each such flood event on the average equals or exceeds 25 percent of the market value of the structure before the damage occurred.

Special flood hazard area. A term used for flood insurance purposes synonymous with "one hundred-year floodplain."

Start of construction. Includes substantial improvement, and means the actual start of construction, repair, reconstruction, rehabilitation, addition, placement or other improvement that occurred before the permit's expiration date. The actual start is either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, foundations, or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

Structure. Anything constructed or erected on the ground or attached to the ground or on-site utilities, including, but not limited to, buildings, factories, sheds, detached garages, cabins, manufactured homes, recreational vehicles not meeting the exemption criteria specified in subsection 61-9(b)(2) and other similar items.

Substantial damage means damage of any origin sustained by a structure where the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

Substantial improvement. Within any consecutive 365-day period, any reconstruction, rehabilitation (including normal maintenance and repair), repair after damage, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures that have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either:

- (1) Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions.
 - (2) Any alteration of a "historic structure," provided that the alteration will not preclude the structure's continued designation as a "historic structure." For the purpose of this ordinance, "historic structure" is as defined in 44 Code of Federal Regulations, Part 59.1.
- (j) *Annexations:* The flood insurance rate map panels adopted by reference into subsection 61-2(c) above may include floodplain areas that lie outside of the corporate boundaries of the city at the time of adoption of the ordinance from which this article derives. If any of these floodplain land areas are annexed into the city after the date of adoption of the ordinance from which this article derives, the newly annexed floodplain lands will be subject to the provisions of this article immediately upon the date of annexation.
- (k) *Detachments.* The flood insurance rate map panels adopted by reference into subsection 61-2(c) above will include floodplain areas that lie inside the corporate boundaries of municipalities at the time of adoption of the ordinance from which this article derives. If any of these floodplain land areas are detached from a municipality and come under the jurisdiction of the city after the date of adoption of the ordinance from which this article derives, the newly detached floodplain lands will be subject to the provisions of this article immediately upon the date of detachment.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-3. - Establishment of zoning districts.

(a) *Districts:*

(1)

Floodway district. The floodway district includes those areas within zones AE that have a floodway delineated as shown on the flood insurance rate map adopted in subsection 61-2(c) as well as portions of other lakes, wetlands, and basins within zones AE (that do not have a floodway delineated) that are located at or below the ordinary high water level as defined in Minnesota Statutes, Section 103G.005, subdivision 14.

(2) Flood fringe district. The flood fringe district includes areas within Zones AE that have a floodway delineated on the flood insurance rate map adopted in subsection 61-2(c), but are located outside of the floodway. For lakes, wetlands and other basins within zones AE that do not have a floodway delineated, the flood fringe district also includes those areas below the 1% annual chance (100-year) flood elevation but above the ordinary high water level as defined in Minnesota Statutes, Section 103G.005, subdivision 14.

(3) Reserved for general floodplain district (GF).

(b) *Applicability:* Within the floodplain districts established in this ordinance, the use, size, type and location of development must comply with the terms of this ordinance and other applicable regulations. In no cases shall floodplain development adversely affect the efficiency or unduly restrict the capacity of the channels or floodways of any tributaries to the main stream, drainage ditches, or any other drainage facilities or systems. All uses not listed as permitted uses or conditional uses in sections 61-4, 61-5 and 61-6 are prohibited. In addition, critical facilities, as defined in subsection 61-2(i), are prohibited in all floodplain districts.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-4. - Floodway district (FW).

- (a) *Permitted uses:* The following uses, subject to the standards set forth in subsection 61-4(b), are permitted uses if otherwise allowed in the underlying zoning district or any applicable overlay district:
- (1) Open space uses, including but not limited to picnic grounds, boat launching ramps, swimming areas, parks, wildlife and nature preserves, hunting and fishing areas
 - (2) Residential lawns, gardens.
 - (3) Railroads, streets, bridges, utility transmission lines and pipelines, provided that the Department of Natural Resources' area hydrologist is notified at least ten days prior to issuance of any permit.
- (b) *Standards for floodway permitted uses:*
- (1) The use must have a low flood damage potential.
 - (2) The use must not obstruct flood flows or cause any increase in flood elevations and must not involve structures, obstructions, or storage of materials or equipment.
- (c) *Conditional uses:* The following uses may be allowed as conditional uses following the standards and procedures set forth in subsection 61-10(d) and further subject to the standards set forth in subsection 61-10(d), if otherwise allowed in the underlying zoning district or any applicable overlay district.

- (1) Marinas, boat rentals, permanent docks, piers, wharves, and water control structures.
 - (2) Storage yards for equipment, machinery, or materials.
 - (3) Placement of fill or construction of fences that obstruct flood flows.
- (d) *Standards for floodway conditional uses:*
- (1) All uses. A conditional use must not cause any increase in the stage of the one-percent chance or regional flood or cause an increase in flood damages in the reach or reaches affected.
 - (2) Fill; storage of materials:
 - a. The storage or processing of materials that are, in time of flooding, flammable, explosive, or potentially injurious to human, animal, or plant life is prohibited.
 - b. Fill, dredge spoil, and other similar materials deposited or stored in the floodplain must be protected from erosion by vegetative cover, mulching, riprap or other acceptable method.
 - c. Temporary placement of fill, other materials, or equipment which would cause an increase to the stage of the 1% percent chance or regional flood may only be allowed if the City of Excelsior has approved a plan that assures removal of the materials from the floodway based upon the flood warning time available.
 - (3) Structural works for flood control that will change the course, current or cross section of protected wetlands or public waters are subject to the provisions of Minnesota Statutes, Section 103G.245.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-5. - Flood fringe district (FF).

- (a) *Permitted uses:* Permitted uses are those uses of land or structures allowed in the underlying zoning district(s) that comply with the standards in subsection 61-5(b). If no pre-existing, underlying zoning districts exist, then any residential or nonresidential structure or use of a structure or land is a permitted use provided it does not constitute a public nuisance.
- (b) *Standards for flood fringe permitted uses:*
- (1) All structures, including accessory structures, must be elevated on fill so that the lowest floor, as defined, is at or above the regulatory flood protection elevation. The finished fill elevation for structures must be no lower than one foot below the regulatory flood protection elevation and the fill must extend at the same elevation at least 15 feet beyond the outside limits of the structure.
 - (2) Accessory structures. As an alternative to the fill requirements of subsection 61-5(b)(1), structures accessory to the uses identified in subsection 61-55(a) may be permitted to be internally/wet floodproofed to the FP3 or FP4 floodproofing classifications in the State Building Code, provided that:
 - a. The accessory structure constitutes a minimal investment, does not exceed 576 square feet in size, and is only used for parking and storage.
 - b.

All portions of floodproofed accessory structures below the regulatory flood protection elevation must be: (i) adequately anchored to prevent flotation, collapse or lateral movement and designed to equalize hydrostatic flood forces on exterior walls, (ii) be constructed with materials resistant to flood damage, and (iii) must have all service utilities be water-tight or elevated to above the regulatory flood protection elevation.

- c. Designs for meeting this requirement must either be certified by a registered professional engineer or meet or exceed the following criteria:
1. To allow for the equalization of hydrostatic pressure, there must be a minimum of two "automatic" openings in the outside walls of the structure, with a total net area of not less than one square inch for every square foot of enclosed area subject to flooding; and
 2. There must be openings on at least two sides of the structure and the bottom of all openings must be no higher than one foot above the lowest adjacent grade to the structure. Using human intervention to open a garage door prior to flooding will not satisfy this requirement for automatic openings.
- (3) The cumulative placement of fill or similar material on a parcel must not exceed 1,000 cubic yards, unless the fill is specifically intended to elevate a structure in accordance with subsection 61-5(b)(1) of this article, or if allowed as a conditional use under subsection 61-5(c)(3) below.
- (4) The storage of any materials or equipment must be elevated on fill to the regulatory flood protection elevation.
- (5) All service utilities, including ductwork, must be elevated or water-tight to prevent infiltration of floodwaters.
- (6) The storage or processing of materials that are, in time of flooding, flammable, explosive, or potentially injurious to human, animal, or plant life is prohibited.
- (7) All fill must be properly compacted and the slopes must be properly protected by the use of riprap, vegetative cover or other acceptable method.
- (8) All new principal structures must have vehicular access at or above an elevation not more than two feet below the regulatory flood protection elevation, or must have a flood warning /emergency evacuation plan acceptable to the city.
- (9) Accessory uses such as yards, railroad tracks, and parking lots may be at an elevation lower than the regulatory flood protection elevation. However, any facilities used by employees or the general public must be designed with a flood warning system that provides adequate time for evacuation if the area is inundated to a depth and velocity such that the depth (in feet) multiplied by the velocity (in feet per second) would exceed a product of four upon occurrence of the regional (one-percent chance) flood.
- (10) Interference with normal manufacturing/industrial plant operations must be minimized, especially along streams having protracted flood durations. In considering permit applications, due consideration must be given to the needs of industries with operations that require a floodplain

location.

(11) Manufactured homes and recreational vehicles must meet the standards of section 61-9.

(c) *Conditional uses:* The following uses and activities may be allowed as conditional uses, if allowed in the underlying zoning district(s) or any applicable overlay district, following the procedures in subsection 61-10(d).

(1) Any structure that is not elevated on fill or floodproofed in accordance with subsections 61-5(b)(1) and (2).

(2) Storage of any material or equipment below the regulatory flood protection elevation.

(3) The cumulative placement of more than 1,000 cubic yards of fill when the fill is not being used to elevate a structure in accordance with subsection 61-5(b)(1)e.

(d) *Standards for flood fringe conditional uses:*

(1) The standards listed in subsections 61-5(4) through 61-5(b)(10) apply to all conditional uses.

(2) Basements, as defined by Section 2.913 of this ordinance, are subject to the following:

a. Residential basement construction is not allowed below the regulatory flood protection elevation.

b. Non-residential basements may be allowed below the regulatory flood protection elevation provided the basement is structurally dry floodproofed in accordance with subsection 61-5(d) (3).

(3) All areas of nonresidential structures, including basements, to be placed below the regulatory flood protection elevation must be floodproofed in accordance with the structurally dry floodproofing classifications in the state building code. Structurally dry floodproofing must meet the FP1 or FP2 floodproofing classification in the state building code, which requires making the structure watertight with the walls substantially impermeable to the passage of water and with structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy.

(4) The placement of more than 1,000 cubic yards of fill or other similar material on a parcel (other than for the purpose of elevating a structure to the regulatory flood protection elevation) must comply with an approved erosion/sedimentation control plan.

a. The plan must clearly specify methods to be used to stabilize the fill on site for a flood event at a minimum of the regional (1% chance) flood event.

b. The plan must be prepared and certified by a registered professional engineer or other qualified individual acceptable to the city.

c. The plan may incorporate alternative procedures for removal of the material from the floodplain if adequate flood warning time exists.

(5) Storage of materials and equipment below the regulatory flood protection elevation must comply with an approved emergency plan providing for removal of such materials within the time available after a flood warning.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-6. - Reserved for general floodplain district (GF).

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-7. - Land development standards.

- (a) *In general:* Recognizing that flood prone areas may exist outside of the designated floodplain districts, the requirements of this section apply to all land within the city.
- (b) *Subdivisions:* No land may be subdivided which is unsuitable for reasons of flooding or inadequate drainage, water supply or sewage treatment facilities. Manufactured home parks and recreational vehicle parks or campgrounds are considered subdivisions under this article.
- (1) All lots within the floodplain districts must be able to contain a building site outside of the floodway district at or above the regulatory flood protection elevation.
 - (2) All subdivisions must have road access both to the subdivision and to the individual building sites no lower than two feet below the regulatory flood protection elevation, unless a flood warning emergency plan for the safe evacuation of all vehicles and people during the regional (one-percent chance) flood has been approved by the city. The plan must be prepared by a registered engineer or other qualified individual, and must demonstrate that adequate time and personnel exist to carry out the evacuation.
 - (3) For all subdivisions in the floodplain, the floodway and flood fringe district boundaries, the regulatory flood protection elevation and the required elevation of all access roads must be clearly labeled on all required subdivision drawings and platting documents.
 - (4) If a subdivision proposal or other proposed new development is in a flood prone area, any such proposal must be reviewed to assure that:
 - a. All such proposals are consistent with the need to minimize flood damage within the flood prone area;
 - b. All public utilities and facilities, such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damage; and
 - c. Adequate drainage is provided to reduce exposure of flood hazard.
- (c) *Building sites.* If a proposed building site is in a flood prone area, all new construction and substantial improvements (including the placement of manufactured homes) must be:
- (1) Designed (or modified) and adequately anchored to prevent floatation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;
 - (2) Constructed with materials and utility equipment resistant to flood damage;
 - (3) Constructed by methods and practices that minimize flood damage; and
 - (4)

Constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-8. - Public utilities, railroads, roads, and bridges.

- (a) *Public utilities:* All public utilities and facilities such as gas, electrical, sewer, and water supply systems to be located in the floodplain must be floodproofed in accordance with the state building code or elevated to the regulatory flood protection elevation.
- (b) *Public transportation facilities:* Railroad tracks, roads, and bridges to be located within the floodplain must comply with sections 61-4 and 61-5 of this article. These transportation facilities must be elevated to the regulatory flood protection elevation where failure or interruption of these facilities would result in danger to the public health or safety or where such facilities are essential to the orderly functioning of the area. Minor or auxiliary roads or railroads may be constructed at a lower elevation where failure or interruption of transportation services would not endanger the public health or safety.
- (c) *On-site water supply and sewage treatment systems:* Where public utilities are not provided: 1) On-site water supply systems must be designed to minimize or eliminate infiltration of flood waters into the systems and are subject to the provisions in Minnesota Rules Chapter 4725.4350, as amended; and 2) New or replacement on-site sewage treatment systems must be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters, they must not be subject to impairment or contamination during times of flooding, and are subject to the provisions in Minnesota Rules Chapter 7080.2270, as amended.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-9. - Manufactured homes, manufactured home parks, and recreational vehicles.

- (a) *Manufactured homes:* New manufactured home parks and expansions to existing manufactured home parks are prohibited in any floodplain district. For existing manufactured home parks or lots of record, the following requirements apply:
 - (1) Placement or replacement of manufactured home units is prohibited in the floodway district.
 - (2) If allowed in the flood fringe district, placement or replacement of manufactured home units is subject to the requirements of section 61-5 of this article and the following standards.
 - a. New and replacement manufactured homes must be elevated in compliance with section 61-55 and must be securely anchored to an adequately anchored foundation system that resists flotation, collapse and lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state or local anchoring requirements for resisting wind forces.

b.

New or replacement manufactured homes in existing manufactured home parks must meet the vehicular access requirements for subdivisions in subsection 61-7(b)(2).

- (b) *Recreational vehicles:* New recreational vehicle parks or campgrounds and expansions to existing recreational vehicle parks or campgrounds are prohibited in any floodplain district. Placement of recreational vehicles in existing recreational vehicle parks or campgrounds in the floodplain must meet the exemption criteria below or be treated as new structures meeting the requirements of this article.
- (1) Recreational vehicles are exempt from the provisions of this article if they are placed in any of the following areas and meet the criteria listed in subsection 61-9(b)(2):
- a. Individual lots or parcels of record.
 - b. Existing commercial recreational vehicle parks or campgrounds.
 - c. Existing condominium-type associations.
- (2) Criteria for exempt recreational vehicles:
- a. The vehicle must have a current license required for highway use.
 - b. The vehicle must be highway ready, meaning on wheels or the internal jacking system, attached to the site only by quick disconnect type utilities commonly used in campgrounds and recreational vehicle parks.
 - c. No permanent structural type additions may be attached to the vehicle.
 - d. The vehicle and associated use must be permissible in any pre-existing, underlying zoning district.
 - e. Accessory structures are not permitted within the Floodway District. Any accessory structure in the Flood Fringe District must be constructed of flood-resistant materials and be securely anchored, meeting the requirements applicable to manufactured homes in Section 9.22.
 - f. An accessory structure must constitute a minimal investment.
- (3) Recreational vehicles that are exempt in subsection 61-9(b)(2) lose this exemption when development occurs on the site that exceeds a minimal investment for an accessory structure such as a garage or storage building. The recreational vehicle and all accessory structures will then be treated as new structures subject to the elevation and floodproofing requirements of section 61-5 of this article. No development or improvement on the parcel or attachment to the recreational vehicle is allowed that would hinder the removal of the vehicle should flooding occur.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-10. - Administration.

- (a) *Zoning administrator:* A zoning administrator or other official designated by the city council must administer and enforce this article.
- (b) *Permit requirements:*
- (1)

Permit required. A permit must be obtained from the zoning administrator prior to conducting the following activities:

- a. The erection, addition, modification, rehabilitation, or alteration of any building, structure, or portion thereof. Normal maintenance and repair also requires a permit if such work, separately or in conjunction with other planned work, constitutes a substantial improvement as defined in this article.
 - b. The use or change of use of a building, structure, or land.
 - c. The construction of a dam, fence, or on-site septic system, although a permit is not required for a farm fence as defined in this article.
 - d. The change or extension of a nonconforming use.
 - e. The repair of a structure that has been damaged by flood, fire, tornado, or any other source.
 - f. The placement of fill, excavation of materials, or the storage of materials or equipment within the floodplain.
 - g. Relocation or alteration of a watercourse (including new or replacement culverts and bridges), unless a public waters work permit has been applied for.
 - h. Any other type of "development" as defined in this article.
- (2) *Application for permit.* Permit applications must be submitted to the zoning administrator on forms provided by the zoning administrator. The permit application must include the following as applicable:
- a. A site plan showing all pertinent dimensions, existing or proposed buildings, structures, and significant natural features having an influence on the permit.
 - b. Location of fill or storage of materials in relation to the stream channel.
 - c. Copies of any required municipal, county, state or federal permits or approvals.
 - d. Other relevant information requested by the zoning administrator as necessary to properly evaluate the permit application.
- (3) ***Certificate of zoning compliance for a new, altered, or nonconforming use.*** *No building, land or structure may be occupied or used in any manner until a certificate of zoning compliance has been issued by the zoning administrator stating that the use of the building or land conforms to the requirements of this article.*
- (4) *Certification.* The applicant is required to submit certification by a registered professional engineer, registered architect, or registered land surveyor that the finished fill and building elevations were accomplished in compliance with the provisions of this ordinance. Floodproofing measures must be certified by a registered professional engineer or registered architect.
- (5) *Record of First Floor Elevation.* The zoning administrator must maintain a record of the elevation of the lowest floor (including basement) of all new structures and alterations or additions to existing structures in the floodplain. The zoning administrator must also maintain a record of the elevation to which structures and alterations or additions to structures are floodproofed.

(6) *Notification to FEMA when physical changes increase or decrease base flood elevations.* As soon as is practicable, but not later than six months after the date such supporting information becomes available, the zoning administrator must notify the Chicago Regional Office of FEMA of the changes by submitting a copy of the relevant technical or scientific data.

(c) *Variances:*

- (1) *Variance applications.* An application for a variance to the provisions of this article will be processed and reviewed in accordance with applicable state statutes and Article 6 of this Appendix E of the City of Excelsior of the Code of Ordinances.
- (2) *Adherence to state floodplain management standards.* A variance must not allow a use that is not allowed in that district, permit a lower degree of flood protection than the regulatory flood protection elevation for the particular area, or permit standards lower than those required by state law.
- (3) *Additional variance criteria.* The following additional variance criteria of the Federal Emergency Management Agency must be satisfied:
 - a. Variances must not be issued by a community within any designated regulatory floodway if any increase in flood levels during the base flood discharge would result.
 - b. Variances may only be issued by a community upon (i) a showing of good and sufficient cause, (ii) a determination that failure to grant the variance would result in exceptional hardship to the applicant, and (iii) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
 - c. Variances may only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- (4) *Flood insurance notice.* The zoning administrator must notify the applicant for a variance that: 1) The issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance up to amounts as high as \$25.00 for \$100.00 of insurance coverage; and 2) Such construction below the base or regional flood level increases risks to life and property. Such notification must be maintained with a record of all variance actions.
- (5) *General considerations.* The community may consider the following factors in granting variances and imposing conditions on variances and conditional uses in floodplains:
 - a. The potential danger to life and property due to increased flood heights or velocities caused by encroachments;
 - b. The danger that materials may be swept onto other lands or downstream to the injury of others;
 - c. The proposed water supply and sanitation systems, if any, and the ability of these systems to minimize the potential for disease, contamination and unsanitary conditions;

- d. The susceptibility of any proposed use and its contents to flood damage and the effect of such damage on the individual owner;
 - e. The importance of the services to be provided by the proposed use to the community;
 - f. The requirements of the facility for a waterfront location;
 - g. The availability of viable alternative locations for the proposed use that are not subject to flooding;
 - h. The compatibility of the proposed use with existing development and development anticipated in the foreseeable future;
 - i. The relationship of the proposed use to the Comprehensive Land Use Plan and flood plain management program for the area;
 - j. The safety of access to the property in times of flood for ordinary and emergency vehicles;
 - k. The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters expected at the site.
- (6) *Submittal of hearing notices to the Department of Natural Resources (DNR).* The zoning administrator must submit hearing notices for proposed variances to the DNR sufficiently in advance to provide at least ten days' notice of the hearing. The notice may be sent by electronic mail or U.S. Mail to the respective DNR area hydrologist.
- (7) *Submittal of final decisions to the DNR.* A copy of all decisions granting variances must be forwarded to the DNR within ten days of such action. The notice may be sent by electronic mail or U.S. Mail to the respective DNR area hydrologist.
- (8) *Record-keeping.* The ZONING Administrator must maintain a record of all variance actions, including justification for their issuance, and must report such variances in an annual or biennial report to the Administrator of the National Flood Insurance Program, when requested by the Federal Emergency Management Agency.
- (d) *Conditional uses:*
- (1) *Administrative review.* An application for a conditional use permit under the provisions of this article will be processed and reviewed in accordance with Article 4 of Appendix E of City Code of Ordinances.
 - (2) *Factors used in decision-making.* In passing upon conditional use applications, the city council must consider all relevant factors specified in other sections of this article, and those factors identified in subsection 61-10(c)(5) of this article.
 - (3) *Conditions attached to conditional use permits.* The city council may attach such conditions to the granting of conditional use permits as it deems necessary to fulfill the purposes of this article. Such conditions may include, but are not limited to, the following:
 - a. Modification of waste treatment and water supply facilities.
 - b. Limitations on period of use, occupancy, and operation.
 - c. Imposition of operational controls, sureties, and deed restrictions.

- d. Requirements for construction of channel modifications, compensatory storage, dikes, levees, and other protective measures.
 - e. Floodproofing measures, in accordance with the state building code and this article. The applicant must submit a plan or document certified by a registered professional engineer or architect that the floodproofing measures are consistent with the regulatory flood protection elevation and associated flood factors for the particular area.
- (4) *Submittal of hearing notices to the Department of Natural Resources (DNR).* The zoning administrator must submit hearing notices for proposed conditional uses to the DNR sufficiently in advance to provide at least ten days' notice of the hearing. The notice may be sent by electronic mail or U.S. Mail to the respective DNR area hydrologist.
- (5) *Submittal of final decisions to the DNR.* A copy of all decisions granting conditional uses must be forwarded to the DNR within ten days of such action. The notice may be sent by electronic mail or U.S. Mail to the respective DNR area hydrologist.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-11. - Nonconformities.

- (a) *Continuance of nonconformities:* A use, structure, or occupancy of land which was lawful before the passage or amendment of the ordinance from which this article derives but which is not in conformity with the provisions of this article may be continued subject to the following conditions. Historic structures, as defined in subsection 61-2(i) of this article, are subject to the provisions of subsections 61-11(a)(1)—61-11(a)(6) of this article.
- (1) A nonconforming use, structure, or occupancy must not be expanded, changed, enlarged, or altered in a way that increases its flood damage potential or degree of obstruction to flood flows except as provided in subsection 61-11(a)(2) below. Expansion or enlargement of uses, structures or occupancies within the floodway district is prohibited.
 - (2) Any addition or structural alteration to a nonconforming structure or nonconforming use that would result in increasing its flood damage potential must be protected to the regulatory flood protection elevation in accordance with any of the elevation on fill or floodproofing techniques (i.e., FP1 thru FP4 floodproofing classifications) allowable in the State Building Code, except as further restricted in subsection 61-11-(a)(3) and 61-11(a)(7) below.
 - (3) If the cost of all previous and proposed alterations and additions exceeds 50 percent of the market value of any nonconforming structure, that shall be considered substantial improvement, and the entire structure must meet the standards of section 61-4 or 61-5 of this article for new structures, depending upon whether the structure is in the floodway or flood fringe district, respectively. The cost of all structural alterations and additions must include all costs such as construction materials and a reasonable cost placed on all manpower or labor.
 - (4)

If any nonconforming use, or any use of a nonconforming structure, is discontinued for more than one year, any future use of the premises must conform to this article. The assessor must notify the zoning administrator in writing of instances of nonconformities that have been discontinued for a period of more than one year.

- (5) If any nonconformity is substantially damaged, as defined in subsection 61-2(i) of this article, it may not be reconstructed except in conformity with the provisions of this ordinance. The applicable provisions for establishing new uses or new structures in sections 61-4 or 61-5 will apply depending upon whether the use or structure is in the floodway or flood fringe, respectively.
- (6) If any nonconforming use or structure experiences a repetitive loss, as defined in subsection 61-2(i) of this article, it must not be reconstructed except in conformity with the provisions of this article.
- (7) Any substantial improvement, as defined in subsection 61-2(i) of this article, to a nonconforming structure requires that the existing structure and any additions must meet the requirements of sections 61-4 or 61-5 of this article for new structures, depending upon whether the structure is in the floodway or flood fringe district.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-12. - Penalties and enforcement.

- (a) *Violation constitutes a misdemeanor:* Violation of the provisions of this article or failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with grants of variances or conditional uses) constitute a misdemeanor and will be punishable as defined by law.
- (b) *Other lawful action:* Nothing in this article restricts the city from taking such other lawful action as is necessary to prevent or remedy any violation. If the responsible party does not appropriately respond to the zoning administrator within the specified period of time, each additional day that lapses will constitute an additional violation of this ordinance and will be prosecuted accordingly.
- (c) *Enforcement:* Violations of the provisions of this article will be investigated and resolved in accordance with the provisions of Article 10 of Appendix E of the City Code of Ordinances. In responding to a suspected ordinance violation, the zoning administrator and city may utilize the full array of enforcement actions available to it including but not limited to prosecution and fines, injunctions, after-the-fact permits, orders for corrective measures or a request to the National Flood Insurance Program for denial of flood insurance availability to the guilty party. The city must act in good faith to enforce these official controls and to correct ordinance violations to the extent possible so as not to jeopardize its eligibility in the National Flood Insurance Program.

(Ord. No. 547, § 1, 10-17-2016)

Sec. 61-13. - Amendments.

- (a) *Floodplain designation—Restrictions on removal:* The floodplain designation on the official zoning map must not be removed from floodplain areas unless it can be shown that the designation is in error or that the area has been filled to or above the elevation of the regulatory flood protection elevation and is contiguous to lands outside the floodplain. Special exceptions to this rule may be permitted by the Commissioner of the Department of Natural Resources (DNR) if the Commissioner determines that, through other measures, lands are adequately protected for the intended use.
- (b) *Amendments require DNR approval:* All amendments to this article must be submitted to and approved by the Commissioner of the Department of Natural Resources (DNR) prior to adoption. The commissioner must approve the amendment prior to community approval.
- (c) *Map revisions require ordinance amendments.* The floodplain district regulations must be amended to incorporate any revisions by the Federal Emergency Management Agency to the floodplain maps adopted in subsection 61-2(c) of this article.

(Ord. No. 547, § 1, 10-17-2016)

APPENDIX K – PHOSPHORUS LOAD REDUCTION PLAN

PHOSPHORUS LOAD REDUCTION PLAN

CITY OF EXCELSIOR

JANUARY 2008

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I. INTRODUCTION AND PURPOSE

The Minnehaha Creek Watershed District (MCWD) is requiring the cities within its boundaries to reduce the level of phosphorus discharged to the Minnehaha Creek system to meet the Total Maximum Daily Load requirements for the Minnehaha Creek. Each city has been given a load reduction amount based on the MCWD's modeling that was completed and outlined in the technical memorandum entitled "Methodology for HHPLS-P-Load model Application to Development of Subwatershed Rules Under Performance-Based Management". Based on the MCWD's analysis, the City of Excelsior is required to remove 10 pounds of phosphorus annually.

This report outlines the City's plan to address the removal of 10 pounds of phosphorus as part of the City's street sweeping program. The City sweeps once in the spring, once in the fall, and sweeps the downtown area twice a week. The areas outside downtown also receive one more sweeping throughout the year. The analysis for the phosphorus removal is outlined in the study. Additionally, the City will test its swept material to calibrate this study.

II. PROCEDURES AND METHODS FOLLOWED

This section of the report provides the procedures and methods followed for the loading assessment and analysis. The City's plan to address the phosphorus loading reduction anticipates the following elements:

- Sweep downtown streets twice a week between April and November
- Sweep all streets once in fall

While the City does a spring sweeping and does sweep other areas of the City more frequently, it has not been included in this analysis.

To determine the amount of phosphorus removed by street sweeping, the amount of total material removed from each sweeping was determined from City records. The downtown street sweeping route is shown on **Figure 1**. Based on the City's information, the downtown sweeping removes approximately 500 pounds of material per sweeping event. With a sweeping event twice a week between April and November, this equates to 1,000 pounds of material per week and 34,000 pounds per year. The fall sweeping throughout the City removes 15,000 pounds each fall, mostly consisting of leaves.

To determine the amount of phosphorus (P) in the swept material, data from the City of Plymouth was used. Plymouth has estimated an average concentration of 235 mg/kg of P in swept material based on testing results from 2007. This concentration has been used for this analysis.

Downtown Sweeping: Based on 235.5 mg/kg of P in the swept material, this equates to 0.24 pounds of P per week as follows.

$$235.5 \text{ mg/kg} = 0.00024 \text{ lbs/lb}$$

$$P[0.00024 \text{ lbs}] \times 1,000 \text{ lbs of material per week} = 0.24 \text{ lbs of P per week swept}$$

$$0.24 \text{ lbs} \times 34 \text{ weeks of sweeping} = \mathbf{8.16 \text{ lbs of P removed}}$$

Fall Sweeping: Based on the same concentration of P and 15,000 lbs of material swept throughout the City, the P removal for the fall sweeping is estimated as follows:

$$P[0.00024 \text{ lbs}] \times 15,000 \text{ lbs of material per fall} = \mathbf{3.6 \text{ lbs of P removed}}$$

III. DISCUSSION/EVALUATION OF RESULTS

The downtown sweeping route is shown on **Figure 1**. As stated, this downtown sweeping is estimated to remove 1,000 pounds of material per week and 34,000 pounds of material per year between April and November. The fall sweeping city-wide is estimated to remove 15,000 pounds of material. The downtown sweeping is expected to remove 8.16 lbs of P and the fall sweeping is expected to remove 3.6 lbs of P. With this program, the City anticipates removing 11.76 lbs of P annually.

Most of the City discharges directly to Lake Minnetonka or another natural water body that then in turn discharges to the Lake. There are very few ponding areas within the City so treatment is limited. The exception to this is the Mitten Pond subwatershed and the Galpin Lake subwatershed 21A, 21B, and 22 (see subwatershed map in **Appendix B** of the Surface Water Management Plan). The street area within these subwatersheds is very small compared to the rest of the City and therefore was not excluded from the P calculation as the amount of street sweepings from this area would be too small to calculate.

IV. CONCLUSIONS

The City's plan to address the MCWD's phosphorus loading reduction includes the following elements:

- Sweep downtown streets twice a week between April and November.
- Sweep all streets once in fall

The City has been undertaking this sweeping program for a number of years. This program is anticipated to remove 11.76 pounds of phosphorus annually. Since the phosphorus concentration is based on testing results from the City of Plymouth, the City of Excelsior commits to testing its swept material in 2009 and 2010. From this data, the results of this analysis will be adjusted. Additional testing will be completed if needed.