



2040 COMPREHENSIVE PLAN

CITY OF DELLWOOD | September 24, 2021

*Prepared for the City of Dellwood, Minnesota by
Northwest Associated Consultants, Inc.*



Acknowledgements

Northwest Associated Consultants, Inc. would like to thank and acknowledge the following township officials, staff, and all of Dellwood’s community members for both their work with this Comprehensive Plan Update, and in all the rest of the work that they do for the City of Dellwood.

Mayor Mike McGill	Planning Commission Chair - Lin Lindbeck Bill Glumack Beverly Driscoll Deb Kristofferson Roger Vadnais	Engineering Staff Cara Geheren	As well as... Bob Nuffort, Former Mayor Frank Pazlar, Former Councilor Edwin McCarthy, Former Councilor Jim Cuff, Former Councilor Eileen Biagini, Former Commissioner And all other residents of Dellwood
City Council Scott St. Martin Brady Ramsay Greg Boosalis Elsbeth Howe	City Administrator/Clerk Joanne Frane	City Treasurer Brian Beich	
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Photo Credits

We’d also like to thank the White Bear Lake Area Historical Society, The White Bear Yacht Club, and the publication *A Walk Through Dellwood* for the use of their photos on pages 5, 10, 25, 29 and 35.



INTRODUCTION

PREFACE & INTRODUCTION

The Metropolitan Land Planning Act (Minnesota Statutes 473.851 through 872) requires each municipality to update its Comprehensive Plan, to provide for coordinated planning policies throughout the Metropolitan area. The Act specifies the required components of the local comprehensive plans including objectives and policies of the City regarding public and private land use, public facilities, water management and a program to implement and preserve those objectives. The following document is intended to address the components required by the Planning Act.

The intent of this plan is to establish a foundation and guide for community actions, programs, and regulations to protect the character and environment of the City. This document presents the Comprehensive Plan for the City. The Comprehensive Plan represents the City's long-range plan for improvement, development and growth over the next ten 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. Demographics and trends show that the regional and local context are changing. This document is intended to be a proactive representation of the City's direction.

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.

GEOGRAPHIC SETTING

Dellwood is a city in Washington County on the eastern shore of White Bear Lake. It is around a 16 mile drive from downtown Saint Paul and around 22 from downtown Minneapolis. It lies along the Westerly boundary of Washington County. It is bounded on the South by the City of Mahtomedi, and on the North and East by the City of Grant. The Westerly line is the shoreline of White Bear Lake and the Ramsey County.

HISTORY

The Dakota were the primary early residents of the area around White Bear Lake. However, the Ojibwe were not far away and resided to the north. The area saw many conflicts between the two groups, some as late as the 1850s. Dellwood Road follows an old Dakota trail that ran from the Rum River to the St. Croix River. There is a large rock that was known as Indian Rock, on the shore of White Bear Lake near the current location of the White Bear Yacht Club, that was a popular visitor's attraction in the late 1800's.

The area near White Bear Lake began to be settled by people of European ancestry in the early 1850s, mostly from St. Paul. James M. Goodhue, editor of the Minnesota Pioneer, published in St. Paul, was an early booster of the region. In 1850 he wrote "...in all directions around White-bear lake, speculation is turning its eager eye—a beautiful region, of rich land, diversified with meadows, hills, valleys, oak-openings, lakes, timber and partial prairies." The west side of the lake was settled first, with farmers predominately on the east side.

The area received another impetus to settlement in 1870 when the Stillwater and St. Paul Railroads were completed around the north end of White Bear Lake and across Grant. In the days before automobiles and highways, area residents depended upon the railroads to get to their summer places. The White Bear Lake area was becoming a popular summer home destination around this time. The community was also reached from Stillwater and White Bear Lake by the current Dellwood Road (Highway 96). By 1900 the Minneapolis, St. Paul and Sault Ste. Marie (Soo Line) had also crossed the northern part of Dellwood.

The first property owner in the current boundaries of the City was Thomas Haywood from Tennessee who was a veteran of the Mexican War. He was granted the land as a bounty in 1851. After he passed away, his





property was sold to George Bennett, who was a farmer from New York, but did not use the property in Dellwood. Over time this and other properties in this area along White Bear Lake were bought and sold by various land speculators but there were no permanent residents. Then in 1865, a German immigrant and Civil War veteran named Frederick Schlee established a farm on Pine Tree Lake. Soon thereafter, he was followed by several members of the Arcand family, who also established farms in what is now the northern portion of the City. A school was established, known as District No. 54 (later referred to as the Dellwood School) near one of the Arcand farms.

The original “Dellwood” was a residential plat from 1882 intended to be summer homes on White Bear Lake, conveniently located on the Stillwater & White Bear Railroad line. A depot was opened in 1883. The original plat of 250 acres was developed with large, architect-designed cottages of often palatial proportions. Homes for the families of St. Paul businessmen Kirby Barnum, Lucius Ordway, and Truman Ingersoll were among the first constructed in the 1890s. Soon thereafter, additional plats were also drawn up including the Peninsula, Caledonia, Dellwood Point, and Grove Park.

Byrd Hewitt and Kirby Barnum opened a summer hotel on the site of the present White Bear Yacht Club. The White Bear Yacht Club began first with a yacht club in 1889, followed by tennis in the 1890s and a golf facility in 1912. Part of the area’s lore is that F. Scott Fitzgerald celebrated summer at a Dellwood cottage near the Yacht Club in which he wrote *The Beautiful and the Damned*. A year later, he published *Winter Dreams*, a short story that transpired at a golf club in fictional Black Bear Lake, Minnesota, which has some interesting similarities to Dellwood. After the golf course was established, additional estate residential lots were added around this amenity.



Originally, Dellwood was a part of Grant Township. It became a part of Lincoln Township when this new township was organized in 1918. Over time, Lincoln Township was divided into the Cities of Mahtomedi, Willernie, Birchwood Village, Pine Springs, and Dellwood. Dellwood itself was originally incorporated in 1917 as a village and later reorganized into a statutory City.

The village government was, from the beginning, intended to be an efficient and minimal body that served its purpose without excess. In 1940, Ordinance 12 created the first land use regulations for the City. The ordinance codified the character of the City, which carries forward to this day, of restricting property to primarily private, single family dwellings with the associated gardens, greenhouses, farms, and golf clubs.

The character of the area was established by its early developments, as lakeside country estates with passive seasonal recreation like golfing and boating. There were still farms to the north that were eventually mostly divided into additional Dellwood-style country estate lots and another golf course, the Dellwood Country Club in the 1970s. There is little commercial property in Dellwood, the exceptions being two golf courses, an apple orchard, and a winery. From its earliest zoning ordinances, Dellwood has endeavored to provide a semi-rural, large lot, high quality single family community. The City continues to preserve this characteristic through careful zoning provisions.



LAND USE

INTRODUCTION

The City of Dellwood was established as a community of rural residential estates in an idyllic setting with passive recreational amenities. This community character has continued until the present time. The City has taken great efforts to retain this essential character which is unique within the region. This rural residential setting allows residents easy access to the services, employment, and culture of the Twin Cities while also permitting Dellwood to maintain its essential private and serene character.

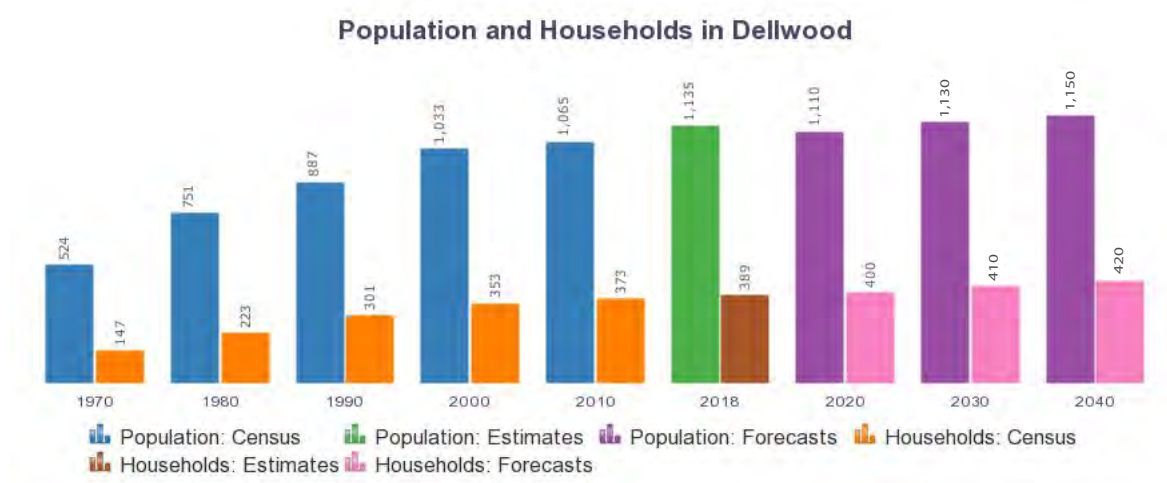
Dellwood is a small city having an estimated current population of 1,134 in 2018. No commercial uses are allowed in the City. The only non-residential uses are confined to two agricultural enterprises, the Pine Tree Apple Orchard and the Seven Vines Farm Winery and two private clubs, the White Bear Yacht Club and the Dellwood Country Club. Due to the rural nature of the City, multiple-family uses are not allowed. Accordingly, all remaining land use in the City is restricted to rural single-family residential dwellings.

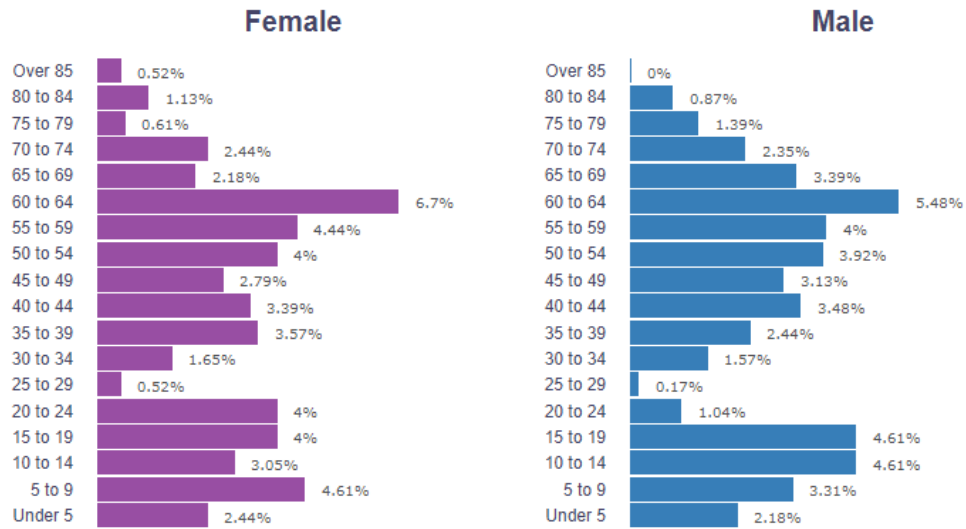
The requirements of large sized lots and the City's location in a rural area near White Bear Lake have historically resulted in large estate homes which have been well maintained. The City has increased in land area through several annexations over the years. No further land annexation is anticipated. Future growth in the City will be limited primarily to existing undeveloped land.

Dellwood, at present, is substantially fully developed. Future development in the City will occur slowly within the remaining undeveloped land parcels. Under present zoning restrictions, it appears that undeveloped land could account for a limited number of additional home sites (The City would thus be fully developed at approximately 440 home sites, which is the projection from the Metropolitan Council for 2040).

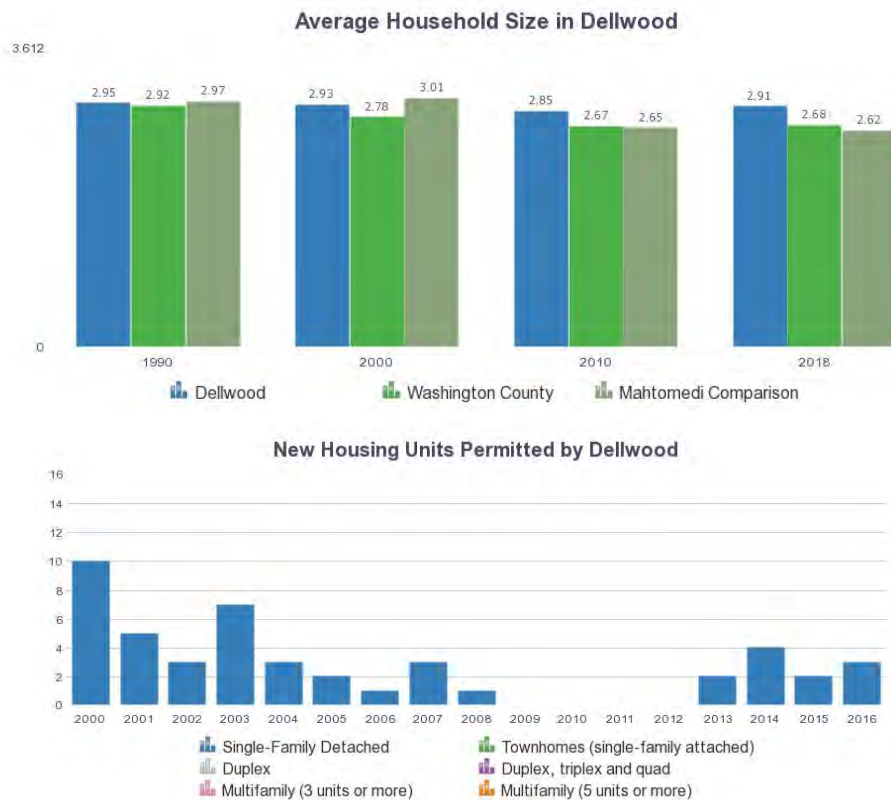
DEMOGRAPHICS & POPULATION

The City of Dellwood is forecasted by the Metropolitan Council to have 1,180 residents in 2040. Population growth in the City has been slower in recent decades due to the City largely reaching full development status. With limited land for future development, and no sewer availability for multiple family development, this pattern is expected to continue.





Similar to overall population, the total households have only grown at a very moderate pace. In 1990, there were 887 people living in 301 houses, with an average household size of 2.95 per home. In 2016, that average decreased only slightly to 2.84 per home. The pace of growth has slowed in the community due to the lack of land available for development and the rural nature of the community.

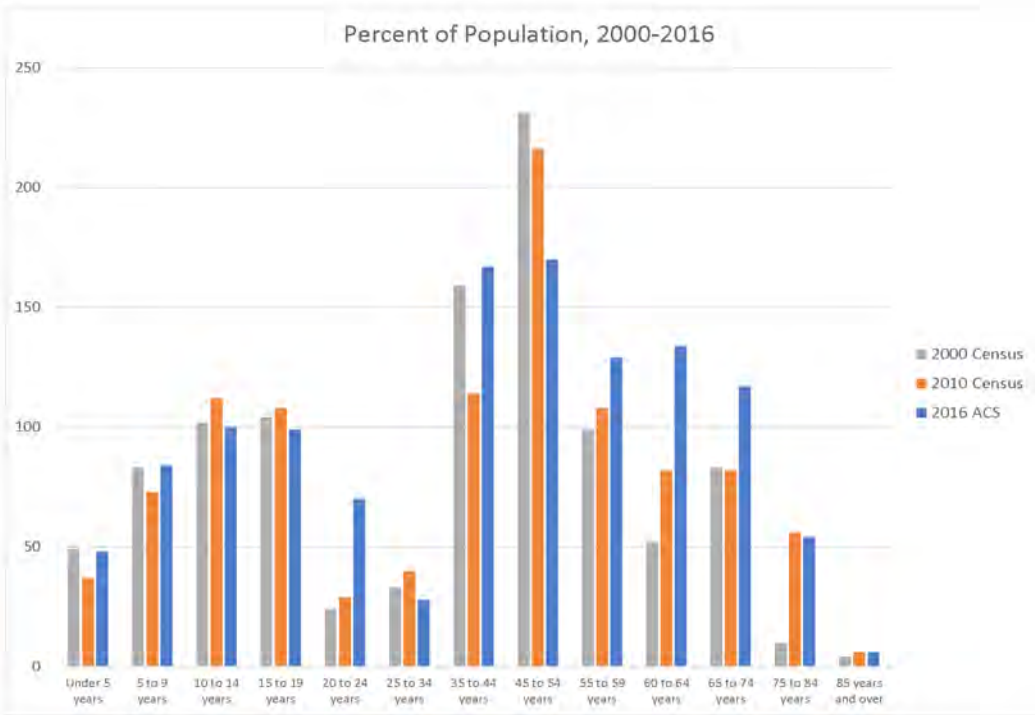


The chart above more clearly represents the slower pace of housing development in the City of Dellwood. Since 2008 when the last comprehensive planning process was conducted, only 20 building permits for new housing units have been issued in Dellwood. Considering that land for development is only becoming more scarce, this trend would appear to continue into the future.

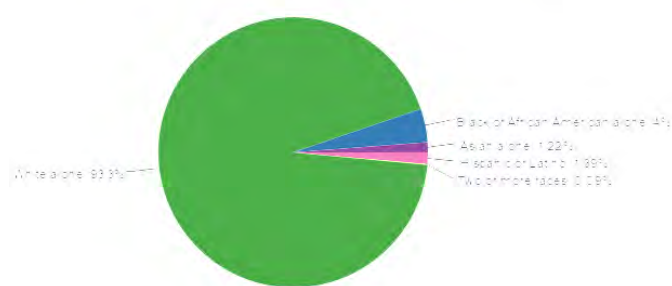
Since Dellwood is not anticipated to grow significantly between now and 2040, the focus of the City will be on meeting the desires and needs of its existing community. To do so, it is important to understand the current age demographics of the city. Different age groups have different preferences and needs from what their community offers. The City should consider demographics when analyzing community needs.

The next graph shows the breakdown of the population into age cohorts from the 2000 Census, 2010 Census and the 2012-2016 American Community Survey estimates. Looking at age cohorts over time, we can see that in general Dellwood trends generally towards 35-54 years-old in each year measured. Similarly, each year measured had a significant school-age population, between five and 19 years old. In 2016, the middle age group has dropped from 2000 and 2010, and now there is a more significant population of 60-74 year olds.

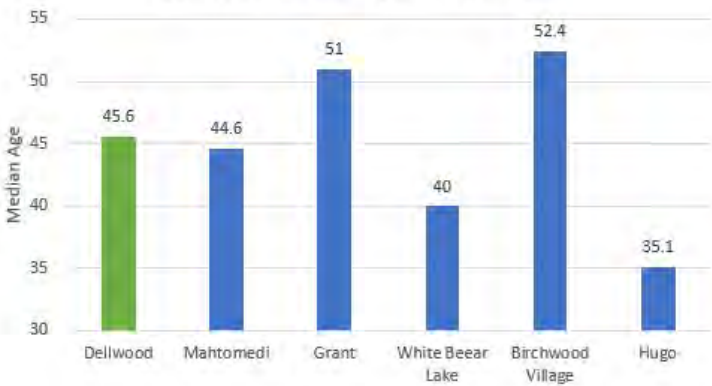
Compared to other communities in the direct vicinity, Dellwood finds itself somewhere in the middle in terms of median age. Hugo and White Bear Lake are younger, while Grant and Birchwood Village are older. Overall these communities are middle-aged, attracting residents who have been working at least 15 to 20 years, and who may be looking for larger homes and amenities such as private clubs and recreational opportunities. Many of these residents will be commuting into the Twin Cities or other major employment centers.



Population by Race and Ethnicity in Dellwood



Dellwood Median Age Comparison



FORECASTS & COMMUNITY DESIGNATION

Forecasts

The Metropolitan Council uses forecasts to plan for regional systems. The City of Dellwood bases its planning work on these forecasts. The forecasts for population, households, and employment for the City of Dellwood are:

Forecasts					
	2010 (Census)	2018 (Estimates)	2020	2030	2040
Population	1,065	1,135	1,110	1,130	1,150
Households	373	389	400	410	420
Employment	277	320	330	330	330

Community Designation

The Metropolitan Council designates the City of Dellwood as a “diversified rural” community. The Metropolitan Council stated that diversified rural communities are intended for “protecting land for rural lifestyles and long-term urbanization.” The Metropolitan Council identifies the following land use policies for diversified rural communities:

- Plan for growth not to exceed forecasts and in patterns that do not exceed four units per 40 acres.
- Preserve areas where post-2040 growth can be provided with cost-effective and efficient urban infrastructure.
- Plan land uses to prevent the premature demand for extension of urban services, and so that existing service levels will meet service needs.

EXISTING LAND USE

The existing land uses within the city are restricted to single-family residential, private recreation (two private country clubs) and agricultural (one commercial apple orchard and one farm winery). Dellwood does not utilize a density standard in its planning but maintains low density by requiring minimum lot sizes.

Single Family Residential Land Use

The primary land use in the City is Single Family Residential. The existing residential zoning districts are divided into three categories based on zoning districts: R-1 (one acre minimum), R-2 (two acre minimum) and F/E (5 acre minimum).

The R1 District is primarily the old, historic plats along White Bear Lake. There are also areas of R1 near the Dellwood County Club and along Long Lake. These lots have a minimum lot size of 1 acre. This area is generally fully developed. Occasionally, there are requests to redevelop existing larger lots, which the City considers if the division is meeting the requirements of the Shoreland District.

The R2 District has a minimum lot size of 2 acres. Most of these areas are north of Dellwood Avenue and on the north end of the Dellwood Country Club. These lots are generally fully developed, as well.



The Farm/Estate (F/E) District was the portion of the City that was farmland. Much of this area has been developed, with the exception of some property south of the Seven Vines Winery. The minimum lot size for this designation is 5 acres. Most of the northern portion of the City is zoned F/E.

The City allows Planned Residential Development on F/E parcels which exceed 20 acres exclusive of roadways. Under this arrangement, lots within the subdivision must have an average area of at least three acres, provided no lot may be less than two acres in size without a variance. The Planned Residential Development process allows the City and the developer to enter into an agreement to ensure that the development utilizes the best lot configurations to preserve suitable soils and environmental conditions, and to maintain existing surface water drainage patterns.

Other Considerations

Land use controls are also governed by the City's on-site septic system ordinance. This ordinance implements performance standards which are consistent with or exceed the provisions of the Washington County ISTS Ordinance.

In addressing land use issues, the City Planning Commission and Council look first to the potential impact, if any, the use will have on existing and future wastewater treatment systems.

The lack of municipal sewer effectively prohibits multiple family uses such as apartments and townhouse developments. No such uses exist within the City and none are contemplated. Existing zoning regulations do not allow multiple-family units.

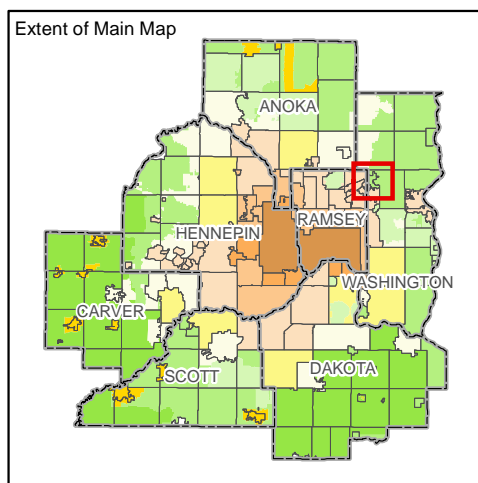
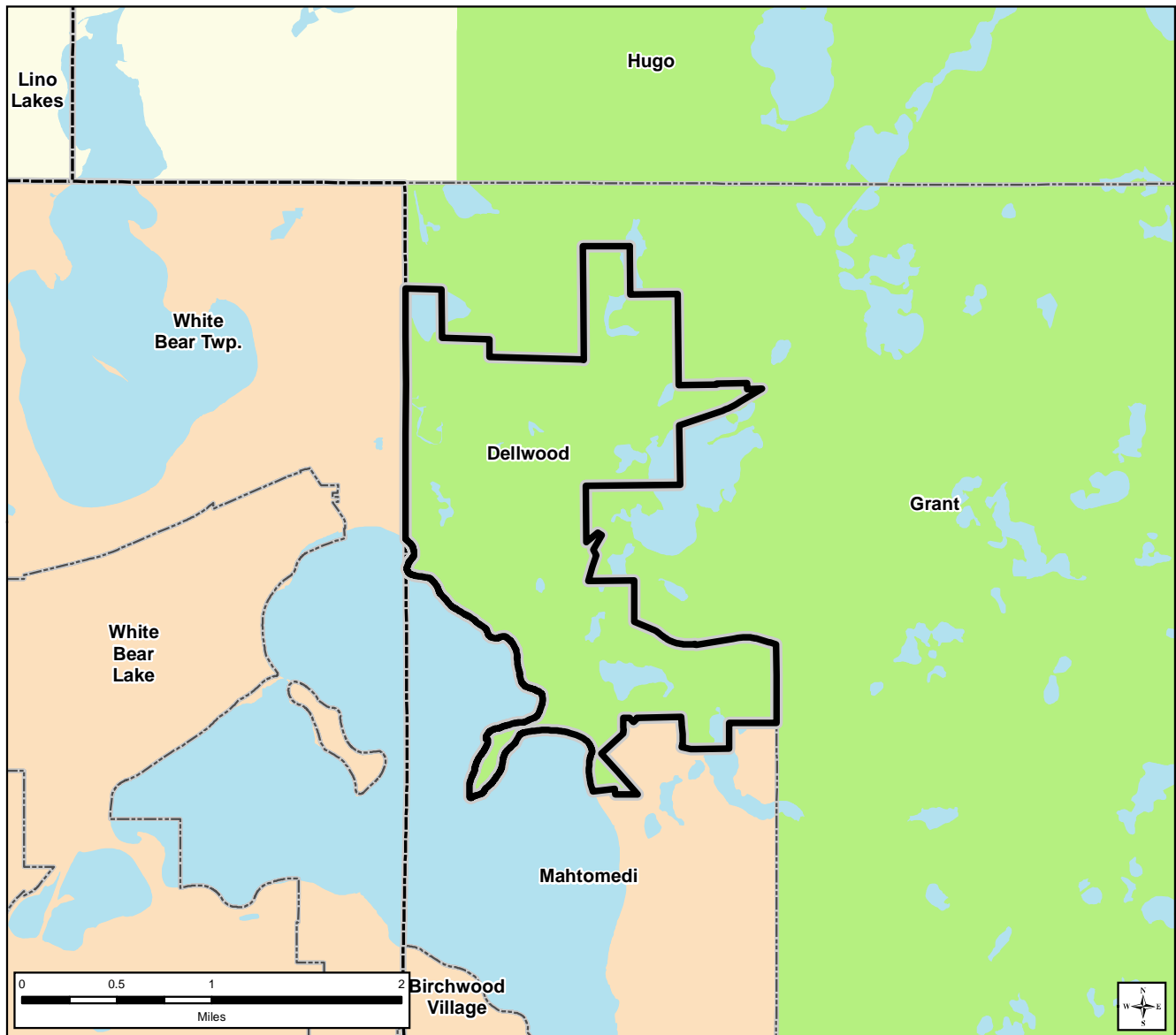
A primary concern of the City over land use issues in the future will involve reconstruction of deteriorating dwellings. Many of the homes in the Shoreland District were built over 50 years ago. Without exception, these homes have been maintained in excellent condition. However, future buyers very often require modern design and construction and submit requests to demolish existing structures and to construct a new home on the property. Invariably, the request includes plans to construct a home larger in size than the one demolished. The City intends to adhere to the adopted Shoreland Ordinance requirements in such cases.

The City has adopted zoning regulations which restrict increasing, enlarging or expanding the use on non-conforming lots. The suitability of the lot to accommodate an adequate septic sewer system controls the number of bedrooms in the structure to be built. Impervious surfaces may not exceed 25% of the total lot coverage. In cases where the lot conforms to zoning requirements, new construction is limited by the standard set-back requirements from the lakeshore, side, front and rear lot lines, without a variance.

City of Dellwood Existing Land Use		
Land Use	Acreage	Percentage
Agriculture	82	4.5%
City Park/Open Space	10	0.5%
Golf Course/Private Recreation	328	18.2%
Single Family Residential	978	54.3%
Right-of-Way	17	0.9%
Vacant	274	15.2%
Water	111	6.2%
Total	1,800	100%

Community Designation

City of Dellwood, Washington County



Community Designation

- | | |
|--------------------------|------------------------------------|
| Urban Center - Core City | Rural Center |
| Urban Center | Diversified Rural |
| Urban | Rural Residential |
| Suburban | Agricultural |
| Suburban Edge | Outside Council planning authority |
| Emerging Suburban Edge | |

- | | |
|--|------------------------------|
| | County Boundaries |
| | City and Township Boundaries |
| | Lakes and Major Rivers |

Existing Land Use






Dellwood

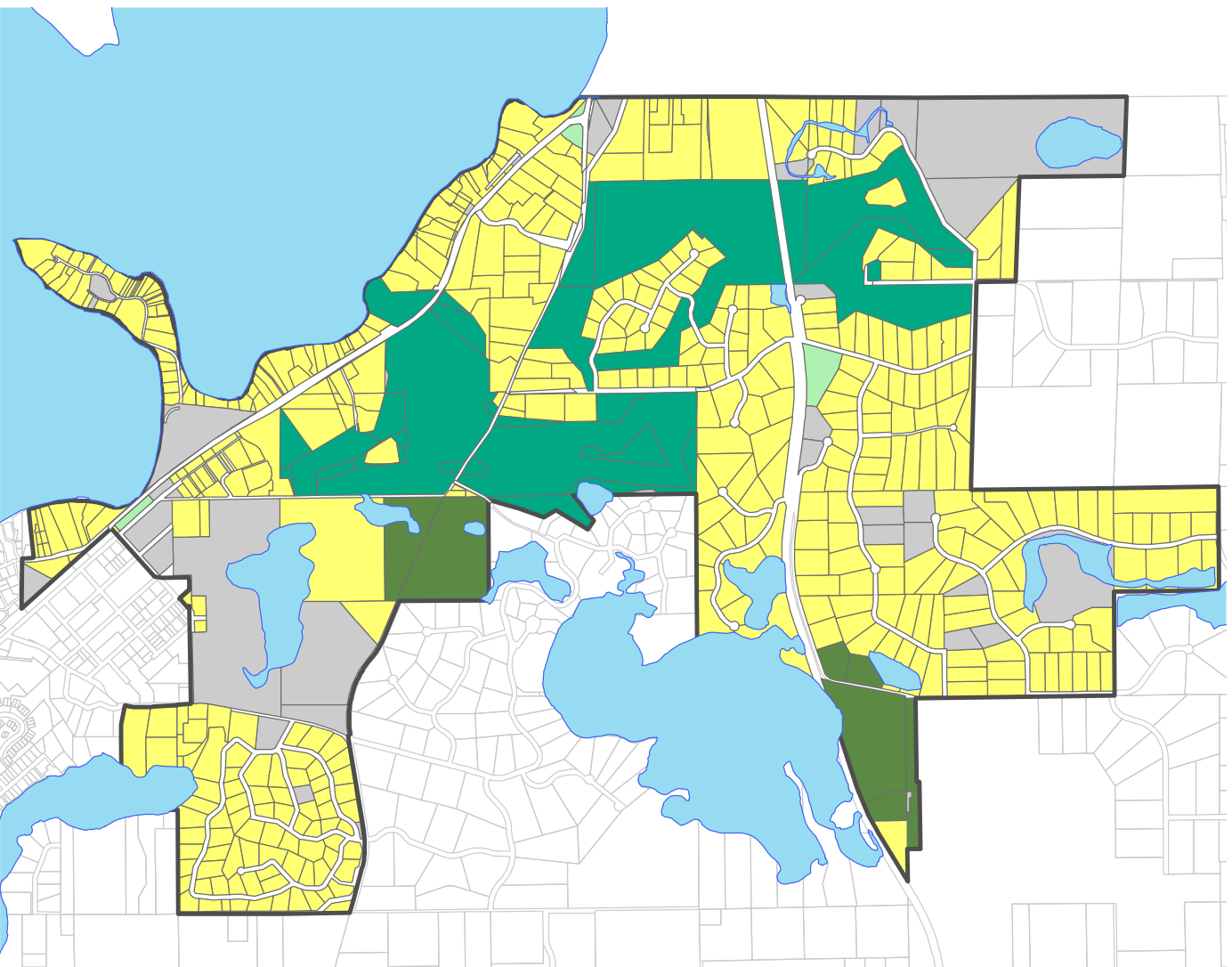
Comprehensive Plan 2040

September, 24 2021



Existing Land Use

-  Agricultural
-  City Park
-  Golf Course/Private Recreation
-  Rural Residential
-  Vacant/Open Space



Existing Land Use Categories

Agriculture - Agriculture is the category used for active agricultural uses. This includes an apple orchard and farm winery.

City Park/Open Space - This designation is for City owned property that includes parkland and open space.

Golf Course/Private Recreation - This category is for the White Bear Yacht Club and Dellwood Country Club.

Rural Residential - This designation is for all single family, rural residential property.

Vacant - Non-agricultural properties that do not have a specified use or residence are identified as vacant.

FUTURE LAND USE

Dellwood, at present, is substantially fully developed. Future development in the City will occur slowly within the few remaining undeveloped land parcels. Therefore, there are only slight changes from the Existing Land Use to the Future Land Use designations.

City of Dellwood Future Land Use – 2020-2040		
Land Use	Acreage	Percentage
Agriculture	68	3.7%
City Park/Open Space	10	0.5%
Private Recreation	328	18.2%
Rural Residential	762	42.3%
Single Family Estate Residential	193	10.7%
Single Family Residential	312	17.3%
Right-of-Way	17	0.9%
Water	111	6.2%
Total	1,800	100%

Future Land Use Designations

The future land use designations used by the City of Dellwood are as follows:

Agricultural - The Agricultural land use designation is intended for properties that are used primarily for agricultural uses that engage public visitors. This includes the Pine Tree Apple Orchard and the Seven Vines farm winery. No expansion of this designation is intended.

Private Recreation - The Private Recreation designation is for the long established private clubs that are found in the City of Dellwood, the White Bear Yacht Club and the Dellwood Country Club, and their associated facilities.

City Park/Open Space - This designation is for city owned property that the City may choose to use as public park or other facilities.

Rural Residential Estate - The Rural Residential designation is intended for general rural development that is consistent with the City's Farm/Estate Zoning District. This zoning district has a maximum density of 1 unit per 5 acres.

Planned Land Use

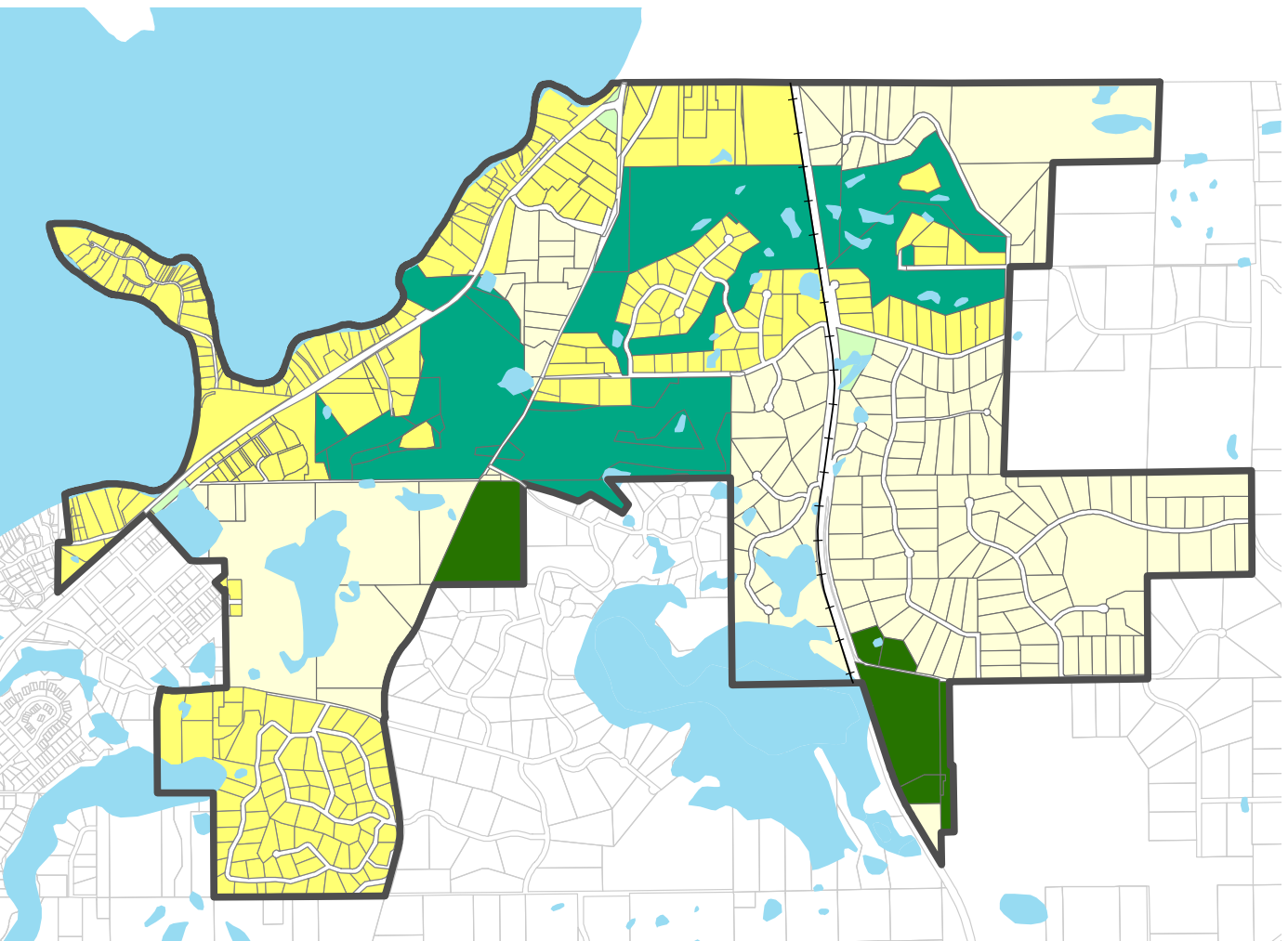
Dellwood Comprehensive Plan 2040

September 24, 2021



Future Land Use

-  Rural Residential Estate
-  Rural Residential
-  Agricultural
-  Private Recreation City
-  Parks



Rural Residential - The Rural Residential category is intended to correspond with the City's R1 and R2 Zoning Districts. These districts allows for a maximum density designation that does not exceed 1 unit per 2.5 acres. No new development is expected within this designation except for infill development or where a subdivision could be permitted if it fits within the existing character of the area.

Development Density

The Metropolitan Council states that Diversified Rural communities are intended to develop at a density of one unit per ten acres. The City of Dellwood traditionally permits subdivisions that fit within the context of the area. For example, in areas where there is an existing development pattern designated for a one acre minimum lot size, development that fits within this pattern is deemed acceptable provided all provisions of the City's Zoning Ordinance are met and the density requirements of this plan. As stated above, if an agricultural or private recreational facility were to wish to change to residential, it would need to meet the required density for Diversified Rural. If properties designated as Agricultural or Private Recreation are redeveloped, the properties may be utilized for single family residential uses at a density of one unit per ten acres.

ZONING DISTRICTS

The city currently uses the following zoning districts:

Shoreland Management District (SMD)

This District is superimposed upon all other districts, and includes all land located within the City of Dellwood. Development within this District is governed by the provisions of this Ordinance.

Farm Estate District (F/E)

This District provides for development with a minimum lot size of 5 acres. The City has allowed "Planned Residential Developments" (PRD) within this area that may achieve a minimum lot size of 3 acres when meeting certain criteria.

Residential Single-Family District (R-1)

This district is intended for the existing developed lots that are 1 acre in size near the lake. The City only allows this district in areas where it is consistent with the existing development pattern and has been historically used.

Residential Single-Family District (R-2)

This district is intended for the existing developed lots that are generally a minimum of 2 acres in size.

Private Club District (PC)

This district is intended for the private recreational institutions within the City.

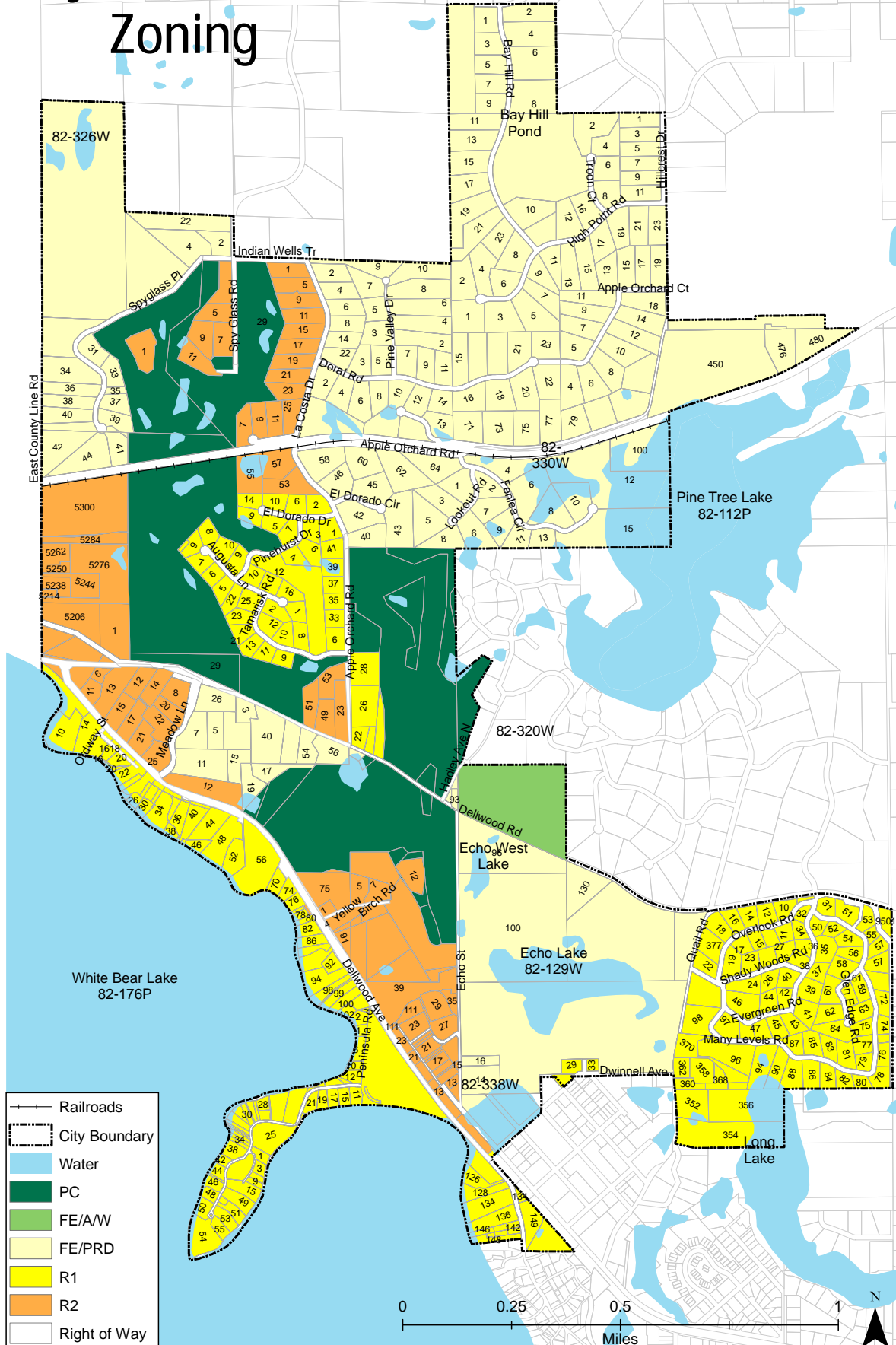
Commercial District (CD)

This district has been used for agricultural business, such as the apple orchard.

These districts will be reviewed for consistency with this Plan.

The map on the following page is Dellwood's current zoning map.

City of Dellwood Zoning



COMMUNITY DESIGNATION

The Metropolitan Council designates the City of Dellwood as a “diversified rural” community. The Metropolitan Council stated that diversified rural communities are intended for “protecting land for rural lifestyles and long-term urbanization.” The Metropolitan Council identifies the following land use policies for diversified rural communities:

Orderly and Efficient Land Use

- Plan for growth not to exceed forecasts and in patterns that do not exceed 4 units per 40 acres.
- Preserve areas where post-2040 growth can be provided with cost-effective and efficient urban infrastructure.
- Manage land uses to prevent the premature demand for extension of urban services, and so that existing service levels (such as on-site wastewater management, gravel, and other local roads) will meet service needs.

LAND USE GOALS & POLICIES

Goals

1. Ensure all new development fits within the existing and historic character of Dellwood.
2. The City’s objective is to remain a rural single family residential community.
3. No new commercial development will be permitted within the City of Dellwood.
4. Existing non-residential uses within the City should not be greatly expanded to encroach on the residential areas.
5. High standards of construction and maintenance are expected and encouraged for property owners.

Policies

1. Retain the existing density level of the community.
2. Promote development and design that enhances rural character.
3. Manage development so as to protect water resources and wetlands.
4. Encourage reinvestment in private properties.
5. Protect existing agricultural uses.
6. Implement and enforce planning and regulatory measures to ensure that aggregate resources are extracted prior to development of an aggregate-rich site.

Implementation Actions:

1. Review and update zoning ordinance to conform with the land use goals of the Comprehensive Plan.
2. Evaluate and revise plat review process and other administrative procedures.



HOUSING

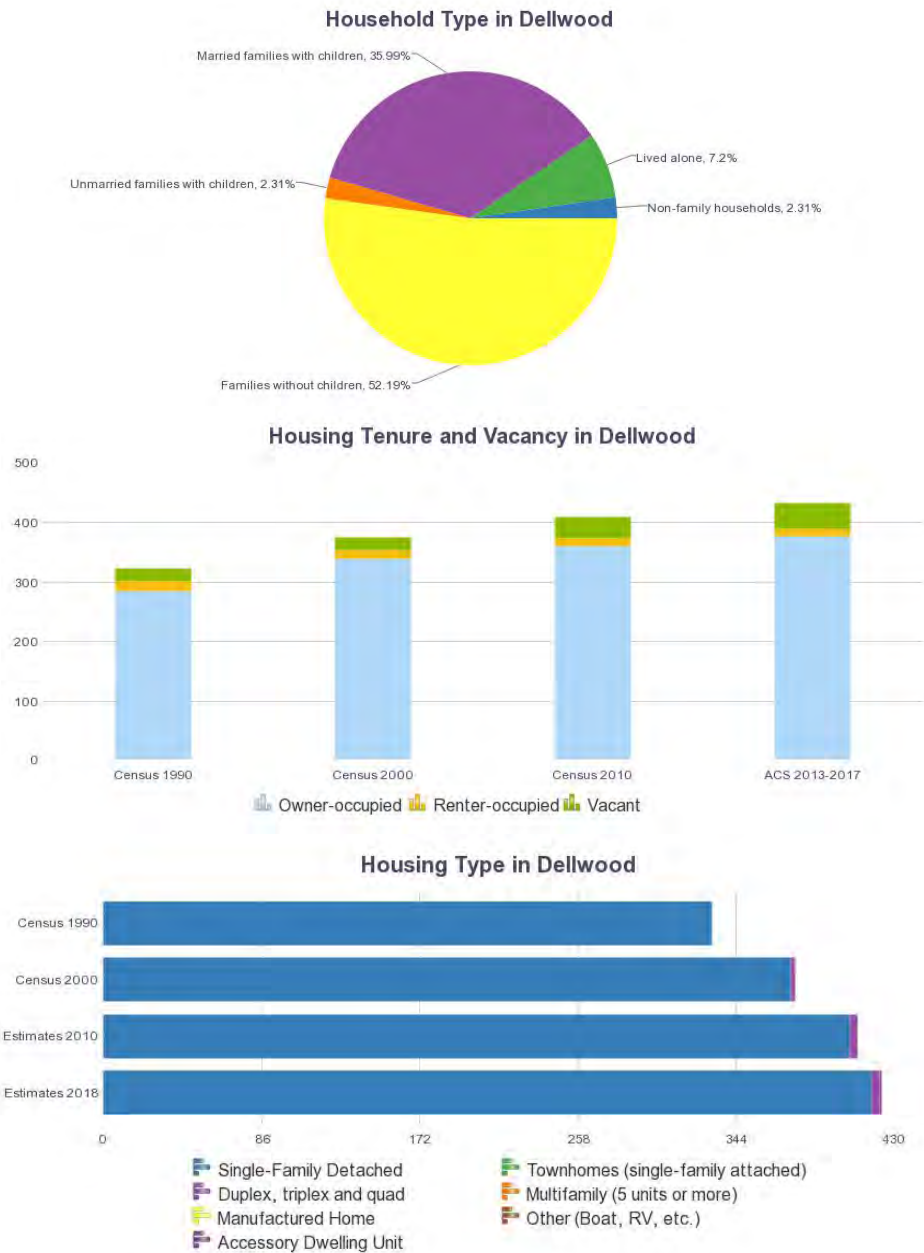
INTRODUCTION

The intent of the housing plan is to analyze existing housing stock, identify housing needs, and develop a housing implementation program that identifies official controls, programs and fiscal tools. Housing in Dellwood is analyzed in light of growth forecasts, existing tenure, affordability, and more. The Housing Plan also describes regional housing needs and how the City fits into that regional plan. The goals and policies identify Dellwood’s plans regarding housing and the tools the City will use to implement their goals.

EXISTING HOUSING INVENTORY

Table 1. Total Housing Estimates	
Total Housing Units	Total Households
415	379
Table 2. Housing by Tenure	
Ownership Units	Rental Units
402	13

Tables 1 and 2 give us a very basic picture of current housing in Dellwood, currently there are 379 households in the city, however the Metropolitan Council estimates this number to grow to 450 in 2040. The majority of units are also ownership units, around 97 percent of total units. Most houses in the City are owner occupied, with some rentals and vacancies.

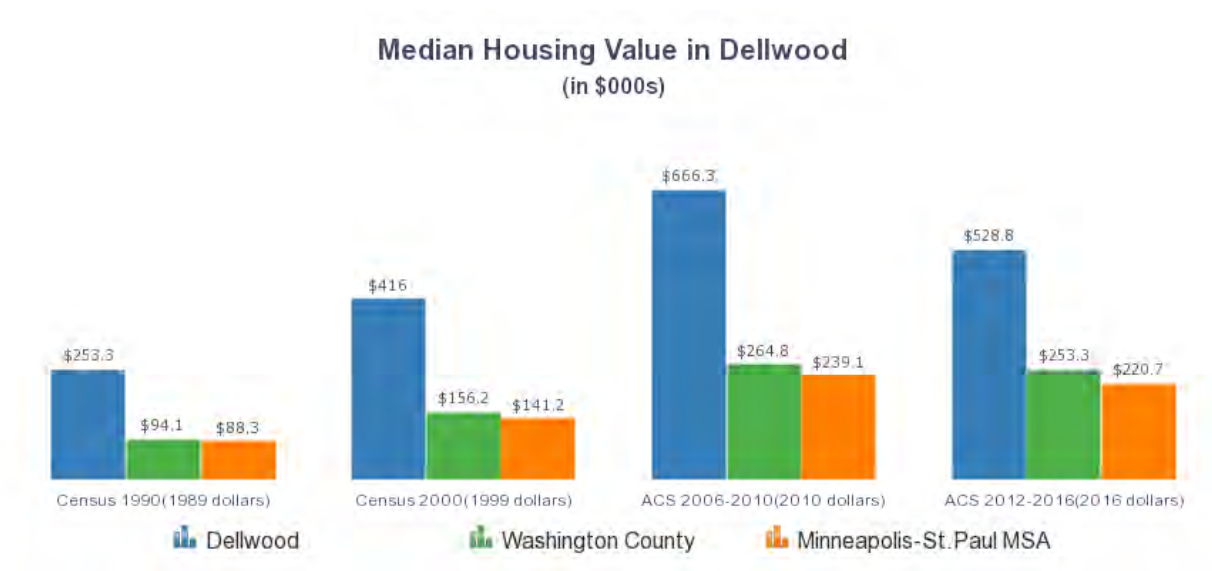


The map on page 19 breaks down housing units in Dellwood by the year in which they were built. Dellwood developed early as a lakeshore seasonal/recreational area on White Bear Lake. Much of the existing housing consists of larger older homes built prior to 1960. These homes have been maintained in excellent condition, and remodeled. In some cases, older homes are being demolished and replaced by new construction. In such instances, the lot size and lot line setbacks and suitability of the soil to accommodate an on-site septic sewer system control the size of the replacement home. The City maintains an Ordinance which governs substandard housing units and the ability of the owner to rebuild.

Currently, only a small portion of housing units in Dellwood could be considered affordable given the median income of the metropolitan area. For a person making 50% of the area median income (AMI), only 11 units would be considered affordable to them. 3% of all housing units are considered affordable to a person making 80% of AMI. However, the development of new affordable housing is not a primary concern for the City. Dellwood is mostly made up of rural estate style houses, and there is not enough market demand to necessarily support additional affordable housing. In addition, Dellwood has no regional allocation for new affordable housing assigned to it by the Metropolitan Council.

Table 3. Housing Affordability in 2016		
Affordable Units to household income at or below 30% AMI	Affordable Units to household income at 31-50% AMI	Affordable Units to household income at 51-80% AMI
10	1	2
Table 4. Housing Cost-Burdened Households in 2016		
Cost Burdened Households with Income at or below 30% AMI	Cost Burdened Households with Income at 31-50% AMI	Cost Burdened Households with Income at 51-80% AMI
6	3	12

The median value of dwelling units in Dellwood is more than twice that of comparable figures for Washington County and the seven county metropolitan area. Large-estate style, owned homes have been largely the norm in Dellwood since it was a resort/agricultural community and has continued through today.



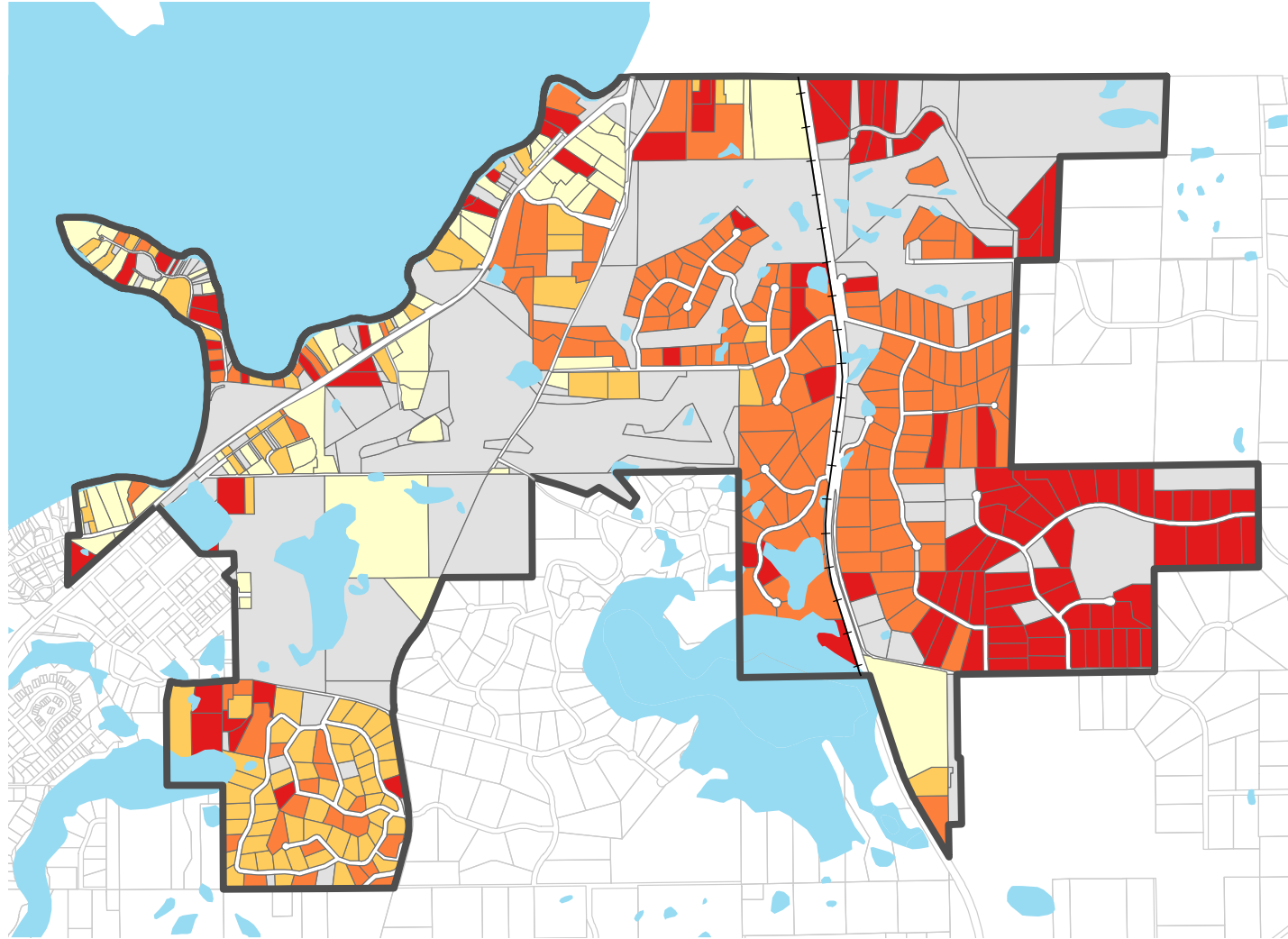
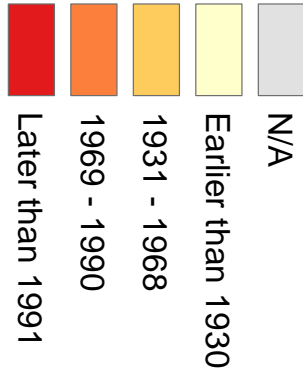
Housing - Year Built

Dellwood Comprehensive Plan 2040

April 20, 2018



YEAR_BUILT



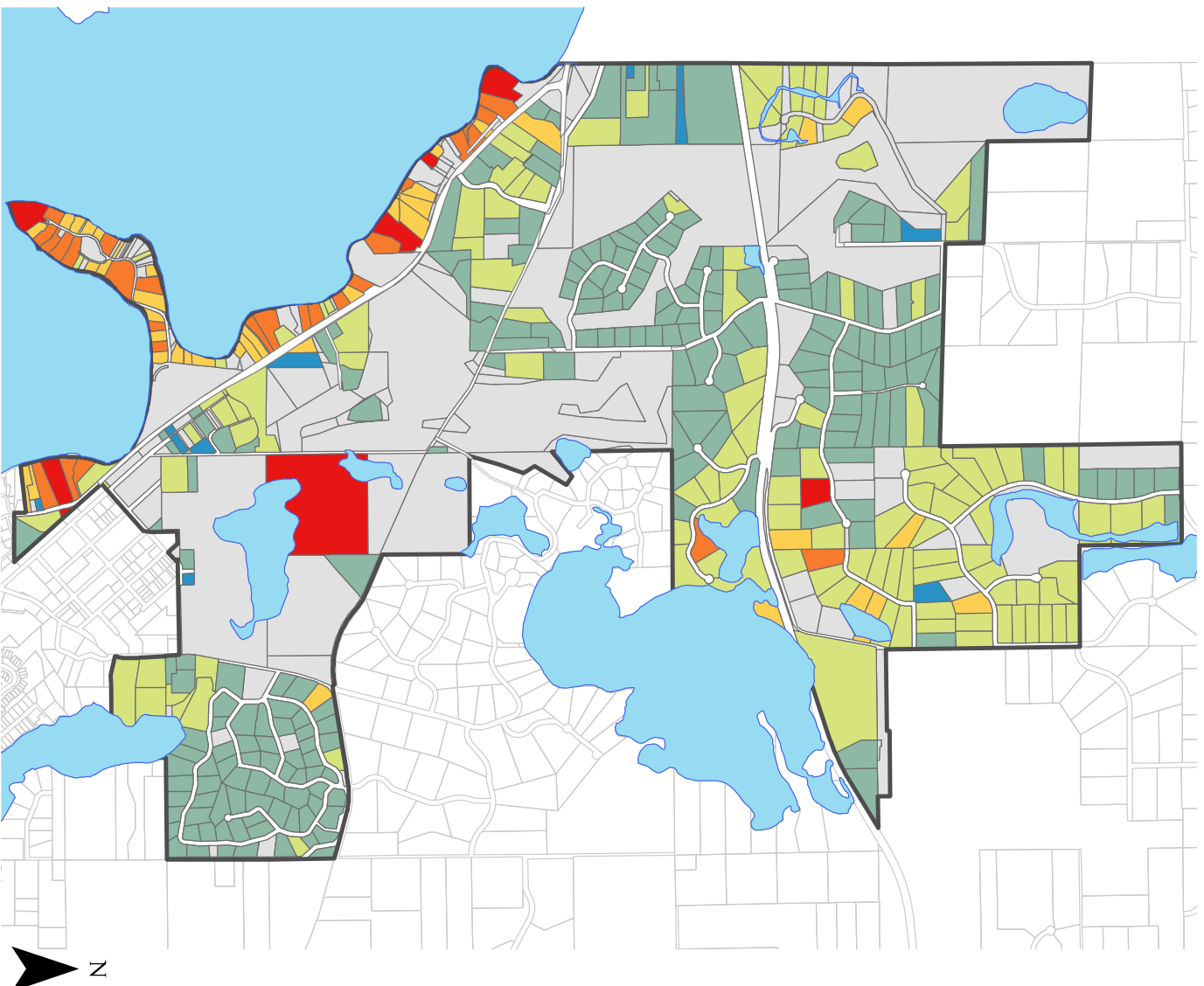
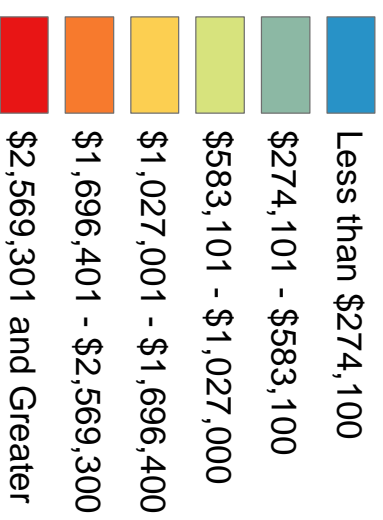
Housing Estimated Market Value

**Dellwood
Comprehensive Plan 2040**

May 30, 2018



Housing Estimated Market Value

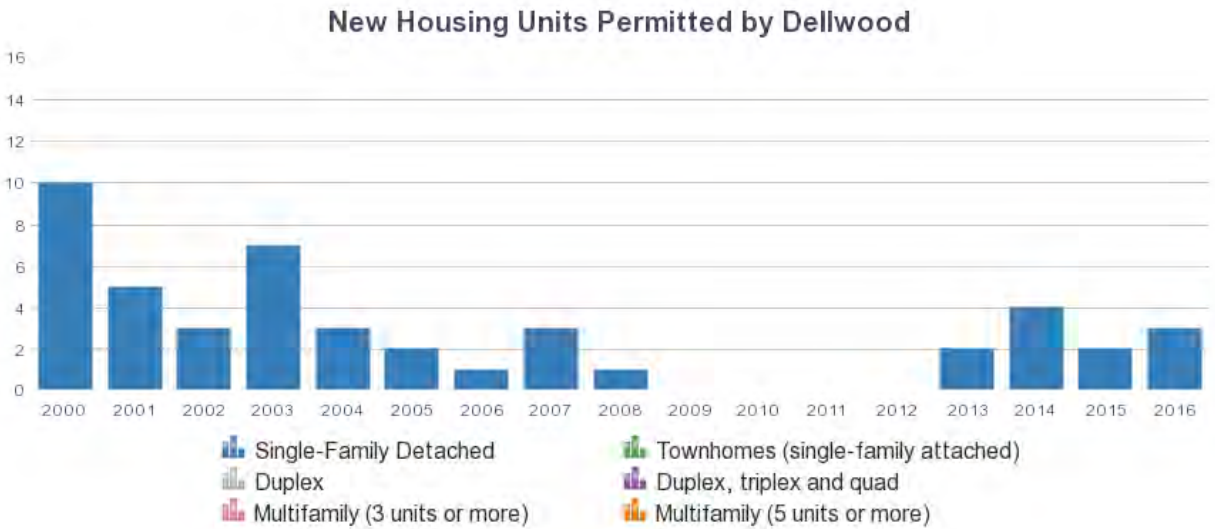


However recent development has slowed somewhat due to a lack of undeveloped land. Most new housing units involve the demolition and reconstruction of existing older housing units. New Housing Units by year issued are shown in the table below.

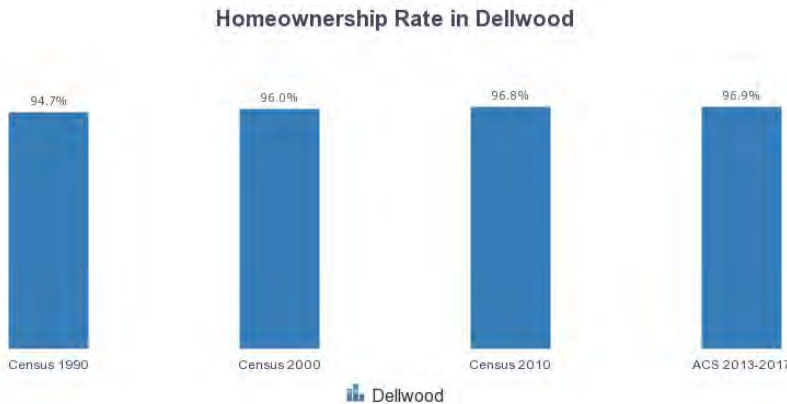
Table 5. Housing Units by Type			
Single-Family Units	Multifamily Units	Manufactured Homes	Other Housing Units
411	4	0	0

Table 6. Publicly Subsidized Housing Units			
All Publicly Subsidized Units	Publicly Subsidized Senior Units	Publicly Subsidized Units for those with Disabilities	All other Subsidized Units
0	0	0	0

All except four housing units in Dellwood are Single-Family Homes. This is unsurprising given the City’s history of being a largely rural community. As a diversified rural community, the City is expected to develop at an overall density of one unit per 10 acres. In the event of urbanization beyond 2040, the City will explore additional multifamily development with an emphasis on clustering in order to limit the impact infrastructure systems and the City’s existing character.



In compliance with the Metropolitan Land Planning Act, the City of Dellwood will maintain a system in effect for monitoring and evaluating the condition of the housing supply in the City. Further, the City permits home rehabilitation loans and grants to be made to low and moderate-income residents through Washington County HRA and or local lenders.



HOUSING NEEDS

Unlike some of the region's suburban and urban communities, Dellwood is not anticipated to see major population changes between now and 2040. The Metropolitan Council has not allocated any new affordable housing for the City and without major industrial or commercial industries, the need for new workforce housing is less pressing for the City. Instead the primary goals for Dellwood moving forward will be the preservation of the housing values of current residents and allowing for redevelopment and new construction in an environmentally conscious manner.

Dellwood must ensure that existing housing units are maintained and renovated in a fashion which improves the quality of the City's residential neighborhoods and which protects its residents housing values. Many homes in the City were built in the early-to-mid twentieth century and will require more extensive maintenance than more recently constructed homes between now and 2040. In compliance with the Metropolitan Land Planning Act, the City of Dellwood will maintain a system in effect for monitoring and evaluating the condition of the housing supply in the City. Further, the City permits home rehabilitation loans and grants to be utilized by residents for the upkeep of their homes. However, the primary tool to improving existing housing stock will be effective inspection and enforcement.

However, in order to meet forecasted population growth, new housing units will need to be developed between now and 2040. 71 new households are expected, 36 of which can be met with currently vacant properties. The remainder will be met through new development, however remaining developable land in the city is limited. Open land in the southern portion of the City is the most likely location for new development, however it will need to be mindful of existing natural features and limitations.



The City's principal housing needs are to encourage the production of new high quality housing units, maintain and improve the existing housing stock, and to promote new home ownership opportunities.

COMMUNITY DESIGNATION

The Metropolitan Council designates the City of Dellwood as a "diversified rural" community. The Metropolitan Council stated that diversified rural communities are intended for "protecting land for rural lifestyles and long-term urbanization." The Metropolitan Council identifies the following housing policies for diversified rural communities:

Housing Affordability and Choice

- Promote a balanced housing supply and a mix of housing affordability to ensure long-term community vitality.

IMPLEMENTATION

Based on the analysis of existing stock and the demonstrated needs, the City of Dellwood has identified the following public programs, actions, and fiscal devices which will help fulfil these needs.

Housing Need/Priority	Tool	Description/Use
Encouraging production of high-quality housing units	<i>Tax Abatement and Tax Increment Financing</i>	Local Jurisdiction can provide gap financing options to encourage the development they want to see. Very effective for redevelopment of brownfields/blighted areas. It is unlikely that the City would use these tools due to the rural and residential nature of the community.
	<i>Met Council LCDA</i>	Funding provided by Met Council for innovative projects that promote Livable Communities. Funds used for public infrastructure and site assembly. The City would support any such use of these funds in a manner consistent with this plan.
	<i>Regularly updated zoning code</i>	Update zoning code so as to give the City some control over the types of development and building improvements that can take place within the City.
Maintain and improve existing housing stock	<i>CDA Home Improvement Assistance Program</i>	Small loans (up to \$18k) available for moderate income households looking to improve maintain their existing home. This Program is run by the Wash. Co. CDA and the City would support its use by residents.
	<i>Inspection & Code Enforcement</i>	The City will continue to use available methods and programs to ensure existing homes meet performance standards for housing. New programs may be established as needed.
	<i>Point of Sale Compliance Inspections</i>	In effort to maintain the condition and value of the overall housing stock, a code compliance program can encourage reinvestment in the housing within Dellwood. Through enforcement of this program, the City can contribute to increasing the housing values. The City may consider adopting such programs if an identified need arises.
	<i>Rental Housing Registration</i>	To offset maintenance and upkeep issues of rental properties (including single family, duplexes, townhomes, apartments etc.) the City may wish to initiate a rental inspection program. All rental properties would be required to annually obtain a rental registration permit. On a two-year cycle prior to permit renewal, the City could inspect all the rental units and common spaces for code compliance.
	<i>Development Regulations</i>	By examining and modifying the City's development regulations, local property owners are provided greater flexibility in the use and development of their properties. Topics addressed usually include building setbacks, accessory buildings and home occupations. These efforts are intended to allow property owners the opportunity to expand, alter or modernize their homes in a manner that keep the housing stock contemporary and sellable.
	<i>Subsurface Sewage Treatment System Repair Grant/Loan</i>	The City will work with the Washington County CDA to connect homeowners with noncompliant sewage treatment systems to available funds and education.
Promote new homeownership	<i>Community Land Trusts</i>	A land trust can reduce purchase prices for new homebuyers. Homebuyer would only purchase the structure on a property, while the land trust would own the land underneath. Two Rivers Community Land trust is an example in Washington County.
	<i>First Time Homebuyer and Down Payment Assistance</i>	MN Housing has startup loan and down payment assistance loan programs in place. Can help diffuse the large upfront cost of buying a home, household income must be under \$99,500.
	<i>Local Fair Housing Policy</i>	The City may consider developing a Fair Housing Policy if an identified need arises.
	<i>Home Buyer Education</i>	The City will consider partnering with the Washington County CDA and other agencies to offer resources to homeowners before and after home purchases.

	<i>Homeowner Counseling</i>	The City will consider partnering with the CDA and other agencies to offer counseling and foreclosure prevention to homeowners.
	<i>Effective Referrals</i>	The City will be acquainted with the resources mentioned in this plan and refer interested parties to the appropriate agency.

GOALS AND POLICIES

Goals

1. Encourage high quality residential development that reinforces the character of Dellwood and occurs at existing levels of density.
2. Promote high standards of maintenance and private improvement of the existing housing stock.
3. Protect existing housing values through proper land use and zoning controls.
4. Promote new homeownership by attracting first-time homebuyers from other townships and cities.

Policies

1. New residential development which would damage or harm existing wetlands within the city should not be pursued without mitigation methods being employed.
2. Continue to enforce the city's ordinances to maintain a high standard of residential properties. Evaluate and improve upon inspection and enforcement efforts.
3. Retain rural character by limiting development to lower density single family development.
4. Promote grants, loans, education, and other programs and materials provided to residential property owners by the county, Washington County CDA and other organizations.

Implementation Actions:

1. Update zoning code to allow for the changes created by the comprehensive plan document.
2. Promote Washington County Community Development Agency programs to qualified residents.
3. Establish code enforcement and inspections programs to ensure quality of housing stock.
4. Consider point of sale compliance inspections and rental housing registration programs.
5. Educate residents on basic home improvement and maintenance through City newsletters or other communication channels.



ECONOMIC DEVELOPMENT

INTRODUCTION

By and large, Dellwood is a residential community with very limited commercial businesses. Under current zoning, no additional commercial or industrial uses are allowed. Undeveloped land is limited in Dellwood and has a much higher value as potential residential land than to develop as commercial or industrial land. The City provides a high standard of rural residential properties. Introducing industrial or certain commercial land uses may negatively impact these properties.

The City views its existing business enterprises as essential to the character of the community, as these entities augment the quality of life for residents. Therefore, the continued success of these businesses is important to the City. However, these entities should maintain their operations in a manner that is compatible with the rural residential nature of the community.

EXISTING LOCAL BUSINESSES



White Bear Yacht Club

Originally founded in 1889 as a sailing club, the Yacht Club is rich in sailing history and holds regular regattas while maintaining the largest “A” boat fleet in the United States. The original “clubhouse” was the Kirby Barnum Hotel which provided overnight accommodations to members that wished to spend their weekends on beautiful White Bear Lake. The train from St. Paul stopped directly in front of the hotel, dropping off members at the front door.

In 1912 the Club added golf to its venue of entertainments with a 9 hole course designed by Scottish architect William Watson. Shortly thereafter, the hotel was replaced by a new lakeside clubhouse designed by then member A.H. Stem, best known for his design of New York City’s Grand Central Station.

In 1915 Donald Ross was engaged to redesign the original nine holes and commissioned to add a second nine. Today a contemporaneous map depicting Ross’ design hangs in the Club’s Golf House and shows the basic layout of the original holes which are for the most part unchanged.

Over the years the Yacht Club has been the host venue for dozens of MGA, MWGA and USGA competitions, since hosting its first MGA Men’s Amateur Championship in 1917. Although not overly long, the course remains timeless with its unique changes in topography, varied green complexes and serene surroundings just as it was over 100 years ago.





Pine Tree Apple Orchard

The Pine Tree Apple Orchard operates under a Conditional Use Permit issued by the City which is intended to restrict and control the growth of its business for the protection, safety and welfare of residential neighborhoods. The nature and volume of business which may be conducted at the orchard is limited generally to that which existed at the time the Conditional Use Permit was first issued.

The first apple trees were planted on the shore of Pine Tree Lake in 1904. The current family that operates the orchard purchased it in 1958. The original orchard of 25 acres is now over 300 hundred acres, not all of which is in the City. This agricultural operation is planted in apple trees, strawberries, pumpkins and corn for a corn maze. In 1963, Pine Tree Orchard purchased an additional orchard in Preston, Minnesota.



Dellwood Country Club

Found in the center of the City, the Dellwood Country Club opened in 1970. It has an 18 hole championship golf course. The trees and water in and around the course are home to an abundance of wildlife. There are swimming and tennis facilities, as well as a restaurant and clubhouse that hosts events.

The Club was established in 1970 and was originally called Dellwood National, it was distinctly a golfer's club. An old farmhouse served as the clubhouse until a fire destroyed the building in 1983. Over the years, tennis, swimming and social activities have added to the character of the club.

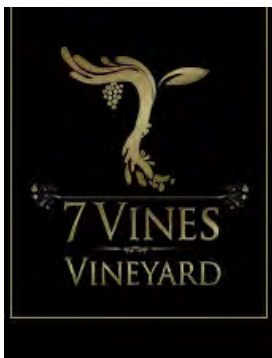
Starting in 2013, the Club has undergone an extensive makeover as it switched to private ownership.

Seven Vines Winery

A farm winery, Seven Vines, has recently opened in the City of Dellwood. Farm wineries are permitted under State Statutes as an agricultural use.

The site of Seven Vines is on property originally owned by the descendants of railroad baron James J. Hill. The Peltier family acquired the property in 2010 and began an agricultural grape operation shortly thereafter. After establishing the grapes, the owners began making wine.

A few years later, the winery building was constructed on the north side of Dellwood Road. The facility offers wine tasting for visitors and has an event rental space available.



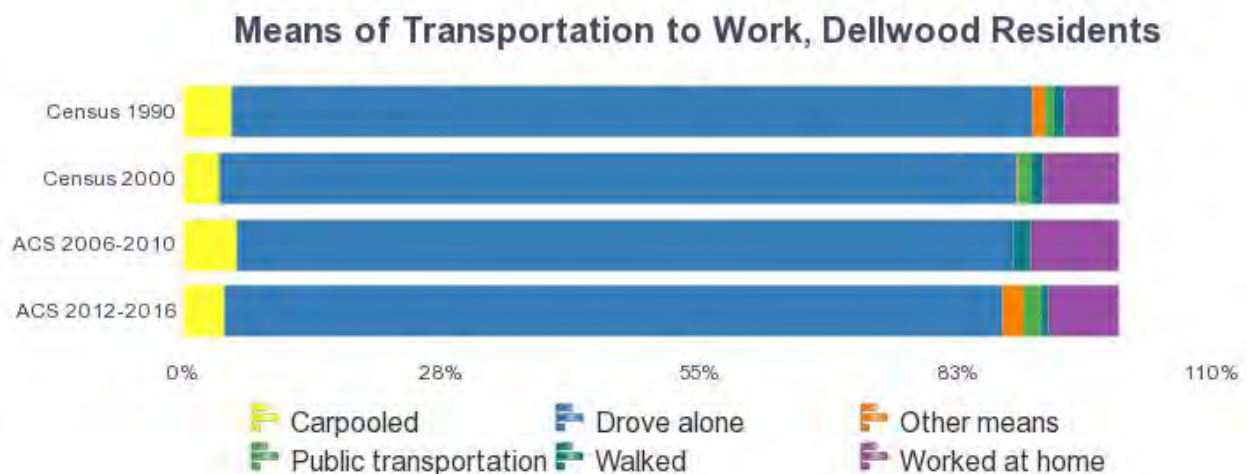
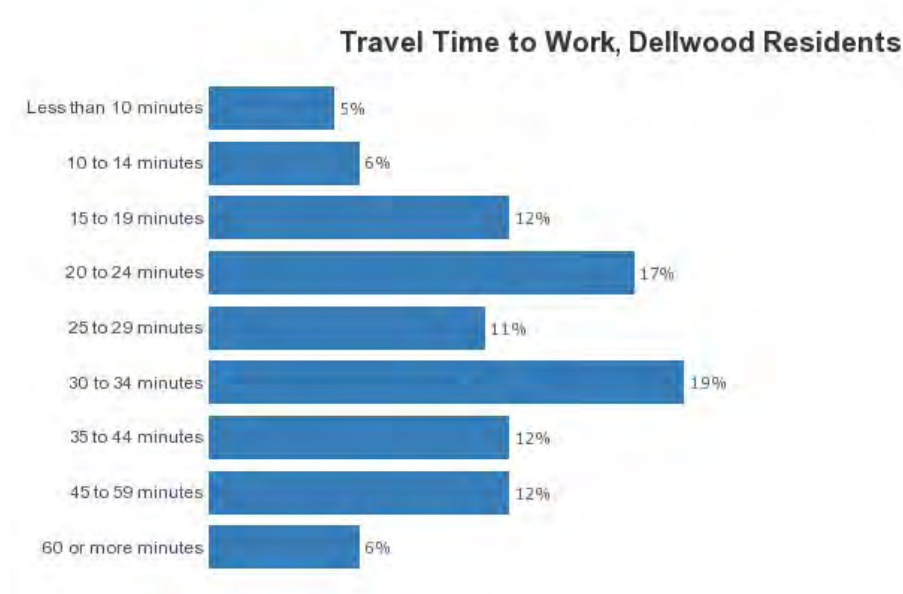
EMPLOYMENT

Other than the aforementioned entities, no other employers exist in the City. The Apple Orchard employs approximately 125 workers at its peak business season, which lasts for about six weeks in the fall. 80% of these workers are part-time seasonal employees.

The White Bear Yacht Club employs approximately 165 people during the summer months, many of which are part-time employees. Dellwood Hills Golf Club has about 110 employees during the summer months, and over half of these work part-time only.

Because of the restrictions imposed upon all of these entities by their respective permits and the limitations on size of club membership, little increase, if any, is anticipated by way of economic activity carried on in the City. Additionally, no further commercial uses are allowed under present zoning regulations.

According to US Census Data, 98% of Dellwood residents work outside of the City and 92% of workers employed in Dellwood reside outside of the City. This disparity is largely attributable to the lack of full-time and year-round employment opportunities in the City.



Conversely, most of the workers in Dellwood come from the surrounding communities, such as Mahtomedi, Hugo, and White Bear Lake.

Top ten residences of people who work in Dellwood

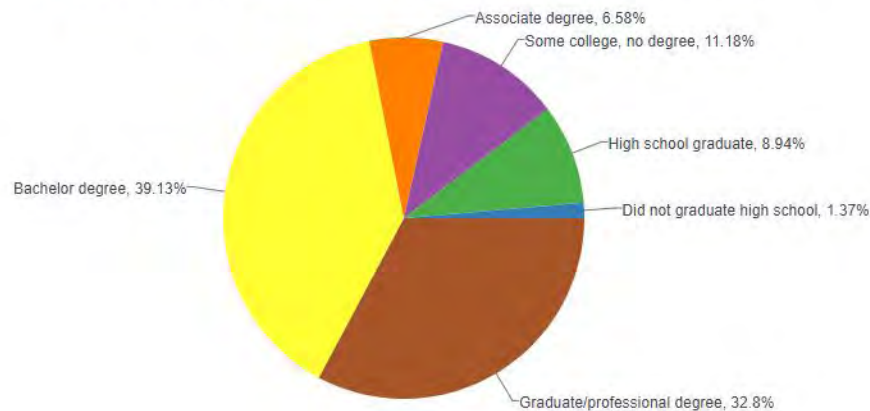
Residences	Workers
Mahtomedi	13
Hugo	13
Dellwood	12
White Bear Lake	11
White Bear Township	7
Woodbury	7
Maplewood	6
St. Paul	6
Vadnais Heights	5
Oakdale	4
Forest Lake	4
Other	36

Top ten workplaces of people who live in Dellwood

Workplaces	Workers
St. Paul	82
Minneapolis	63
White Bear Lake	24
Vadnais Heights	17
Mahtomedi	17
Roseville	15
Bloomington	14
Edina	13
Woodbury	13
Brooklyn Park	12
Dellwood	12
Stillwater	12
Blaine	12
Other	169

Dellwood's residents are, on average, a highly educated group. Almost 72% have at least a bachelor's degree or higher. Given the high education levels, it explains why most residents of the city do not work within Dellwood, which primarily only has service, seasonal, and other jobs that have lower-training qualifications. These high education achievement measures also in part explain the City's high per capita income.

Highest Level of Education Attained by Dellwood Residents



In 2016, Dellwood residents estimated to make around \$77,000 per capita. This mark is significantly larger than either the County or MSA marks. It is over double the per capita income of the average resident of the Twin Cities Metropolitan Statistical Area.

Per Capita Personal Income in Dellwood
(in \$000s)



GOALS AND POLICIES

Goals:

- Assist in the continued success of the existing commercial enterprises in the community.
- Ensure the existing businesses are compatible with the rural residential character of the City.

Policies:

- Ensure zoning regulations conform to the goals of this plan.
- Restrict the establishment of new businesses.
- Protect the rural residential character of the City.
- Provide for forecasted employment within the established businesses.

Implementation Actions:

- Review zoning regulations and districts.
- Use regular inspections to ensure existing businesses are operating within their required permits.
- Establish regular communication with businesses to assist in meeting business and City needs.



NATURAL & HISTORIC RESOURCES

INTRODUCTION

The City of Dellwood contains a number of significant natural features including: lakes, wetlands, native plant communities, and groundwater dependent natural resources. These features attracted early settlement of the area and continue to attract residents today. The City of Dellwood's natural features are important not only for the natural beauty they provide, but also for providing wildlife habitat, important ecosystem services, and a sense of place and identity for the community.

NATURAL RESOURCES

Topography

Dellwood's glaciated topography is evident in its terrain and steep slopes. Numerous wetlands, depressions, lakes, variable soils, and tree cover compose its scenic setting. The majority of steep slopes in Dellwood are in the northern and southern portion of the City.

Altering land with slopes in excess of 12 percent is environmentally hazardous and expensive. Shallow soils and steep slopes greatly reduce the capacity of the soil to retain water. Increasing the slopes may increase the already rapid runoff, produce severe gully erosion, damage the land, and cause subsequent sedimentation to lakes and streams. Increased runoff can cause unstable stream flows and flooding problems in downstream areas. The intricate web of wetlands and drainage ways in the City is especially susceptible to sedimentation and flooding.

Watersheds

A "watershed" refers to a particular area of land over which precipitation drains. These large areas cross the boundaries of local jurisdictions. State legislation established organizations (watershed management organizations and watershed districts) to research, plan, and manage water resources within each respective watershed drainage area.

Dellwood lies within the Rice Creek Watershed District (RCWD). RCWD completed a comprehensive water management plan that, approved in 2010, which shapes the City's water policies and Surface Water Management Plan. The updated Surface Water Management Plan can be found in the Water Resources chapter of this document.

Public Waters

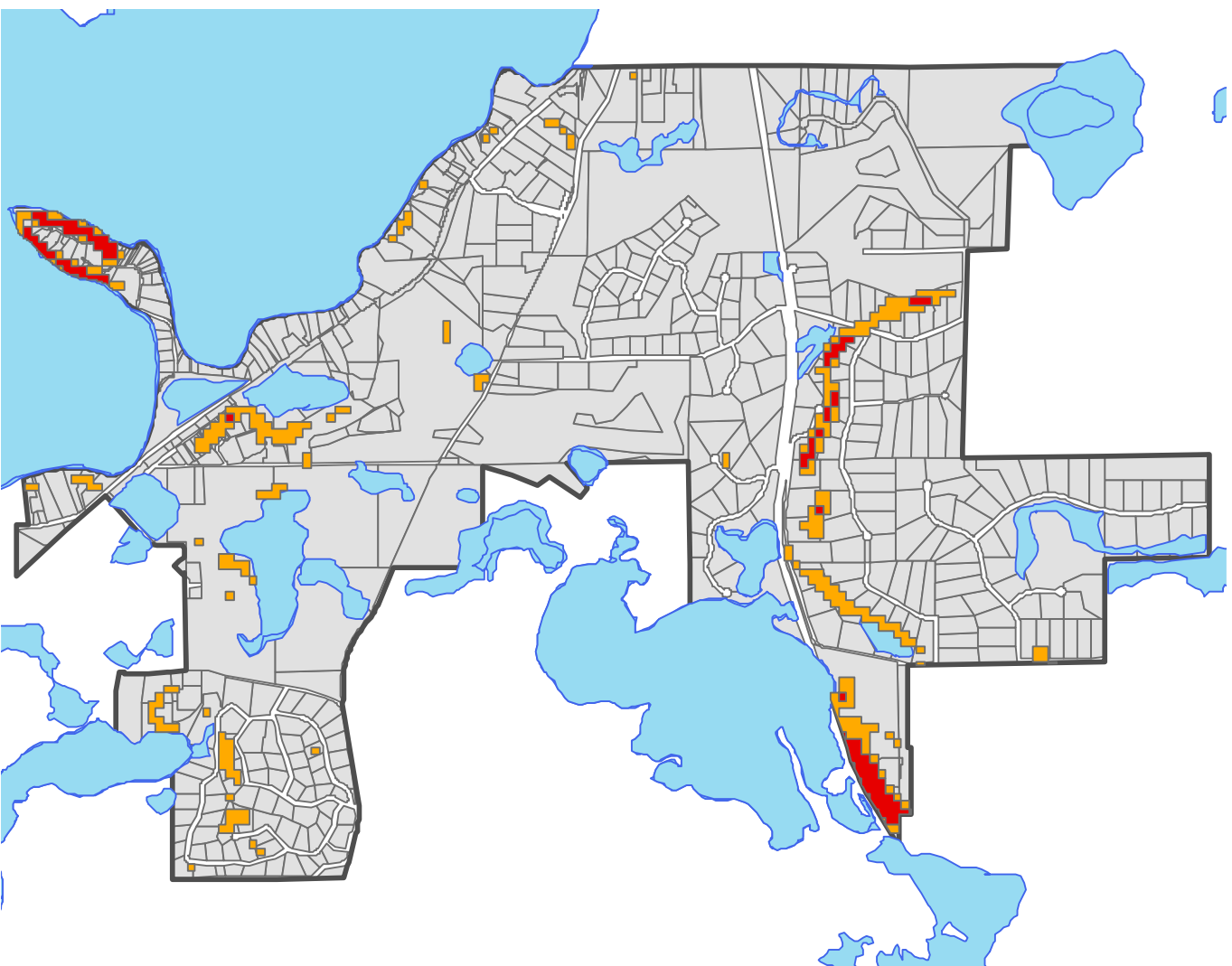
In the late 1970s, the Minnesota Department of Natural Resources (DNR) performed a public waters inventory to indicate which lakes, wetlands, and watercourses the DNR has regulatory jurisdiction over. This created the Public Waters Inventory, which was updated in 2017. Lakes identified as public are assigned a shoreland management classification to attribute appropriate development standards to its many different types of lakes. Lakes are divided into the following classifications based on a combination of factors:



Steep Slope Areas

Dellwood Comprehensive Plan 2040


March 6, 2018




Legend

 Lakes and Rivers

Steep Slope Areas

 12% Slope

 18% Slope



Natural Environment Lakes usually have less than 150 total acres of water, less than 60 acres per mile of shoreline, and less than three dwellings per mile of shoreline. They may have some fish kill from winter, shallow or swamp shorelines, and are less than 15 feet deep.

Recreational Development Lakes usually have between 60 and 225 acres of water per mile of shoreline, between three and 25 dwellings per mile of shoreline; and are more than 15 feet deep.

General Development Lakes usually have more than 225 acres of water per mile of shoreline and 25 dwellings per mile of shoreline and are more than 15 feet deep.

The DNR has classified four lakes and Clearwater Creek as public waters within the City. Classifications for the lakes and creek are shown in the table below:

Public Waters Number	Name of Resource	Classification
82-129P	Echo	Natural Environment
82-130P	Long Lake	Recreational Development
82-122P	Pine Tree Lake	Recreational Development
82-167P	White Bear Lake	General Development
82-06a	Clearwater Creek	Public Ditch/Altered Natural Watercourse

Echo Lake lies entirely within privately-owned property. There is no public access to Echo Lake.

Only a small portion of Long Lake lies within Dellwood. The shoreline within Dellwood is fully developed, with perhaps one or two exceptions where an additional home site or two may be possible. Development in this area is governed by the Shoreland Ordinance.

Less than one-fourth of Pine Tree Lake is located in Dellwood, and the shoreline is fully developed. Dellwood considers Pine Tree Lake to be a natural environment lake. However, the City of Grant, within which most of Pine Tree Lake lies, as well as the Minnesota DNR have classified the lake as recreational development.

No public access exists at this time to Pine Tree Lake. The lake is shallow, atrophic, and has limited recreational value. It serves primarily as a nesting area for waterfowl including several families of trumpeter swans. The fish population suffers from periodic winter freeze out conditions.

The entire Westerly boundary of Dellwood consists of the shoreline of White Bear Lake. The City has and will continue to follow strict regulations and enforcement procedures to protect and enhance the quality of this important natural resource. The City has adopted a Shoreland Management Ordinance which rigidly controls the land uses along the shores of White Bear Lake.

Impaired Waters

Every two years the Minnesota Pollution Control Agency (MPCA) creates a list of waters in the state that do not meet water quality standards set forth by the Clean Water Act. The MPCA lists the following waterbodies located within or near the City as being impaired:

- Ramsey/Washington Judicial Ditch 1 (Assessment ID: 07010206-565): Impaired for dissolved oxygen, affecting aquatic life.
- White Bear Lake (Assessment ID: 82-0167-00): impaired for mercury in fish tissue, affecting aquatic consumption.

- Bald Eagle Lake (Assessment ID: 62-0002-00): Impaired for mercury in fish tissue and nutrient/eutrophication biological indicators, affecting aquatic consumption and aquatic recreation.
- Peltier Lake (Assessment ID: 02-0004-00): Impaired for mercury in fish tissue and nutrient/eutrophication biological indicators, affecting aquatic consumption and aquatic recreation.
- Centerville Lake (Assessment ID: 02-0006-00): Impaired for nutrient/eutrophication biological indicators, affecting aquatic recreation.
- Fish Lake (Assessment ID: 82-0137-00): Impaired for nutrient/eutrophication biological indicators, affecting aquatic recreation.
- Clearwater Creek (Assessment ID: 07010206-519): Impaired for aquatic macroinvertebrate and fishes bioassessments, affecting aquatic life.
- Upper Mississippi River (Assessment ID: 07010206): Impaired for fecal coliform and mercury in fish tissue, affecting aquatic consumption and recreation.

The City will continue to work with RCWD on steps to protect and enhance its impaired waters, and the impaired waters of the region. Water quality has no geopolitical boundaries.

White Bear Lake is on the 303(d) list within the Clean Water Act List of Impaired Waters for aquatic consumption due to the presence of mercury. Waters downstream of the City, such as Bald Eagle Lake, Clearwater Creek and Fish Lake are also listed as impaired resources for various reasons. The City of Dellwood is committed through its Zoning/Shoreland Management Ordinance, and its Water Management Plan, to protect and preserve these vital resources, by improving water quality, controlling run-off, preventing flooding and erosion, promoting groundwater recharge and protecting and enhancing fish and wildlife habitat.

Dellwood's impaired waters, continued work with RCWD, and policies are further examined in the Water Resources Chapter.

Floodplains & Wetlands

Certain areas of the City are located within a floodplain due to the City's glaciated topography. Floodplains are areas next to streams, rivers, wetlands and landlocked basins that are subject to seasonal flooding. On-site septic systems are not allowed within a floodplain, and development within floodplains needs to be reviewed for its effect on, or the possibility of being affected by, the water resource. All lots in a designated floodplain are subject to Washington County Floodplain Ordinance as well as regulations provide by Dellwood's Code.

The Minnesota DNR has identified 12 wetlands in Dellwood as Protected Waters under their regulation. Additional wetlands have been identified through the National Wetland Inventory (NWI). Although the City has mapped the NWI in this Comprehensive Plan, the NWI has not always proven reliable and thus, more accurate wetland inventories compiled by the watershed districts are important tools to augment the NWI.

The attached Wetlands Map shows the location and size of the identifiable wetland areas within the city. In addition, where the zoning ordinance requires minimum lot sizes, only that portion of the land which lies above the ordinary high water mark of wetlands and lakes is taken into account.







Dellwood has a large area wetland in the Northwest portion of the City, generally known as the Schuneman Marsh. This area has been identified by Rice Creek Watershed District as a High Priority Natural Resource. Dellwood's ordinances adequately protect and preserve these wetland areas and all of these are deemed to be unbuildable. Dellwood's ordinances are intended to preserve all wetland areas as open space aquifers.

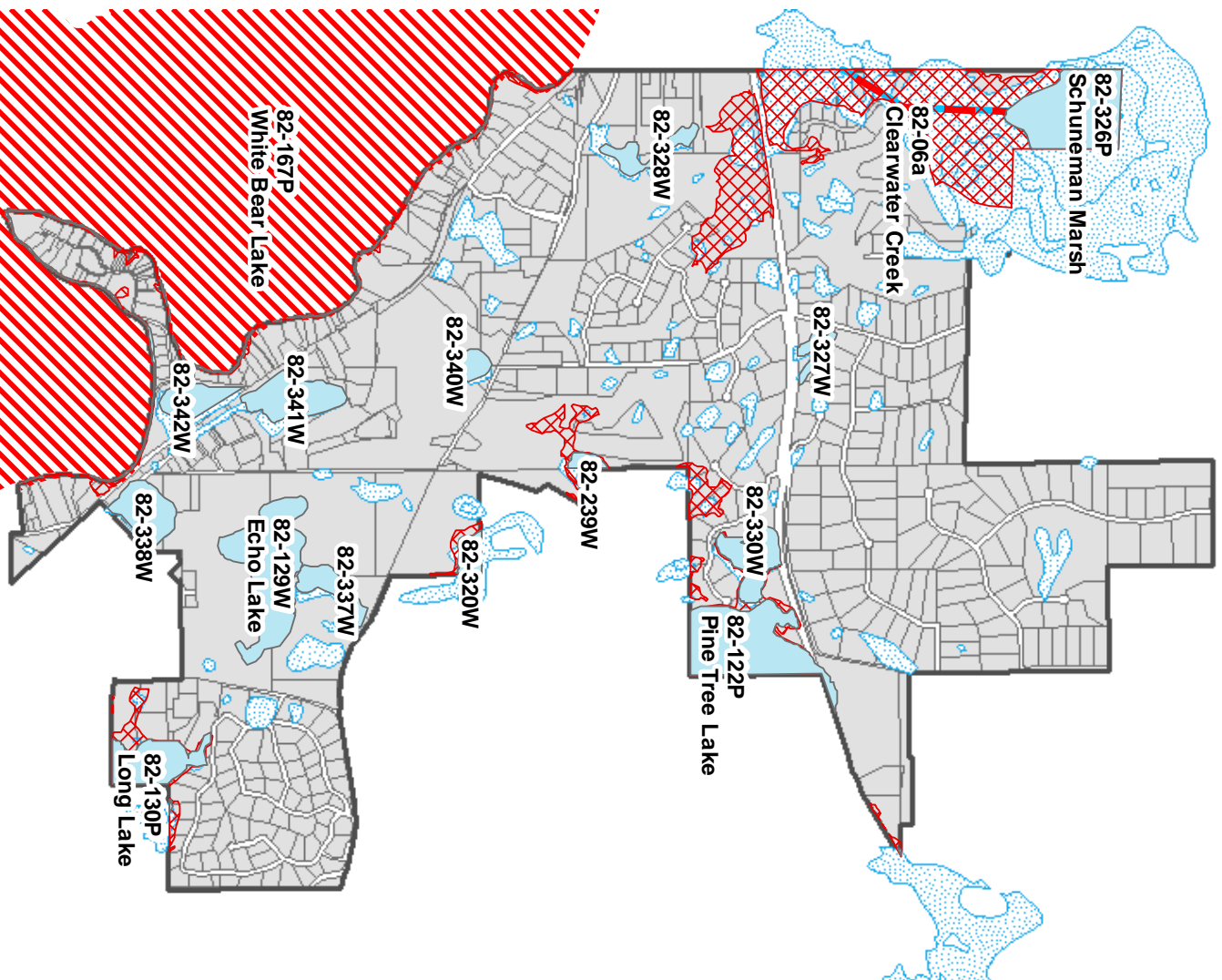
Dellwood highly values its wetlands and recognizes their critical role in the present and future health, safety, and general welfare of the land, wildlife, and people within the City. Washington County has lost over 50% of its pre-settlement wetlands to draining and filling activities. The City will continue to work to conserve existing

Water Resources Inventory Dellwood Comprehensive Plan 2040 March 6, 2018



Legend

-  Impaired Streams
-  Public Water Stream
-  Public Water
-  100 Year Floodplain
-  Impaired Lakes
-  National Wetlands Inventory






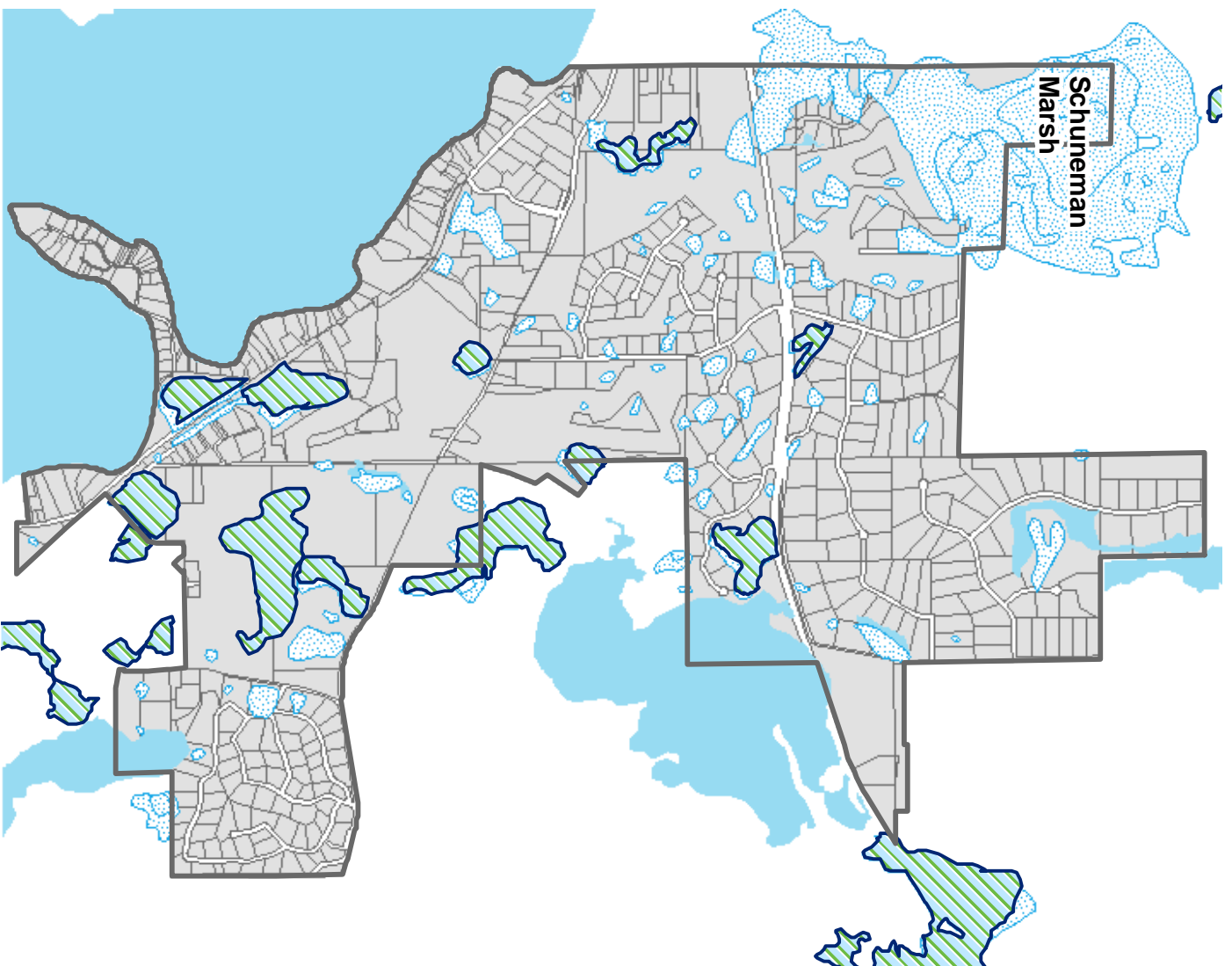
Wetlands Delwood Comprehensive Plan 2040

March 6, 2018



Legend

-  Public Water Inventory Wetland
-  National Wetlands Inventory
-  Lakes and Rivers



and enhance wetland resources in the face of future development pressure, and to encourage opportunities for restoration of lost wetlands.

Soils

The United States Department of Agriculture Soil Conservation Service in cooperation with the Minnesota Agricultural Experiment Station published a soil survey of Washington and Ramsey Counties. It identified general soils and a more in-depth soil analysis for each county. Dellwood is comprised of five main general soil series: Demontreville-Kingsley, Antigo-Comstock, Antigo-Chetek-Mahtomedi, Nessel-Dundas-Webster, and Hayden-Nessel-Dundas. The following table provides descriptions of each main series.

Soil	Description
Demontreville-Kingsley	Undulating to steep, well drained, coarse textured and moderately coarse textured soils; on uplands.
Antigo-Comstock	Level to moderately sloping, well drained and somewhat poorly drained, medium textured soils; poorly drained, on outwash plains and glacial lake plains.
Antigo-Chetek-Mahtomedi	Nearly level to steep, well drained to excessively drained, medium textured to coarse textured soils; mostly on outwash plains.
Nessel-Dundas-Webster	Level to gently undulating, moderately well drained and poorly drained, moderately coarse textured and medium textured soils; on uplands.
Hayden-Nessel-Dundas	Level to gently rolling, well drained, moderately well drained, and poorly drained, moderately coarse textured soils, on uplands.
Source: USDA Soil Conservation Service, Minnesota Agricultural Experiment Station	

The Demontreville-Kingsley is formed dominantly in a sandy mantle and underlying glacial till and in glacial till. It makes up three percent of the total land area in Washington County. It is roughly 50 percent Demontreville soils, 30 percent Kingsley soils, and 20 percent soils of minor extent.

If these soils are farmed, the main concerns of management are low available water, susceptibility to erosion, and soil blowing. These soils have only fair suitability for pasture and woodland. They have good suitability for urban uses and recreation.



Antigo-Comstock soils compose roughly three percent of the total land area in the County. It is about 40 percent Antigo soils, 30 percent Comstock soils, and 30 percent soils of minor extent. If the soil is farmed, the main concerns are: fertility and tilth. The main limitations for using these soils as building sites or for sanitary facilities are high susceptibility to frost heaving and the high seasonal water table in low areas.

The Antigo-Chetek-Mahtomedi makes up about 40 percent of the total land area in Washington County. It is composed of roughly 27 percent Antigo soils, 15 percent Chetek and similar soils, 14 percent Mahtomedi soils, and 44 percent soils of minor extent. The main concern surrounding these soils if farmed are low available water capacity and their susceptibility to erosion. They are well suited as building sites. There is a hazard of groundwater pollution if sanitary facilities are placed on these soils.

Nessel-Dundas-Webster composes about one percent of the total land area in Washington County. It is 40 percent Hayden and similar soils, 35 percent Kingsly soils, and 25 percent soils of minor extent. If farmed, the main concerns of management are erosion control and maintenance of soil fertility. The soils are well suited

for pasture, woodland, and as building sites. If used for septic tank absorption fields, the filter field should be large enough to function properly.

The Hayden-Nessel-Dundas makes up roughly three percent of the total land area of Washington County. It is about 30 percent Hayden and similar soils, 15 percent Nessel soils, 15 percent Dundas soils, and 40 percent soils of minor extent. The soils high water table in low areas and the hazard of erosion on the steeper slopes are the main limitations to farming. The main limitations for building sites on these soils are its low strength, frost action, and wetness.

Excessively coarse soils, soils with bedrock close to the surface, or soils with a high-water table are severely limited for many types of development. These soils are subject to pollution problems when used for on-site sewage disposal systems. Coarse soils percolate too rapidly and compact soils percolate too slowly. Development can increase flooding on soils with low permeability. These soils are also susceptible to excessive shrink-swell alterations with changes in moisture content. This can cause building foundations to crack and roadbeds to heave.

The following maps provide a more in-depth examination of individual soils types in the City and their suitability for dwelling development, local roads and streets, and septic tank absorption fields. Limitations are considered slight if the soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome. The limitations are considered moderate if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations. Limitations are severe if the soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possible increased maintenance are required. Special feasibility studies may be required where the soil limitations are severe.

Soil assessment is only an overview, and not site specific. This approximation of soil limitations should serve as a guide in planning and help to influence where soil samples are taken prior to development.

Bedrock

Depth to bedrock can have significant impact on the locations, development, maintenance, and cost of public services such as sewers, water supply, and roads. A shallow depth to bedrock can increase costs for private investments, the infeasibility of construction, and may be subject to frost heaving and deformation. There are two major groupings of bedrock in Dellwood:

- **Shakopee Formation:** Formed in the lower Ordovician Age, it consists of a lower, 20-m-thick quartz sandstone unit and an upper, 70-m-thick, dolomitic member.
- **St. Peter Sandstone:** Formed in the middle to upper Ordovician Age, it is a white to light yellow medium-grained quartz sandstone that can be as much as 50 meters thick.

The following map shows the location of the different bedrock formations, and several core samples with their depth to bedrock.

Vegetation

The following map identifies ecologically significant areas. Dellwood's significant ecological areas compose roughly 493.64 acres, 27 percent of the City. The following table shows the breakdown of the land classifications of the identified ecological significant areas. Dellwood recognizes the importance of its natural areas and will continue to work to protect it through its city ordinances, partnerships, and by fostering a sense of stewardship within the community.

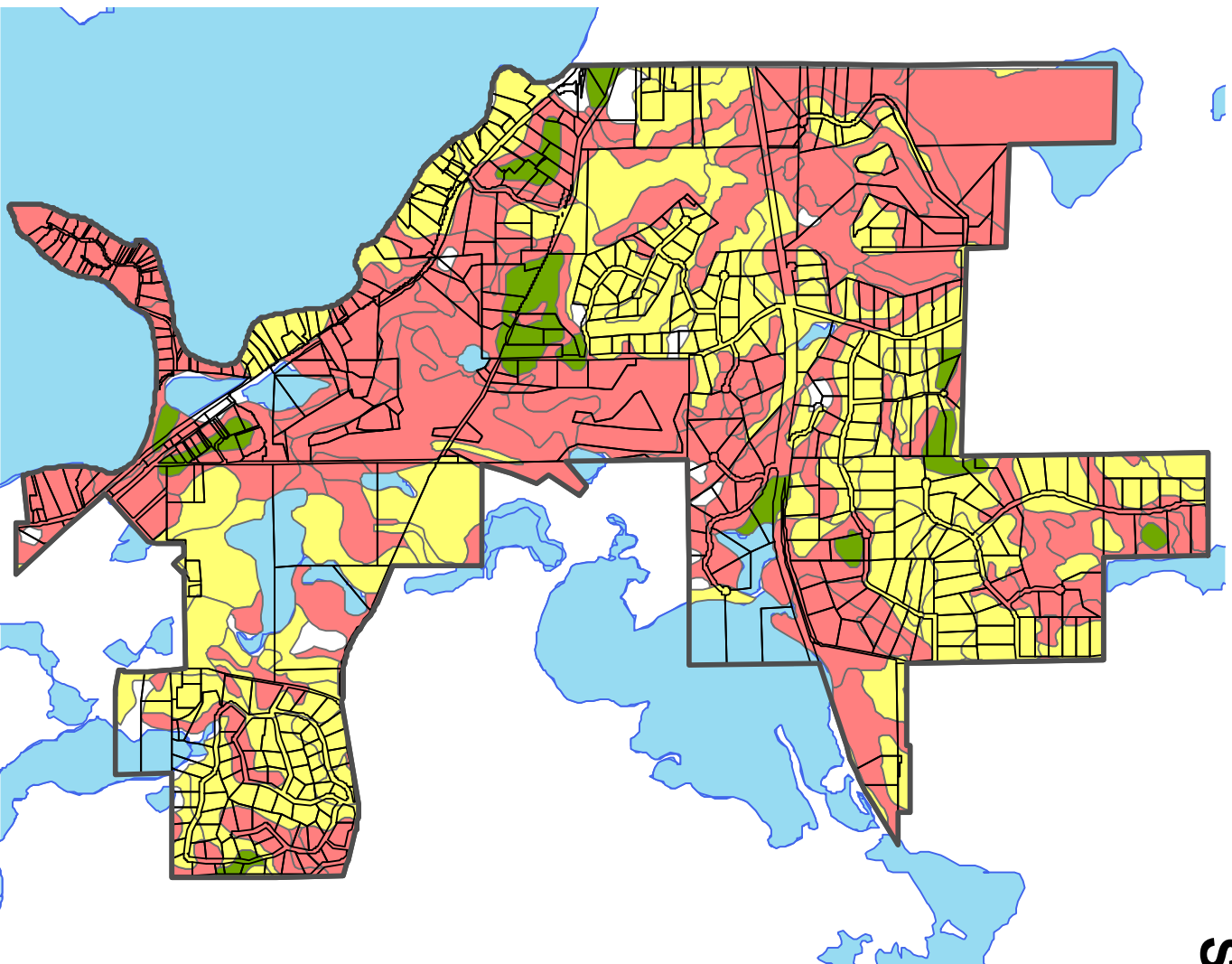
Soil Limitations on Building Site Development Dellwood Comprehensive Plan 2040

March 6, 2018



Legend

Soil Limitations on Dwelling Development



Soil Limitations on Local Roads and Streets




Dellwood Comprehensive Plan 2040

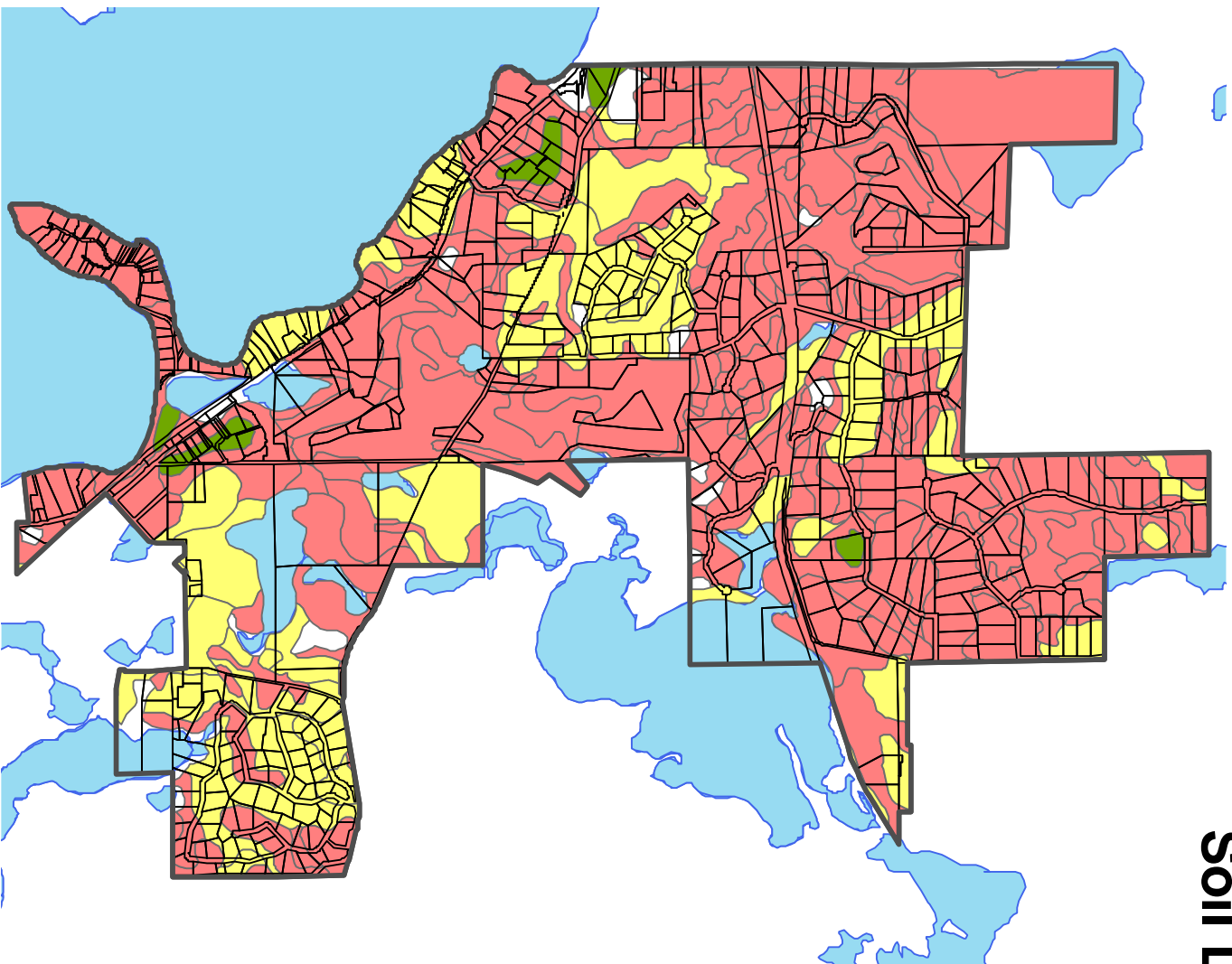
March 6, 2018



Legend

Soil Limitations on Local Roads and Streets

-  Slight
-  Moderate
-  Severe



Soil Limitations on Septic Tank Absorption Fields




Dellwood Comprehensive Plan 2040

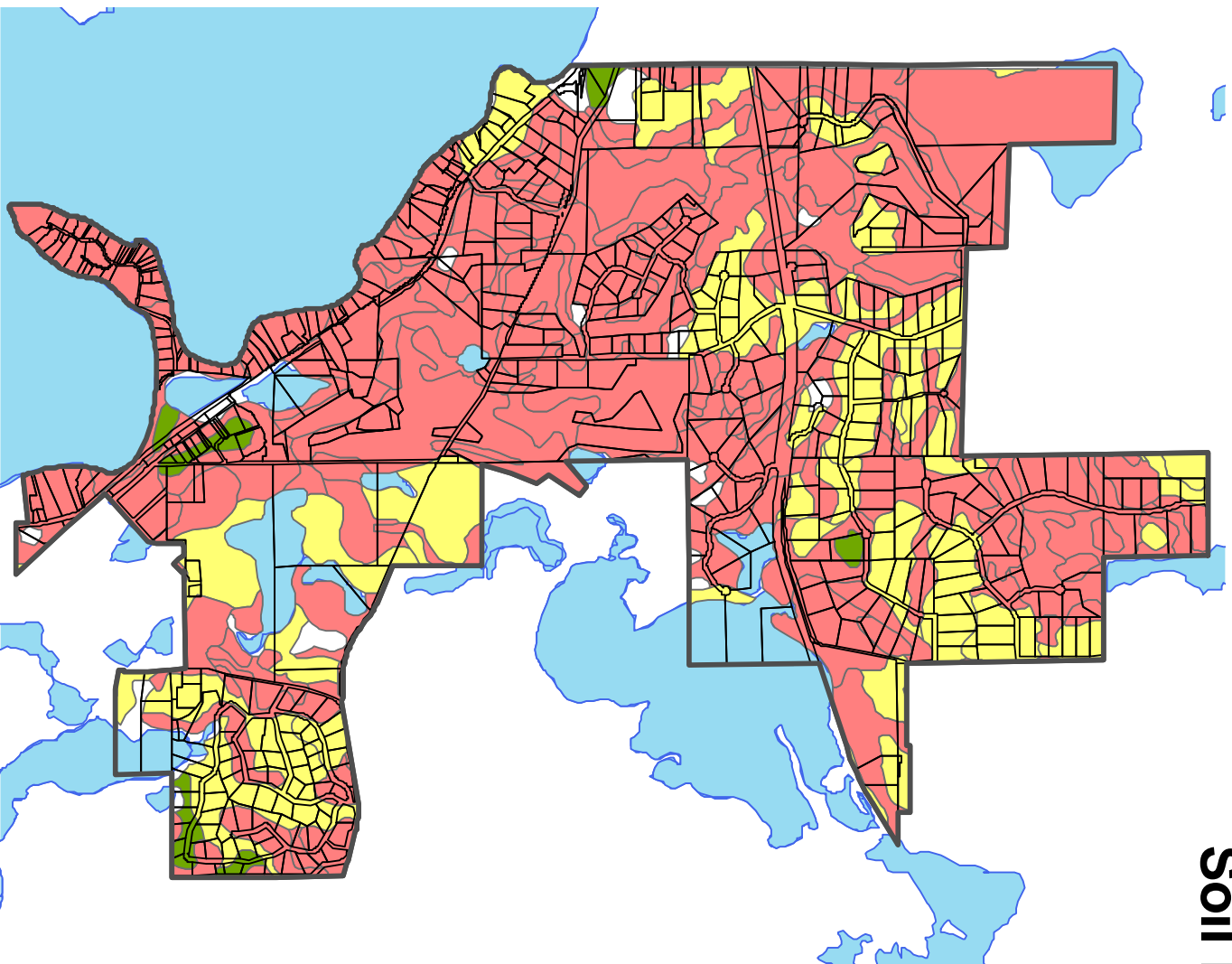
March 6, 2018



Legend

Soil Limitations on Septic Tank Absorption Fields

-  Slight
-  Moderate
-  Severe



Bedrock

Dellwood Comprehensive Plan 2040

March 6, 2018

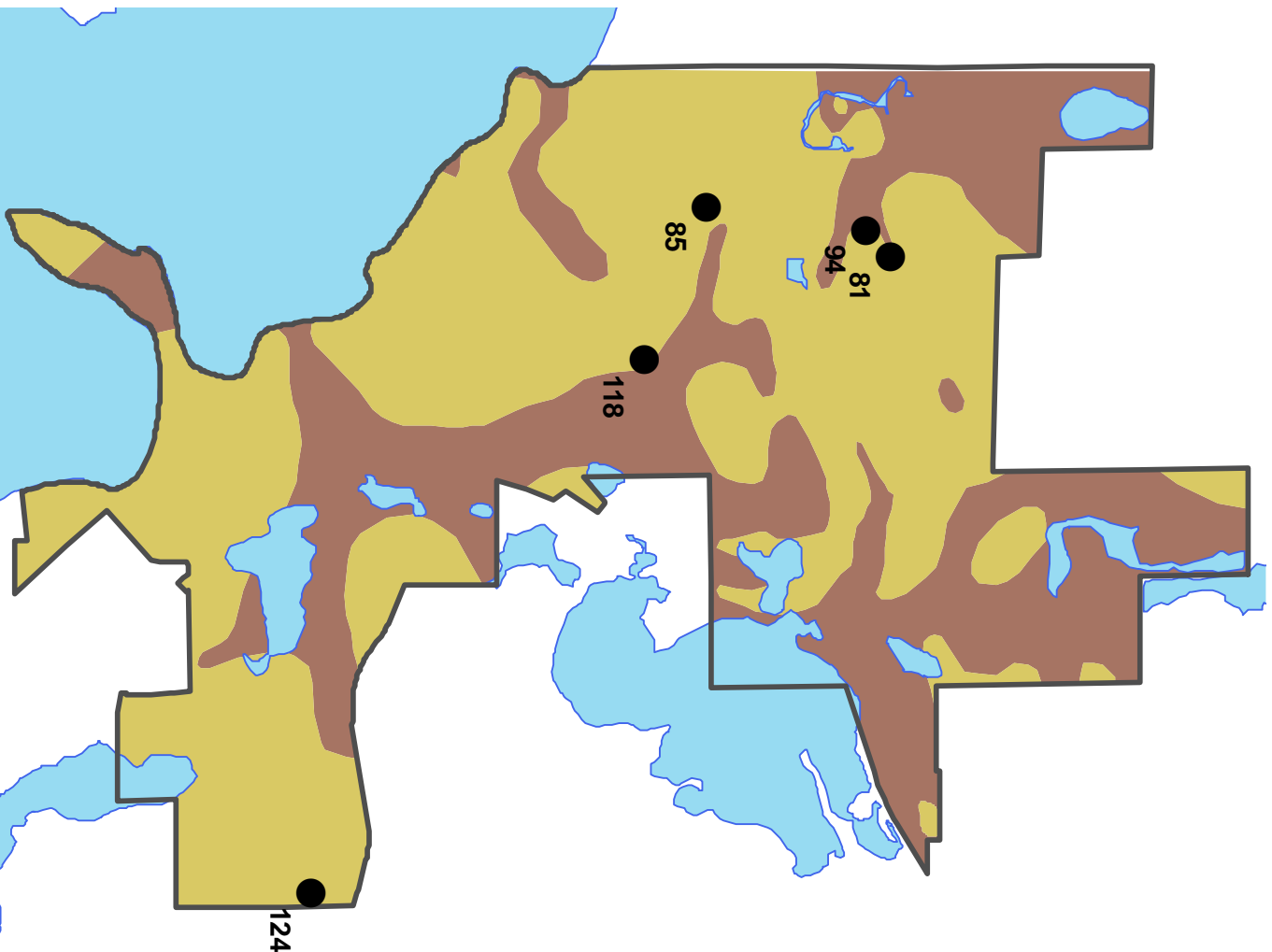


Legend

- Depth to Bedrock

Bedrock Formation

- Shakopee Formation
- St. Peter Sandstone



Land Classification	Acres
11-25% Impervious Cover	76.83
Altered/Non-Native	67.99
Water	66.48
Medium-Tall Grassland	41.05
Long Grasses	33.88
4-10% Impervious Cover	33.00
Wet Meadow	20.13
Oak Forest	16.47
Floating Vegetation	15.84
Marsh	14.44
26-50% Impervious Cover	13.69
Alder Swamp	13.56
Short Grasses	13.07
Swamp	12.86
Urban	12.11
Cattail Marsh	12.09
Coniferous Trees	9.97
Floating Forest	9.27
Willow Swamp	4.71
Lowland Hardwood Forest	3.10
Upland Soils	1.85
Grassland	1.24
Floating Algae	0.01
Source: MnDNR, Metropolitan Council, NAC	

The city employs a certified tree inspector to enforce regulations concerning identification and removal of diseased trees. The zoning ordinance prohibits clear cutting and closely regulates the amount of tree removal which may be allowed in any area being considered for subdivision and development. The ordinances are intended to preserve and protect the existing natural environment and habitat in a semi-rural setting.

Aggregate Resources

Aggregate resources is a term used for both sand and gravel, and crushed stone. Sand and gravel is sediment that has been sorted and deposited by flowing water. Crushed stone is the product of mechanically breaking down bedrock. Both have a number of uses including for public roads and public works projects. The state is entering a transitional period from an abundant supply of aggregate resources to scarcity. Dellwood has an inactive gravel pit (#82074) near its southwestern border (see the Aggregate Resources map). The area is now composed predominantly of single family residential homes.

Historic Sites

The city has determined that there are no structures or other physical features which could constitute true historical sites within the City. Collaboration with area historical societies may be conducted in order to further examine the history of the community and possibly establish a list of historic properties.




Vegetation

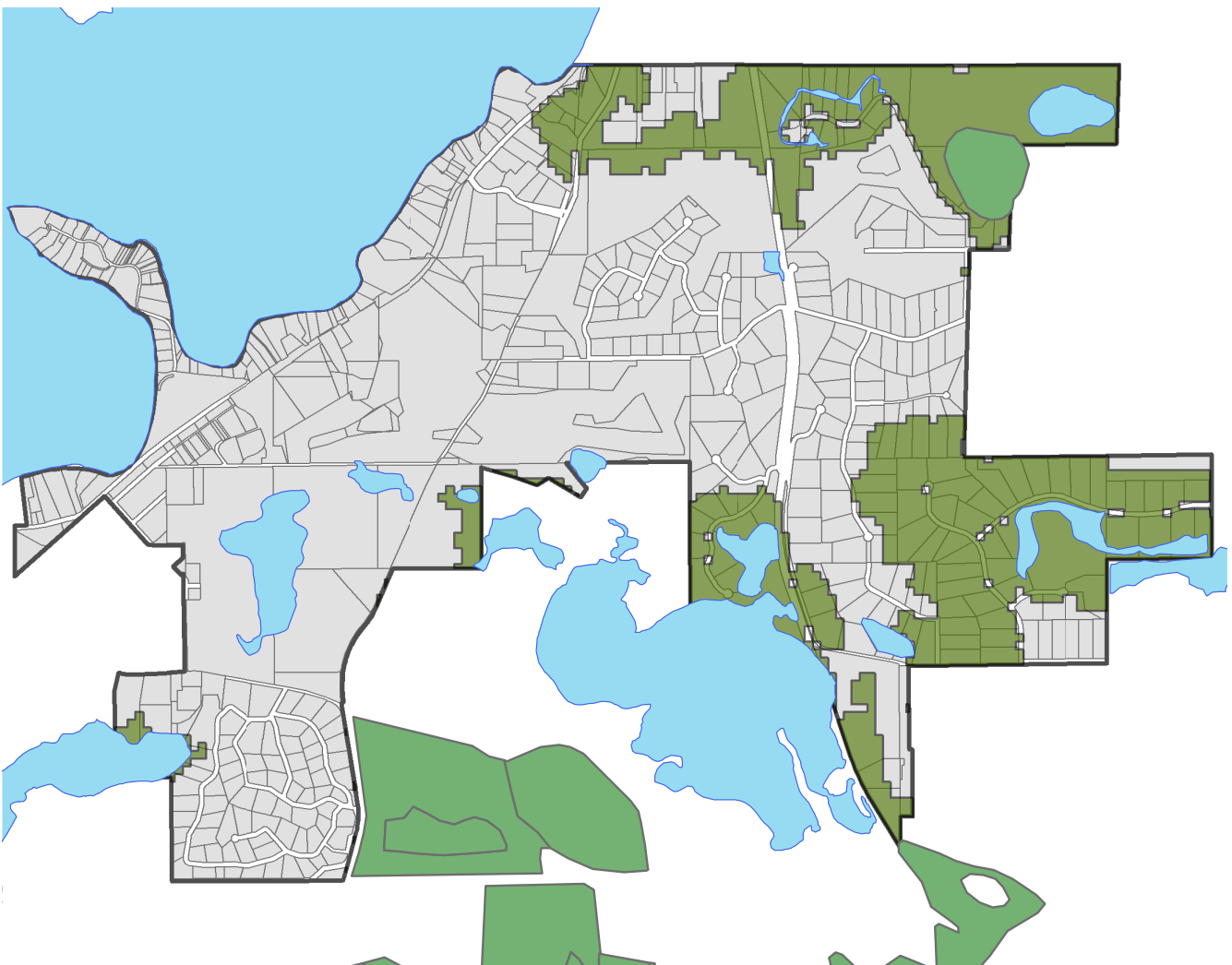
Dellwood Comprehensive Plan 2040

October 24, 2019



Legend

-  Lakes and Rivers
-  DNR Native Plant Communities
-  Significant Ecological Areas



Aggregate Resources Dellwood Comprehensive Plan 2040

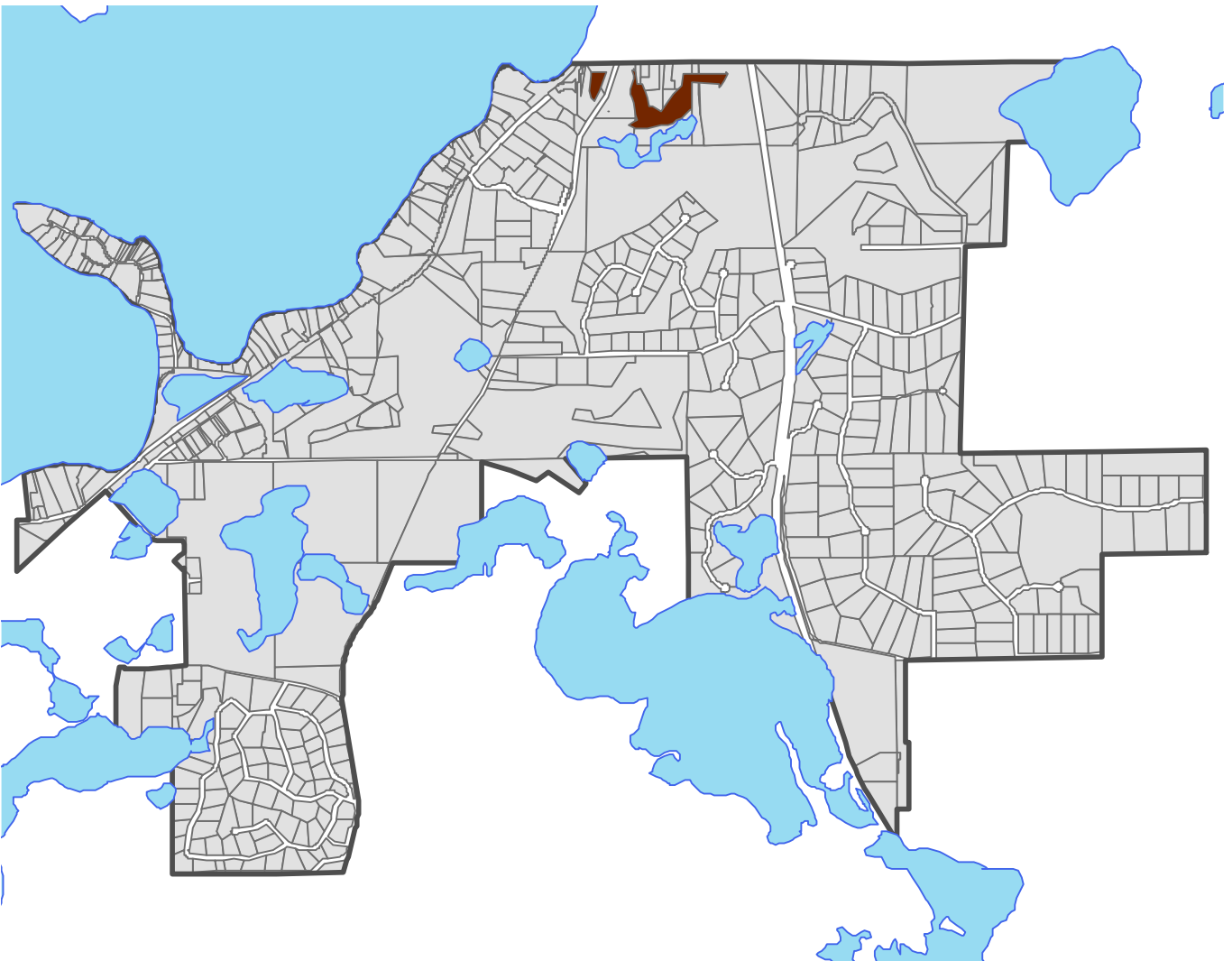
March 6, 2018



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Aggregate Resources



Solar Access

The Metropolitan Land Planning Act requires comprehensive plans for Metropolitan Area communities to contain an element related to the protection and development of access to direct sunlight for solar energy systems. As a result, the Metropolitan Council requires that the following solar resource-related information is to be included in Dellwood's 2040 Comprehensive Plan update:

1. A map which illustrates the City's gross solar potential.
2. A calculation of the City's solar resources.
3. A policy (or policies) which relate to the development of access to direct sunlight for solar energy systems.
4. Strategies to be applied to implement established solar resource policies.

Solar Potential

The following map, provided by the Metropolitan Council and required to be included in this document, shows the gross solar potential for Dellwood. The map, developed by the University of Minnesota, illustrates annual sun energy dispersed throughout the city with "high end: potential areas shown in yellow, and areas having "low end" in black. This information is useful in predicting the productivity of solar installations. According to the Metropolitan Council, the primary issue in the consideration of solar energy installations is intermittent shading due to nearby structures and trees. Areas identified as having "high end" potential in the City are those with very little tree cover.

Solar Resource Calculations

The table below displays Dellwood's gross potential and rooftop potential for solar. The gross solar potential and gross solar rooftop potential estimates are based on the Gross Solar Potential map above. These calculations estimate the total potential resource before removing areas that are unsuitable for solar development. Gross generation potential and gross solar rooftop generation potential estimates how much electricity could be generated using existing solar technology. According to the Metropolitan Council, for most cities, the rooftop generation potential is equivalent to between 30 and 60 percent of a community's total electric energy consumption. To be noted, there is no minimum amount of solar resource development required for cities in the Metropolitan Area.

Dellwood's Gross Solar Potential - (Megawatt Hours per Year)			
Gross Potential (Mwh/yr)	Rooftop Potential (Mwh/yr)	Gross Generation Potential (Mwh/yr) ²	Rooftop Generation Potential (Mwh/yr) ²
2,820,523	51,101	282,052	5,110
Metropolitan Council Notes: <ul style="list-style-type: none">• In general, a conservative assumption for panel generation is to use 10% efficiency for conversion of total insolation into electric generation.• The rooftop generation potential does not consider ownership, financial barriers or building-specific structural limitations.			
Source: Metropolitan Council, University of Minnesota U-Spatial			

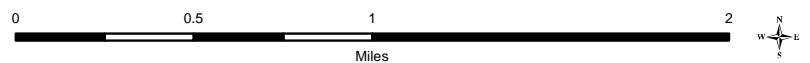
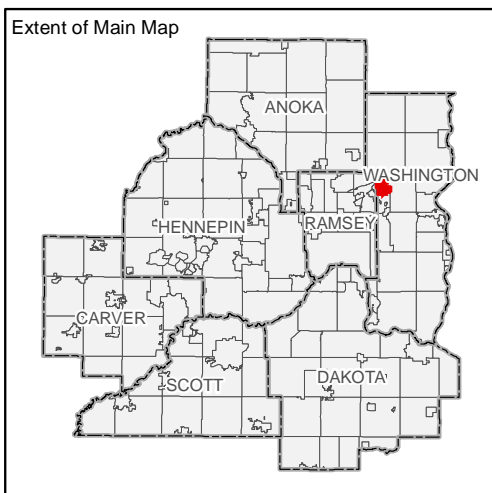
Solar Access Protection

Ensuring that all properties have adequate access to sunlight is a priority not only for potential solar energy systems, but for the protection of property and aesthetic values as well. Solar access protection is provided for by the uniform implementation of lot and building performance standards of the Dellwood zoning ordinance. Requirements such as maximum building height and yard setback standards are implemented for the purpose of creating separation between structures that will allow equal sunlight access such that a property is not in the shadow of an adjacent building.

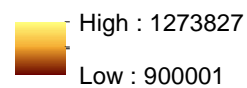
Gross Solar Potential City of Dellwood, Washington County







12/8/2016



Gross Solar Potential (Watt-hours per Year)



-  Solar Potential under 900,000 watt-hours per year
-  County Boundaries
-  City and Township Boundaries
-  Wetlands and Open Water Features

Source: University of Minnesota U-Spatial Statewide Solar Raster.

The city has adopted by reference the Minnesota State Building Code which covers solar energy installation. All such installations must be inspected and approved by the city's licensed Building Inspector.

The establishment of commercial solar energy production facilities is considered to be out of character with the nature of the community. However, limited accessory use solar energy systems by residents are permitted by the City's Zoning Ordinance.

COMMUNITY DESIGNATION

The Metropolitan Council designates the City of Dellwood as a "diversified rural" community. The Metropolitan Council stated that diversified rural communities are intended for "protecting land for rural lifestyles and long-term urbanization." The Metropolitan Council identifies the following natural resource protection policies for diversified rural communities:

Natural Resource Protection

- Plan development patterns that incorporate the protection of natural resources. Consider implementing conservation subdivision ordinances, cluster development ordinances, or environmental protection provisions in local land use ordinances.

GOALS & POLICIES

Goal: Ensure all development respects the natural aesthetics and environment of Dellwood.

Policies:

- Development should protect the natural environment and landscape.
- Scenic views should be preserved, as much as feasible.
- Septic systems and wells should be monitored to ensure proper functioning.
- Manage diseased trees and noxious weeds in a proper fashion on private property.
- Work with neighboring communities to identify shared high quality natural resources and joint efforts for their preservation, conservation, and enhancement.
- The City will continue to work to conserve existing and enhance wetland resources in the face of future development pressure, and to encourage opportunities for restoration of lost wetlands.
- Ensure that properties have adequate access to sunlight.

Goal: Protect and enhance ecologically significant areas in the City of Dellwood.

Policies:

- Promote the use of native plants for future planting.
- Promote education about and removal of invasive species.
- Restoration and enhancement of significant ecological areas will focus on: stormwater management and stabilization of erodible soils.

Implementation Actions:

- The City will examine adopting conservation subdivision ordinances in its City Code, and the possible positive and negative effects it may have on the community.
- The City will create septic tank educational materials for the public, which will include: certified pumpers, tips and tricks to maintenance, and assistance Washington County has available.
- Dellwood will consider performing an inventory of "scenic views" in the City to inform future policy and code on how they should be preserved.
- The City will utilize the wetland assessments when reviewing development proposals. Basins projected to be impacted by development per the NWI and wetland assessment will be more closely examined to

determine if they indeed are wetlands, and if so, a delineation of that wetland shall be required.

- The City will adopt the Stormwater Management Plan to protect its waterbodies.
- Dellwood will examine requiring any native plant communities removed be replaced with vegetation of equivalent function, and for all other vegetation removed they must be restored with natural vegetation to the greatest extent practicable.
- Ensure that information on the location of natural vegetation restoration priorities is readily available to property owners to understand how relevant ordinance requirements apply to their property for project planning and permitting.
- The City will continue to require the Zoning Ordinance to provide for adequate access to sunlight.



WATER RESOURCES

EXECUTIVE SUMMARY

Management and protection of each community's water supply, protection of its surface water resources, and treatment of its sewage are of great importance to the community and to the Metropolitan Council. A community's management of each of these resources directly impacts the health of citizens in that community as well as surrounding areas. As such, Minnesota State Statutes and Metropolitan Council policies specify standards that must be addressed on each of these topics within the Comprehensive Plan.

Minnesota Law requires that all municipalities include three sections within the water resources management plan which are as follows:

Water Supply Plan: The Water Supply Plan ensures a safe and sufficient water supply.

Wastewater and Comprehensive Sewer Plan: The Wastewater and Comprehensive Sewer Plan specifies areas to be sewerred by a public system, sets standards for operation of private systems and identifies areas that are not suitable for public or private systems.

Surface Water Management Plan: The Surface Water Management Plan protects water quality and addresses water quantity issues.

INTRODUCTION

The City of Dellwood is an established community with a population of about 1,000 located northeast of Minneapolis/St. Paul in Washington County. Dellwood is excluded from Metropolitan Council's MUSA Line and has no public water or sewer facilities.

Dellwood's storm water system is complete. The City's needs are for management and maintaining the existing drainage system, including replacement and upgrading where required.

Dellwood is considered to be fully developed. Significant redevelopment or rezoning is not anticipated for the future. Land uses within the City are limited to single family residential dwellings in the R-1, R-2 and F/E Agricultural Districts. A one-acre minimum lot size is required in the R-1 District, and at least two-acres are required in the R-2 District. In the Farm/Estate

District, a five acre minimum lot site is required but a Planned Residential Development is available for parcels having at least 20 developable acres exclusive of roadways. In the PRD District, lots must average three acres in size and no lot may be less than two acres in size.

There are no large undeveloped parcels remaining, except for two private golf clubs, a winery and an apple orchard. Should any of those uses be discontinued in the future, development would be subject to the five-acre minimum or the PRD Ordinance. There is no significant public open space in the City. There is a parcel of land at the northeast corner of Apple Orchard Road and LaCosta Drive which consists of approximately 5 acres and is preserved as a wildlife area. It is not maintained as a public park and is not open for public use.



The City of Dellwood is located entirely within the Rice Creek Watershed District. Dellwood will continue to ensure that its development standards are consistent with Rice Creek Watershed District Rules, Regulations, Policies and Standards.

WATER SUPPLY

There is almost no municipal water supply system in Dellwood. A few homes at the South end of the City receive municipal water from Mahtomedi under a Joint Powers Agreement. The rest of Dellwood’s facilities depends upon their own individual or shared private water supply system.

The City administers a well water testing program on a regular basis, which includes spot checking on a random basis. Samples are collected by the city and are delivered to the Minnesota Department of Health where they are tested for nitrate concentration and bacteria contamination. In the event any contamination is found, the well is disinfected and re-tested. To date, no significant amount of contamination has been found.

Minnesota PCA maintains monitoring Well Number 2 on the Dellwood Hills Golf Course. The purpose is to characterize the physical, chemical, bacteriological and organic properties of the groundwater resource. It is believed that any significant change in the groundwater quality will be monitored and reported to the City of Dellwood should any action be required.

The City has three public waters appropriation permits issued by the DNR, 1975-6379 Dellwood County Club, 1986-6165 White Bear Yacht Club, and 1989-6009 Pine Tree Apple Orchard.

Groundwater & Recharge Areas

Existing groundwater and recharge areas are protected and preserved by ordinance. Any wetland located on a developable lot is protected as a drainage or ponding easement in its natural state. No filling or grading of wetland area is allowed. The zoning ordinance addresses permits for excavation, grading and filling operations. Any such operations intended for the purpose of reclaiming land requires a Conditional Use Permit. As such, all requests for a permit are referred to Rice Creek Watershed and Minnesota DNR for review and comment.

WASTEWATER

The City has adopted a policy that no municipal sewer system will be proposed or needed, and that properties within the City shall be served by individual sewage treatment systems. Dellwood is served by Individual Sewage Treatment Systems (ISTS) and two community systems. There are roughly 360 ISTS systems in Dellwood. The following table details the household and employment forecast for the City through 2040, based on the Metropolitan Council’s forecasts.

Forecast Year	Households	Employment
2010	372	277
2020	400	330
2030	410	331
2040	420	330

The City has enacted annual inspection, licensing, and construction standards which are rigorously enforced through the Sewer Ordinance. By ordinance, Dellwood has adopted the minimum standards and criteria for individual sewage treatment systems of Minnesota Pollution Control Agency (MPCA) Water Quality Division (also known as Minnesota Rules Chapter 7080). In addition, Dellwood has enacted regulations which are more restrictive than the standards in applications to the capacity of septic tanks, the number of tanks required, the size and construction requirements for each drainfield. Dellwood also requires each and every home site to have a suitable area for location of an alternate system.

Sewer and Water Systems

Dellwood Comprehensive Plan 2040

May 2, 2018

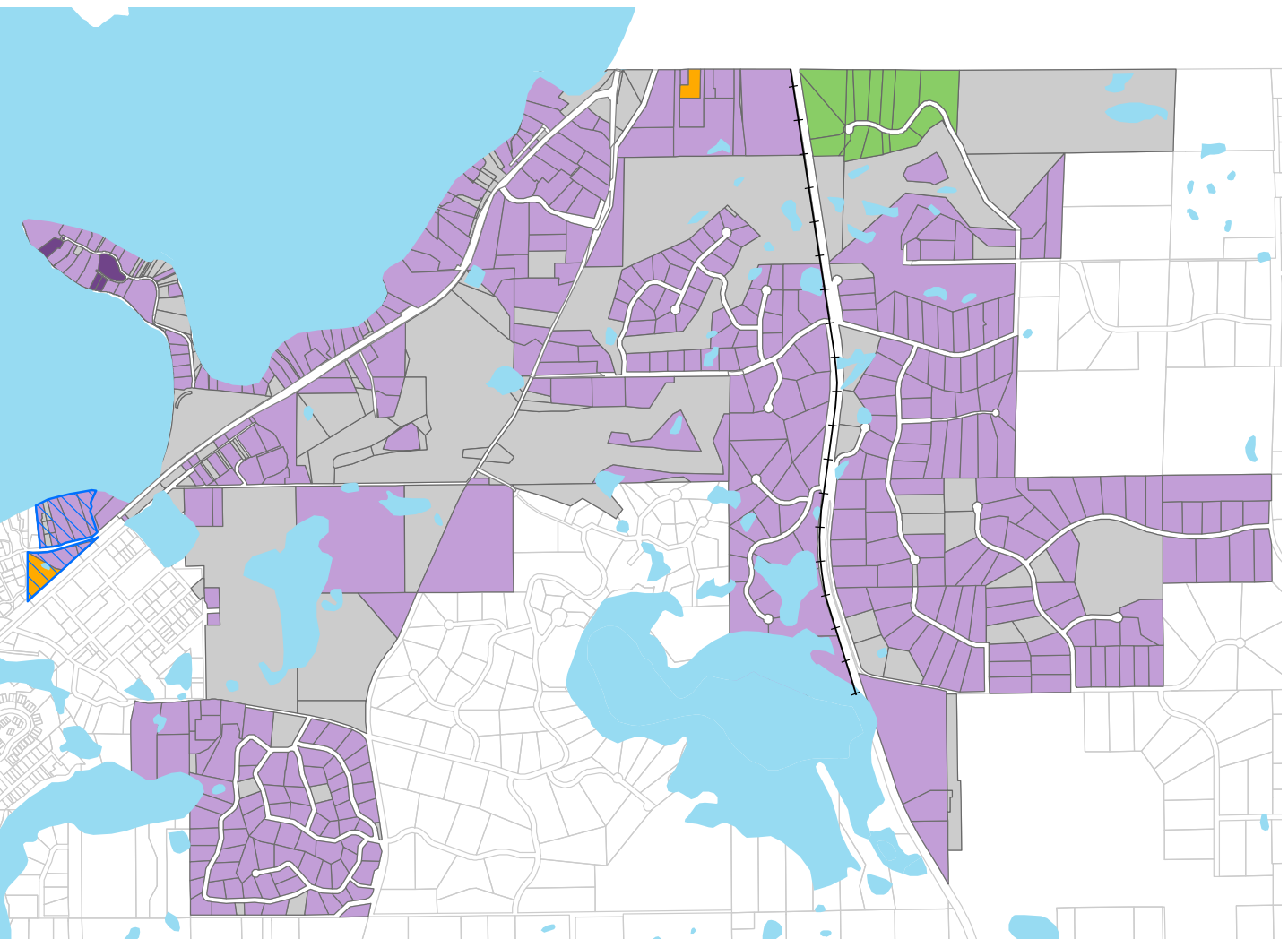


Wastewater System Type

- Unsewered
- Private System
- Community Septic
- Sewered
- Shared Septic

Municipal Water Service

- Served by Mahtomedi



All pumpers, installers and designers must hold a current license issued by MPCA. All designs, plans and specifications for newly constructed systems must be submitted to and approved by the City Sewer Inspector.

The City has adopted and rigidly enforces maintenance and inspection standards throughout the City. Each individual system is inspected annually by the City Sewer Inspector who holds a license from the MPCA. He reports in writing of his inspections, including a report that each and every system has been inspected and a notation of the results of the inspection. Where any system has been found to be in non-compliance with Chapter 7080 or the Dellwood Ordinance, the owner is notified immediately of the non-compliance. The owner must complete the service, repairs or replacement necessary to bring the system into compliance within 10 months of the notice.

Violations of the ordinance constitute a misdemeanor offense. In addition, the City has the right to force a discontinuance of any system which constitutes a nuisance, such as a failed system which poses an eminent threat to public health or safety.

Dellwood has also adopted a more stringent approach to construction of the system, in that all systems within the Shoreland District must have a demonstrated vertical separation between the bottom of the system and saturated soil or bedrock of not less than three feet.

Existing systems outside the Shoreland District may be granted a variance of not less than two feet of vertical separation under proper circumstances. New systems require three feet of separation. In all new or remodeled systems, Dellwood requires two septic tanks.

The City's sewer policy has been working well and no serious complaints have been received. The ordinance requires that all systems be set back at least 75 feet from the ordinary high water mark of White Bear Lake. Equal or greater setbacks are imposed for the other lakes and wetlands in the city. The system must also be located at least 50 feet from any deep water well.

Compliance with the requirements of the City Sewer Ordinance is the primary consideration with respect to all land use requests, and Washington County's Groundwater Plan. Dellwood is developed with large sized lots in order to accommodate suitable soils areas for a primary treatment and absorption areas of 5,000 square feet and an alternate suitable back up area of 5,000 square feet.

The Washington County 2040 Comprehensive Plan estimates that Dellwood had five noncompliant ISTS systems from 2012-2017. The County uses a central database to track maintenance, permitting, and compliance inspections of ISTS systems. A map of the locations of the noncompliant systems can be found in the Water Resources Chapter.

Land Use Permits require an on-site inspection by the City Sewer Inspector after review of site plans, soil and percolation tests, design work, and a written report to the City by the inspector.

Community Treatment Systems

There are two community collector wastewater treatment systems in the City of Dellwood:

1. **Peninsula Area**: There is an area located on Peninsula Road which is dedicated to the City for purposes of providing suitable land to accommodate ISTS for properties on the Peninsula which do not have suitable septic sites within their own land. This is technically not a community system as such but an area of individual ISTS which are used and maintained by the individual users and subject to the same rules and regulations applicable to all ISTS, including annual inspections. This is currently utilized by two properties. The City will evaluate this property for use as a community treatment system site.

2. **Greens of Dellwood:** This is a development located in the northwest area of the City which consists of 11 home sites, two of which have their own ISTS and nine of which utilize a community treatment and disposal system known as an Aerobic Treatment System. This design and construction of the system was reviewed, inspected and approved by the City Sewer Inspector when originally installed, and is inspected annually.

Dellwood's policy of large sized lots coupled with soil tests, percolation tests, setbacks, annual inspections and stringent adherence to its sewer ordinance should enable the City to continue indefinitely without the need for municipal sewers.

There are two properties in the City that receive municipal sewer from a neighboring jurisdiction.

SURFACE WATER MANAGEMENT PLAN

The City of Dellwood is considered to be fully developed, and its stormwater system is complete. The City's fiscal planning needs moving forward are primarily for the management and maintenance of the existing drainage system, and any replacement or improvements that come with street and public improvement projects. These are cataloged in the city's Capital Improvement Program.

Significant redevelopment or rezoning is not anticipated for the future. Land uses within the City are limited to single family residential dwellings in the R-1, R-2 and F/E Agricultural Districts. A one-acre minimum lot size is required in the R-1 District, and at least two-acres are required in the R-2 District. In the Farm/Estate District, a five-acre minimum lot site is required but a Planned Residential Development (PRD) is available for parcels having at least 20 developable acres exclusive of roadways. In the PRD District, lots must average three acres in size and no lot may be less than two acres in size.

There are no large undeveloped parcels remaining, except for two private golf clubs, a winery and an apple orchard. Should any of those uses be discontinued in the future, development would be subject to the five-acre minimum or the PRD Ordinance. There is no significant public open space in the City. There is a parcel of land at the northeast corner of Apple Orchard Road and LaCosta Drive which consists of approximately five acres and is preserved as a wildlife area. It is not maintained as a public park and is not open for public use.

The City of Dellwood is located entirely within the Rice Creek Watershed District. Dellwood will continue to ensure that its development standards are consistent with Rice Creek Watershed District rules, regulations, policies and standards.

Dellwood acknowledges the importance of protecting the area's valuable water and natural resources. The City has always been and will continue at all times to be proactive in supporting surface and ground water resource management. The City does not have any formal agreements with Rice Creek Watershed District (RCWD) regarding water resource management, however Dellwood acknowledges that RCWD is the Local Government Unit responsible for administering the Wetland Conservation Act in the City of Dellwood, and the City requests RCWD to continue to implement its regulations and issue permits within the City. The City cooperates with RCWD as new rules and regulations are adopted and administered. The foregoing statements apply as well to the City's connection to the White Bear Lake Conservation District. A large portion of White Bear Lake lies within the municipal boundaries of Dellwood. White Bear Lake Conservation District controls activities on the lake itself.

Land and Water Resources Inventory

Dellwood is semi-rural in nature, having many acres devoted to golf courses, an apple orchard and a farm-winery. There are four lakes located entirely or partially within the City limits of Dellwood, which are: White Bear Lake, Pine Tree Lake, Long Lake, and Echo Lake. Dellwood also has several wetland areas which have been designated as protected water bodies.

1) **White Bear Lake** has a total surface water area of about 2,410 acres with a maximum depth of about 85 feet. The lake elevation level has fluctuated over the years from a level of about 918 feet to a high in excess of 926 feet. The Ordinary High Water Level is 924.89 feet. The MN DNR has established a protective elevation for White Bear Lake at 922 feet above mean sea level. The protective elevation is intended to protect and maintain fish and wildlife habitat and support recreation uses of the lake. It is a regulatory measure used to stimulate changes in water appropriations and is the first protective elevation established by the DNR to manage groundwater use rather than direct surface water use. Permit modifications might include implementing water use restrictions to help support the protective elevation such as reducing non-essential uses, like lawn watering. The protective elevation is not a lake level that will be maintained or guaranteed as lake levels regularly fluctuate and move above or below the protective elevation in any given year. The lake is classified as a General Development Lake.

2) **Pine Tree Lake** is located partly in the City of Dellwood and partly in the City of Grant. Pine Tree Lake is classified under Dellwood’s Shoreland Management Ordinance as a Natural Environment Lake although the MNDNR and the City of Grant consider it to be a Recreational Development Lake.

Pine Tree Lake has a surface water area of about 175 acres and a maximum depth of about 30 feet. Its Ordinary High Water Level is approximately 946 feet. There is no approved public access to Pine Tree Lake.

3) **Long Lake** is located partly in Dellwood and partly in the City of Mahtomedi. It has a surface water area of about 49 acres with a maximum depth of about 25 feet. It is classified as Recreational Development and Dellwood recognizes this classification in its Shoreland Management Ordinance.

4) **Echo Lake** lies entirely within private property. There is no public access. In the past, this lake has been used by MNDNR for purposes of a fish rearing pond. This lake is classified as a Natural Environment Lake.

Management of Echo Lake by the City is restricted due to its location entirely within a large parcel owned by a private individual. Access is subject to the owner’s approval and no public access exists.

5) **Wetlands:** The MNDNR has identified several unnamed wetlands within the City of Dellwood as **Protected Bodies of Water**, which are as follows:

#82-320W	#82-338W
#82-327W	#82-340W
#82-328W	#82-340W
#82-329W	#82-341W
#82-330W	#82-342W
#82-337W	#82-326 P (Also known in the community as Schuneman Marsh)

6) **Bedrock and Soils:** The geological conditions of Dellwood are covered in further depth in the Natural and Cultural Resources chapter, but a summary is provided here. Bedrock is primarily St. Peter Sandstone from the Ordovician Age, with bands of dolomitic bedrock throughout the city. Dellwood’s soils are primarily of five types, shown and described in the table below. For more information and maps on these geological elements please refer to the Natural Resources section of the Dellwood Comprehensive Plan.

Soil	Description
Demontreville-Kingsley	Undulating to steep, well drained, coarse textured and moderately coarse textured soils; on uplands.
Antigo-Comstock	Level to moderately sloping, well drained and somewhat poorly drained, medium textured soils; poorly drained, on outwash plains and glacial lake plains.
Antigo-Chetek-Mahtomedi	Nearly level to steep, well drained to excessively drained, medium textured to coarse textured soils; mostly on outwash plains.
Nessel-Dundas-Webster	Level to gently undulating, moderately well drained and poorly drained, moderately coarse textured and medium textured soils; on uplands.
Hayden-Nessel-Dundas	Level to gently rolling, well drained, moderately well drained, and poorly drained, moderately coarse textured soils, on uplands.
Source: USDA Soil Conservation Service, Minnesota Agricultural Experiment Station	

Groundwater

Groundwater is identified as one of Washington County's most valuable resources in the Washington County 2014 Groundwater Plan. The overall goal of the plan is to "manage the quality and quantity of groundwater in Washington County to protect health and ensure sufficient supplies of clean water to support human uses and natural ecosystems." It focuses predominantly on groundwater quantity and quality. Groundwater provides 100 percent of the water supply in the county available for human uses. Attached is a map outlining the vulnerability of surface and groundwater interactions in the City of Dellwood. The City will examine strategies and policies of the County's Groundwater Plan and will amend and adopt ordinance to help further its mission, specifically in areas identified as vulnerable.

Dellwood is within the North and East Metro Groundwater Management Area (GWMA), designated by the Minnesota DNR. The North and East Metro GWMA includes all of Washington County, all of Ramsey County, and a portion of Anoka and Hennepin Counties. The GWMA Plan will guide the DNR's efforts to manage groundwater appropriations sustainably in this area over the next five years. The Plan establishes sustainability goals to help appropriation permit holders plan for their future water use and ensure that groundwater supplies remain adequate to meet human needs while protecting lakes, streams and wetlands.

Current Programs and Tools to Protect Water Quality

Various planning tools are used to preserve and protect the quality of all public bodies of water in the City.

1. **Shoreland Ordinance**: Dellwood has enacted a Comprehensive Zoning/Shoreland Management Ordinance. The Shoreland Management provisions apply throughout the City because almost all of the land in the City lies within 1,000 feet of a lake or protected wetland.

The Shoreland Management Ordinance adopts all of the Statewide Standards of Management of Shoreland Areas promulgated by Minnesota Department of Natural Resources and embodied in Minnesota Administrative rules Chapter 6120.

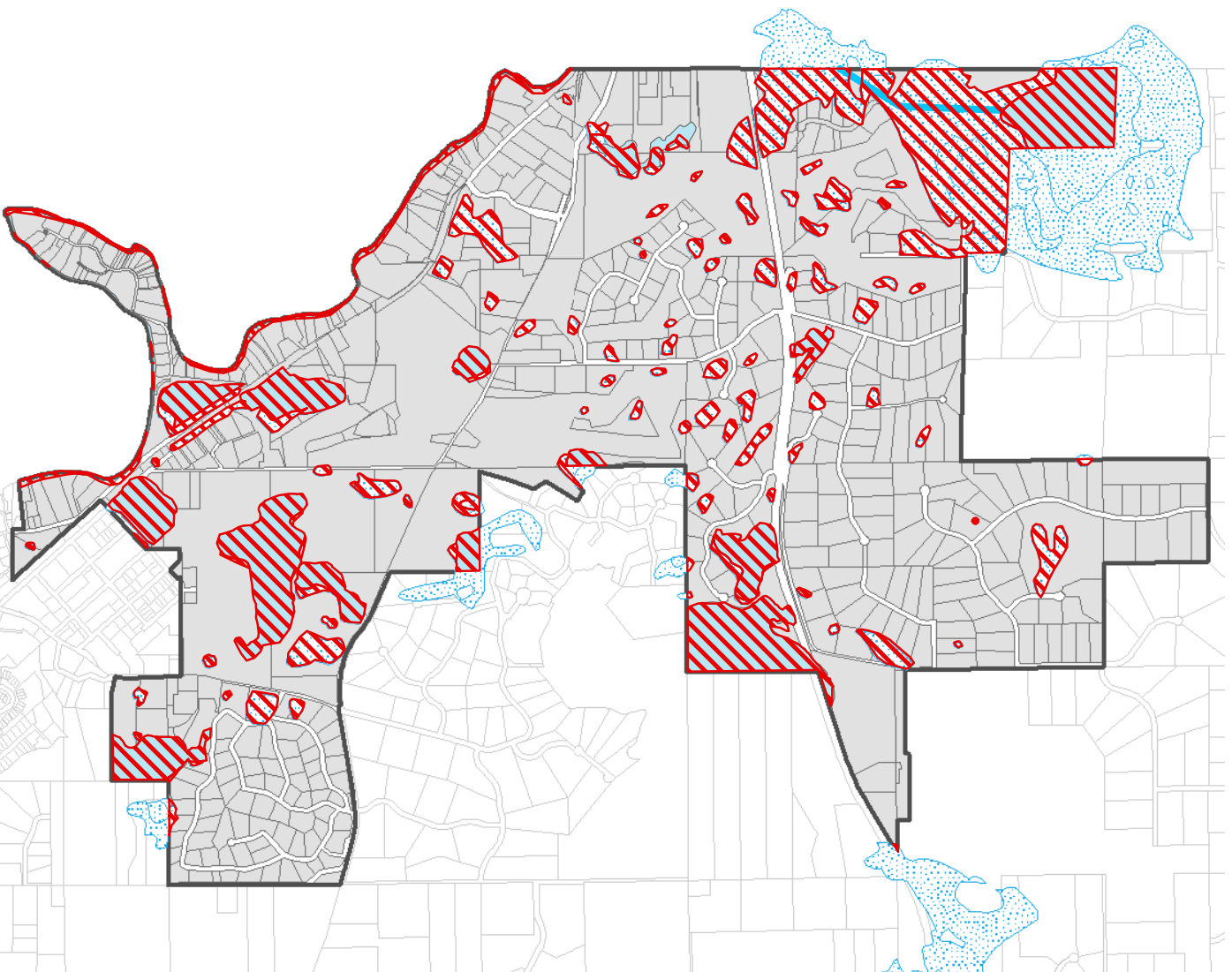
The City complies with all policies and recommendations of the Minnesota Environmental Quality council, Rice Creek Watershed District, Minnesota DNR and the White Bear Lake Conservation District.

The Comprehensive Zoning/Shoreland Management Ordinance addresses all water related issues by reason of the following requirements:

Surface and Groundwater Interaction Vulnerability

Dellwood Comprehensive Plan 2040

March 6, 2018



Legend

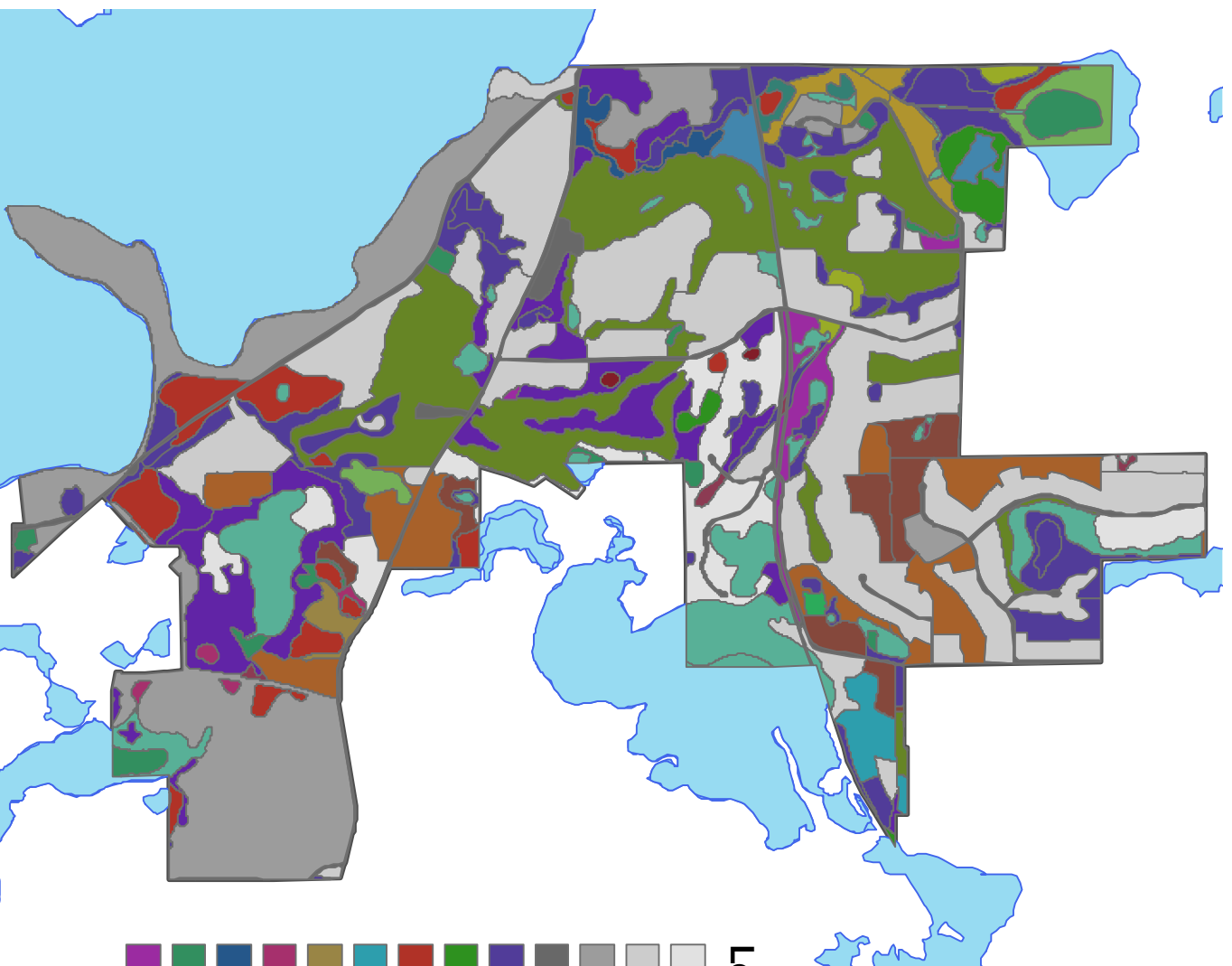
- Public Water Stream
- Vulnerable
- Public Water
- National Wetlands Inventory



Landcover Classification

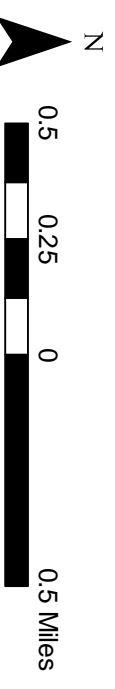
Dellwood Comprehensive Plan 2040

March 6, 2018



Legend

4-10% Impervious Cover	Long Grasses
11-25% Impervious Cover	Lowland Hardwood Forest
26-50% Impervious Cover	Marsh
Urban	Medium-Tall Grassland
Altered/Non-Native	Oak Forest
Alder Swamp	Rich Fen
Cattail Marsh	Seasonally Flooded
Coniferous Trees	Short Grasses
Dry Oak Savanna	Swamp
Floating Algae	Upland Soils
Floating Forest	Water
Floating Vegetation	Wet Meadow
Grassland	Willow Swamp



- By limiting development of private land to large sized lots.
- By regulating the maximum height of structures and the minimum distance they may be located from the shoreline or designated lines of wetlands.
- By restricting land use in the City to single family residential purposes with the exception of two private golf clubs, one apple orchard and one farm winery.
- By regulating the reclamation of substandard land and the excavation, filling and grading of such land.
- By limiting the impervious surface area of any residential lot to not more than 25% of the entire lot area in districts R-1 and R-2, and to no more than 10% in the FE/Agricultural/Farm Winery District.
- By imposing setback requirements for on-site septic systems from lakes, wetlands and water wells.

2. **Rice Creek Watershed District and other Agencies:** Dellwood has adopted the updated rules of Rice Creek Watershed District. The City participates in the MPCA- administered MS4 Stormwater Pollution Prevention Program and Washington Conservation District's East-Metro Water Resource Education Program. The City issues annual reports of activities undertaken to educate its citizens on the effects of stormwater pollution. City Ordinances control construction site run-off, post construction site stormwater management, illicit discharge detection and elimination controls together with generally accepted good pollution prevention and housekeeping practices.

Dellwood employs and enforces best management practices as set forth in the Minnesota Small Sites BMP Manual, which is on file in the City offices. The City's Stormwater Pollution Prevention Program is included as an appendix to this document. These appendices can be found on page 88.

3. **Variance Requests:** All requests for variances from the strict application of the Zoning/Shoreland Management Ordinance are referred to Minnesota DNR for review and comment to ensure that its regulations, policies, and goals are addressed. Notices of public hearings are given to DNR.
4. **Floodplain Management Ordinance:** The purpose of this Ordinance is to maintain the community's eligibility in the National Flood Insurance Program and to minimize potential losses due to periodic flooding including loss of life, loss of 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, all of which adversely affect the public health, safety and general welfare.

This Ordinance applies to all lands designated as Floodplain within the jurisdiction of the City of Dellwood. Floodplain areas within the City of Dellwood shall encompass all areas designated as Zone A, Zone AE, Zone AO or Zone AH as shown on the Flood Insurance Rate Map adopted in Section 2.1 of this Ordinance.

The Floodplain zoning district is considered an overlay zoning district to all existing land use regulations of the community. The uses permitted in Sections 4.0 and 5.0 of this Ordinance shall be permitted only if not prohibited by any established, underlying zoning district. The requirements of this Ordinance shall apply in addition to other legally established regulations of the community and where this Ordinance imposes greater restrictions, the provisions of this Ordinance shall apply.

5. **Subdivision Ordinance:** Dellwood adopted a Subdivision Ordinance which requires the owner/developer to submit data which describes the existing conditions of the parcel to be subdivided and of the surrounding area to a distance of 350 feet from the subject parcel. As has been noted above, Dellwood for the most part is already fully developed and further subdivision is not anticipated. The Ordinance includes a subsection providing for minor subdivision of one parcel into three or fewer separate buildable lots.

The Subdivision Ordinance requires the developer to submit data which describes the existing conditions of the parcel to be subdivided and in the surrounding area to a distance of 350 feet. Information required includes the following:

- Location of culverts, or other underground utilities and drainage facilities.
- Topography showing all lakes, watercourses, wetlands, areas subject to flooding or overflow.
- Contour map with vertical intervals of not more than two feet, not more than 100 feet apart.
- Plans for water supply, sewage disposal, drainage and flood control, with a report from a registered civil engineer as to the suitability of each proposed lot for individual on-site septic system and private water supply.
- Soil boring analysis and percolation tests to verify engineer's report.
- Plan for soil erosion and sediment control during and after construction and development.
- A plan for preservation and protection of trees and other vegetation, including a plan for replacement and restoration of trees and vegetation to be removed during development.

In each case, no subdivision may be approved until a public hearing has been held by the City upon published notice and mailed notice to each owner of land lying within 350 feet of the subdivision.

Further, no plat may be approved until the City has received a written report from the City Engineer which addresses all engineering questions and any drainage problems which might be encountered.

The City also refers all requests for subdivisions to the Minnesota DNR and to Rice Creek Watershed District for review and comment. Notice of the public hearings are likewise provided. In subdivisions along the shore of White Bear Lake, the White Bear Lake Conservation District is also provided copies of the proposed plan.

Before final approval, the burden is placed upon the developer to establish the suitability of the land for subdivision with regard to the following conditions:

- Adequate drainage of surface subsurface waters in such a way as to prevent harm or damage to adjacent properties.
- Adequate pure water supply. This means that each individual lot must have available pure water supply to produce at least 10 gallons per minute by a well having a well casing of no less than four inches in diameter.
- Adequate soil conditions and sewage capacity for each proposed lot. All sewage treatment systems must comply with the Dellwood Sewer Ordinance which adopts by reference Minnesota Rules Chapter 7080 with added restrictions. Compliance with the policies and regulations of the Minnesota Environmental Quality Council, Rice Creek Watershed District, Minnesota DNR and White Bear Lake Conservation District.
- Security is required for the completion of all required improvements, including drainage facilities, in the form of surety bonds, certified checks, or letters of credit to be maintained until the City Engineer recommends final approval.

Stormwater Runoff

Stormwater runoff is controlled by restrictions on excavation, grading and filling operations, as well as limits imposed upon impervious surfaces. All developments are required to demonstrate that adequate measures have been taken to control erosion, sedimentation and nutrient removal.

The City has adopted the revised state wide Shoreland Management standards, and the National Urban Runoff Program (NURP) wet-basin design criteria for new stormwater detention ponds. The City has adopted the urban best management practices of the MPCA as presented in the publication entitled “Protecting Water Quality in Urban Areas.”

Due to the very limited area of remaining developable land in the City, it is not anticipated that future land use activities will significantly increase surface water runoff. The last remaining large parcel of undeveloped land drains entirely to Echo Lake which is contained solely within the property. If and when this land is to be developed, water management measures will be carefully reviewed and addressed in accordance with the goals and objectives of the District Water Management Plan.

Rules of the Rice Creek Watershed District as amended, will be applied to all applications for development, redevelopment or significant additions to an existing site.

1. **Stormwater Management Plan:** This will require a minimum stormwater runoff analysis for the design of flows and water levels within and beyond the project site.

- Stormwater run-off rates which exceed pre-existing rates are not allowed.
- On-site detention basins will be required to manage peak flow rates and maintain water quality standards, where possible.
- Detention basins must provide for an outlet structure to control peak runoff rates.
- Permanent sedimentation and water quality ponding areas will be required to comply with NURP standards. Storage capacity must equal to anticipated runoff from a 2 1/2-inch rainfall over the area tributary to the pond. The outlet structure must be designed to contain floating debris and oils for a one-year storm, and to minimize erosion of natural shoreline and stream bed due to stormwater flows.
- All new construction must have at least a two-foot vertical separation of the lowest floor level above the high water mark and overflow elevations of adjacent wetlands and stormwater basins.
- The applicant for subdivision development, or other land use permit will be required to submit data showing contributing run off from off-site location and elevation of proposed and existing on-site drainage facilities, delineation of existing wetlands, identification of existing and proposed normal, high and 100 year water levels on-site, stormwater runoff volume and rate analysis, design plans and specifications of all proposed stormwater control facilities including outlet control structures and the design and location of any ponding or flowage easements which will be dedicated for stormwater management purposes.
- As part of its stormwater management ordinance, the City prohibits use of fertilizers which do not meet the state zero phosphorous requirements.

2. **Erosion Control:** An Erosion Control Plan must be submitted showing design criteria to prevent erosion of soil in surface waters. Data must be furnished to identify natural site topography and soil conditions. Erosion control practices must be consistent with the Best Management Practices set forth in the MPCA publication entitled “Protecting Water Quality Management in Urban Areas.” As may be modified by the City to reflect its semi-rural character. Applicant must submit exhibits which show existing and proposed topographic and hydrologic features and areas susceptible to erosive conditions.

All temporary erosion control devices must remain in place until permanent vegetation is established. Projects involving one acre or more of disturbed land will require a permit from the MPCA and the RCWD. Projects involving 10,000 square feet or more of land if the disturbed area is within 300 feet of any lake, stream, wetland, or ditch will also require an erosion control permit from the RCWD.

3. **Wetlands:** It is the policy of the City to control all wetland alteration for the purpose of enhancing or restoring the quantity and quality of local wetlands. Activities which tend to destroy or diminish these objectives will be avoided. No wetland in the City may be filled, drained, excavated or otherwise altered without a permit issued by Rice Creek Watershed District, the local governing unit which administers and reviews for consistency with the Wetland Conservation Act and the rules set forth in Minnesota Rules Chapter 8420, as amended.
4. **No person may construct,** improve, repair or alter hydraulic characteristics of a bridge control or culvert structure in any creek, public ditch, or major watercourse, without a permit issued by Rice Creek Watershed District. All such crossings must retain existing hydraulic and navigational capacity and must not adversely affect water quality. The need for the crossing must represent the “minimum impact” solution and allow for future erosion and sedimentation control.
5. **Shoreland Development is regulated by the Comprehensive Zoning / Shoreland Area Management Ordinance which incorporates the statewide standards promulgated by Minnesota DNR.** The Comprehensive Zoning / Shoreland Ordinance defines the Shoreland District as being the entire City. In other words, the requirements and provisions of the statewide standards for shoreland areas apply throughout the City.

Dellwood has adopted into its Ordinances the newly enacted amendments to Minnesota Statutes pertaining to regulation of non-conforming uses and structures.

All development, grading, excavation and filling within the City require a permit. Structure setbacks and septic system setbacks from the ordinary high water mark of public waters and protected wetlands are in conformity with the state wide standards.

All applications for such activities must contain a site plan showing all set back distances and an erosion control plan. Exceptions to the foregoing requirements may be granted to water-oriented structures as defined in the Shoreland Ordinance (not used for habitation and no sanitary sewer facilities).

6. **Public and private drainage systems** may not be constructed, improved, or repaired without a permit issued by the Rice Creek Watershed District.
7. **Appropriation of public waters** may be done only with a permit from RCWD, or submission of satisfactory evidence that no permit is required under the rules of the District.
8. **Variances may be granted by the City** from the strict application of the rules applicable to any new development, redevelopment, or significant activity within an existing site, upon a showing of undue hardship. However, no variance will be considered or approved with respect to activities subject to control by the rules and regulations of the Rice Creek Watershed District, the Minnesota DNR, and White Bear Lake Conservation District, unless an appropriate permit has been issued by such agency, or the project is excepted from regulation by such agencies.
9. **Variance Requests:** All requests for variances from the strict application of the Zoning/Shoreland Management Ordinance are referred to Minnesota DNR for review and comment to ensure that its regulations, policies, and goals are addressed. Notices of public hearings are given to DNR.

In any case, no variance will be granted which may adversely affect the health, safety, or welfare of the public or the water quality and drainage of the City.

Drainage Areas

Dellwood
Comprehensive Plan 2040


March 6, 2018



Legend

 Subwatersheds


**Surface and Groundwater
Interaction**

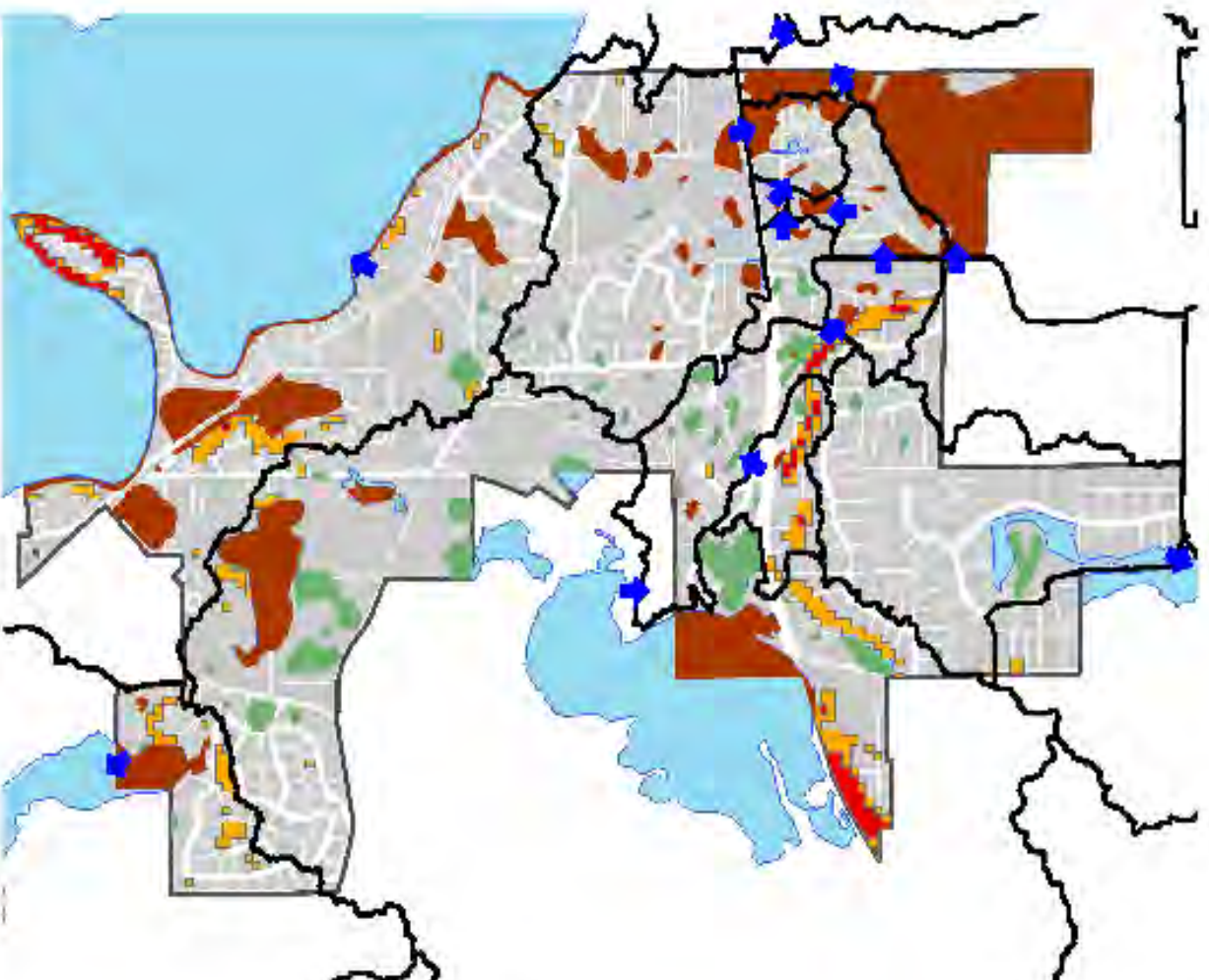
 Not Vulnerable

 Vulnerable

Steep Slope Areas

 12% Slope

 18% Slope



10. **A Capital Improvements Program** has been drafted by the city in order to plan for the creation and replacement of public facilities between now and 2029. For public improvement projects which are anticipated to have an impact upon stormwater runoff levels, the costs associated with managing these increased impacts are in place. Otherwise, the city does not have major long term plans to overhaul the existing water management controls, which it has deemed sufficient. Going forward, in any new development, redevelopment or significant change in an existing site, the City will require the applicant/developer to provide all capital improvements determined to be necessary by the City Engineer, so that they may be added to the City's CIP.

One project that is under consideration but not currently listed on the City's CIP is the eventual repair and replacement of culverts under Highway 244. The culverts are under the jurisdiction of MNDOT. The City continues to monitor this situation and any repair or replacement will most likely occur in conjunction with street improvements to be made on Peninsula Road in year 2019, which is listed on the CIP. The City's CIP is included as an appendix to this document. These appendices can be found on page 88.

Surface Water Drainage Facilities

The following map depict the drainage areas in the City of Dellwood. Dellwood is composed of 18 subwatersheds. Subwatersheds are smaller drainage areas in a larger watershed. The map also shows areas identified as potentially vulnerable to contamination from surface and groundwater interaction. The City will continue to monitor these areas closely in an effort to prevent and mitigate contamination. The culvert map shows the approximate location of culverts in Dellwood, including their material and size.

1. **Public Ditches in Rice Creek Watershed District:** The City has only one public ditch in its confines, being Ramsey/Washington Judicial Ditch No. 1, (RWJD1). The land around RWJD1 is the only area in Dellwood which could potentially see an increase in the floodplain elevations in the future.
2. **City Maintained Drainage System:** Dellwood has identified the location of open ditches, catch basins, piping conveyances and culverts within the City. Drainage systems are elevated, installed, upgraded, maintained and replaced as feasible and practical on a project-by-project basis.
3. **Inter Community Flows:** One point of discharge from the City of Dellwood into another community has been identified by Rice Creek Watershed District. This point of intercommunity discharge into the township of White Bear and associated peak flow rates are identified below. Through deference to RCWD rules and through the City's policies, the City will maintain or reduce discharge flow rates leaving the City and entering White Bear Township.

Inter-Community Flow Rates (cfs)					
Receiving City	Watercourse	2-yr/24-hr rainfall	10-yr/24-hr rainfall	100-yr/24-hr rainfall	100-yr/10 day snowmelt
W.B. Twp.	RWJD1	38	101	254	248

4. **Water-Based Recreation Areas:** White Bear Lake provides the most in terms of water-based recreation within the City of Dellwood. The main public access points are through Ramsey County. There are no public access points or water-based recreational areas in Dellwood.

EXISTING WATER PROBLEMS

Impaired Waters

The Minnesota Pollution Control Agency lists the following waterbodies located within or near the City as being impaired:

- **Ramsey/Washington Judicial Ditch 1 (Assessment ID: 07010206-565):** Impaired for dissolved oxygen, affecting aquatic life.
- **White Bear Lake (Assessment ID: 82-0167-00):** impaired for mercury in fish tissue, affecting aquatic consumption.
- **Bald Eagle Lake (Assessment ID: 62-0002-00):** Impaired for mercury in fish tissue and nutrient/eutrophication biological indicators, affecting aquatic consumption and aquatic recreation.
- **Peltier Lake (Assessment ID: 02-0004-00):** Impaired for mercury in fish tissue and nutrient/eutrophication biological indicators, affecting aquatic consumption and aquatic recreation.
- **Centerville Lake (Assessment ID: 02-0006-00):** Impaired for nutrient/eutrophication biological indicators, affecting aquatic recreation.
- **Fish Lake (Assessment ID: 82-0137-00):** Impaired for nutrient/eutrophication biological indicators, affecting aquatic recreation.
- **Clearwater Creek (Assessment ID: 07010206-519):** Impaired for aquatic macroinvertebrate and fishes bioassessments, affecting aquatic life.
- **Upper Mississippi River (Assessment ID: 07010206):** Impaired for fecal coliform and mercury in fish tissue, affecting aquatic consumption and recreation.

Corrective Action: The Minnesota Pollution Control Agency completed Total Maximum Daily Load (TMDL) studies for Bald Eagle Lake, Peltier & Centerville Lake, and Upper Mississippi River. The Bald Eagle Nutrient TMDL, Peltier & Centerville Lake TMDL and Upper Mississippi River TMDL identify a categorical waste load allocation for the City of Dellwood. Dellwood currently has an ordinance for citizens to pick up animal waste to reduce the presence of E. Coli bacteria in the community, which helps address the Upper Mississippi Bacteria TMDL goals. The City of Dellwood will work with neighboring communities, the Minnesota Pollution Control Agency, and the Rice Creek Watershed District to meet the categorical waste load allocation for Bald Eagle Lake and Peltier and Centerville Lake, and to address any future impairments and TMDLs as necessary.

Dellwood is also currently experiencing two water-related issues which are being investigated by the City Engineer.

1. There is a drainage issue on 35 Evergreen Road, which involves flooding of surface water; the origin of which is not known at this time. The property owners have taken remedial action and the problem appears to have been resolved.

Corrective Action: The City will continue to monitor this problem area in cooperation with the owners at 35 Evergreen Road and nearby properties.

2. Another issue presents itself at the wetland area bounded by Highway 244 (Dellwood Avenue) and the North and South Peninsula Roads.

Corrective Action: A possible solution to this problem is pursuing a capital improvement project with Rice Creek Watershed District, resulting in a potential partnership between MnDOT, the City, and RCWD. The City Engineer is investigating as to why this wetland area is not draining properly. Culverts under both South Peninsula Road may need cleaning or replacement, which would be done if necessary in conjunction with street improvements scheduled for year 2019. These road improvements are listed in the City's CIP.

PLAN AMENDMENTS

1. **Amendment procedure:** All amendments to the Plan must adhere to the review process provided in Minnesota Statute section 103B.231, Subd. 11, except when the proposed amendments are determined to be minor amendments according to the following provisions:
 - The City Council has either agreed that the amendments are minor or has failed to act within five working days of the end of the comment period specified in item B unless an extension is agreed upon.
 - The City has sent copies of the amendments to the plan review authorities for review and comment allowing at least 30 days for receipt of comments; has identified the minor amendment procedure is being followed and directed that comments be sent to the City.
 - No objection to the amendments has been filed with the City within the comment period specified in item B unless an extension is mutually agreed upon between the County and the City.
 - The City has held a public meeting to explain the amendments and published a legal notice of the meeting twice, at least seven days and 14 days before the date of the meeting.
 - The amendments are consistent with an approved and adopted County Groundwater Plan.
2. **Form of Amendments:** Draft and final amendments may be filed electronically. A receiving entity may request to receive an amendment in paper format. Draft amendments must show deleted text as stricken and new text as underlined. Unless the entire document is redone, all final amendments adopted by the City must be in the form of replacement pages for the plan with each page renumbered as appropriate and each page including the effective date of the amendment.
3. **Distribution of Amendments:** The City must maintain a distribution list of agencies and individuals who have received a copy of the plan. The City shall distribute copies of amendments to all on the distribution list and post the amendment within 30 days of adoption.

COMMUNITY DESIGNATION

The Metropolitan Council designates the City of Dellwood as a “diversified rural” community. The Metropolitan Council stated that diversified rural communities are intended for “protecting land for rural lifestyles and long-term urbanization.” The Metropolitan Council identifies the following water sustainability policies for diversified rural communities:

Water Sustainability

- Protect the rural environment through local oversight of the management and maintenance of subsurface sewage treatment systems (SSTS) to avoid the environmental and economic costs of failed systems. Proactively explore options to address failing septic systems.
- Ensure financial and environmental accountability for installation, maintenance, remediation, and management of any permitted private wastewater system.
- Adopt subsurface sewage treatment system (SSTS) management ordinances and implement maintenance programs, consistent with current Minnesota Pollution Control Agency rules (Minn. Rules 7080-7083).
- Encourage the use of environmentally sensitive development techniques, such as surface water management best management practices that capture, filter, and infiltrate stormwater where possible.

GOALS AND POLICIES

Dellwood recognizes the importance of surface and groundwater resources as well as the adverse impacts of waste water treatment systems and surface water runoff. Dellwood intends to implement its Comprehensive Plan, and its goals and objectives therein expressed, by continued adherence to its existing planning controls.

Goal: Ensure all development employs environmentally sensitive development techniques to protect the City's surface and groundwater quality.

Policies:

- Ensure City Ordinances are consistent with the updated Surface Water Management Plan and Comprehensive Plan.
- Require all developers of future housing to follow the existing character of the City as a semi-rural unsewered single family residential community.
- Strengthen relationship and cooperation with the Rice Creek Watershed District, County, and White Bear Lake Conservation District.

Goal: Increase knowledge on importance of groundwater, and how to protect its quality.

Policy:

- Implement educational tools to increase public knowledge on where they get their drinking water, current threats to its quality, and steps individuals can take to help protect it.

Implementation Actions:

- The Zoning Ordinance and the Shoreland Area Management Ordinance have been consolidated into one Comprehensive Ordinance which makes the statewide standards for management of shoreland areas applicable throughout the entire City.
- The Subdivision Ordinance has been determined to be sufficient to address all future development projects. Should any inconsistencies appear between the Ordinance and the Comprehensive Plan, the Ordinance will be amended to conform to the plan. It is anticipated that all future development will proceed under the Planned Unit Development Section of the Zoning Ordinance, which is in the nature of the subdivision regulations.
- The existing provisions of the Sewer Ordinance are adequate to control the use and placement of existing and future individual treatment systems.
- The City will review and revise its ordinances to ensure they are consistent with the RCWD rules and State requirements. RCWD approved a new management plan in 2010. All required Ordinance amendments will be done within the timeframe specified in MN Statute 103B.235 Subd. 4.
- Upon delineation of floodplains and floodways by the Minnesota Commissioner of Natural Resources, Dellwood shall amend its Ordinance in conformance with the provisions of Minnesota Statute section 103F.101 to 103F.155, subject to approval by the Commissioner.
- Clustering of residential units is now recognized under existing zoning regulations. The City will review its policies regarding clustered development and make revisions in its Zoning and Subdivision Ordinances if it appears to be in the best interests of the City.
- The City will explore future partnership options with Rice Creek Watershed District on future development including: creating a capital improvements project list, installation of stormwater BMPS, and education.
- Increase outreach and education to residents regarding water conservation and groundwater recharge.
- The City will examine its current strategies for identifying and sealing abandoned wells to protect water quality.
- Increase outreach and engagement with residents on the importance of sealing abandoned wells.
- Increase opportunities for partnership with the County on groundwater protection strategies.



TRANSPORTATION

INTRODUCTION

Dellwood's transportation system is made up of local streets, collectors, and some minor arterial roadways. The City has no major interstates or freeways, and no existing or planned public transit routes. This is attributable to Dellwood's rural atmosphere and size, which does not have the population density to support either larger roadways or fixed-route transit service.

Dellwood is situated within the Metropolitan Transit Market Area V. Transit Market Area V has very low population and employment densities and tends to be primarily rural communities and agricultural uses. General public dial-a-ride service may be appropriate here, but due to the very low-intensity land uses these areas are not well-suited for fixed-route transit service.

TRANSPORTATION ANALYSIS ZONES

Dellwood falls within a number of different Transportation Analysis Zones (TAZs), which are used for the purposes of projecting and understanding traffic volumes along roadways in a region. Forecasts for population, households, and employment are developed for the purposes of long-term transportation planning. The TAZs which incorporate a portion of Dellwood are detailed below, and the TAZ boundaries are shown on the transportation plan map. Note that these forecasts also include portions of other communities, and do not reflect population, household, and employment counts for the City of Dellwood.

Dellwood – Forecasted Demographic Data by Transportation Analysis Zone												
TAZ #	2010			2020			2030			2040		
	Pop	HH	Emp	Pop	HH	Emp	Pop	HH	Emp	Pop	HH	Emp
2323	5	1	0	3	1	0	4	2	0	6	2	0
2324	599	194	218	582	205	235	585	209	221	588	214	203
2325	273	103	56	307	114	94	318	114	108	331	120	125
2329	186	74	3	218	80	1	223	85	2	225	84	2
Total	1063	372	277	1110	400	330	1130	410	331	1180	420	330
Source: Metropolitan Council, MNDOT, Dellwood, NAC Inc. (HH is Household)												

ROADWAYS

Functional Road Classifications

Dellwood has no centralized commercial district. As a residential community, Dellwood's road system is composed primarily of local streets. The principal routes are State Trunk Highways 96 and 244 which serve as "A-Minor Expander Arterials." According to the Metropolitan Council's 2040 Transportation Policy Plan, "The minor arterial system supplements the principal arterial system and provides connections to the principal arterial system. Minor arterials also support access to major traffic generators, including regional job concentrations and freight terminals, and between rural centers within and just outside the region." Expander arterials primarily exist in suburban, suburban edge, and generally less densely populated areas like Dellwood. Both A-Minor Arterials are two lane roads and planned to stay as such.

Quail Road, formerly Washington County Road 62, was changed from a County Road to a municipal street in 1997 and remains as an identified major collector. Apple Orchard Road also carries significant traffic, especially during certain seasons and the southerly segment of this road is a local minor collector, however it is not recognized as such by the Metropolitan Council.

Traffic Levels

The average daily traffic counts for both Highway 96 and 244 are shown on the transportation plan map. Highway 96 was the busier of the two, with an estimated 6,100 average daily trips compared to Highway 244's

Roadway Class and Transportation Analysis Zones Dellwood Comprehensive Plan 2040

December 18, 2019

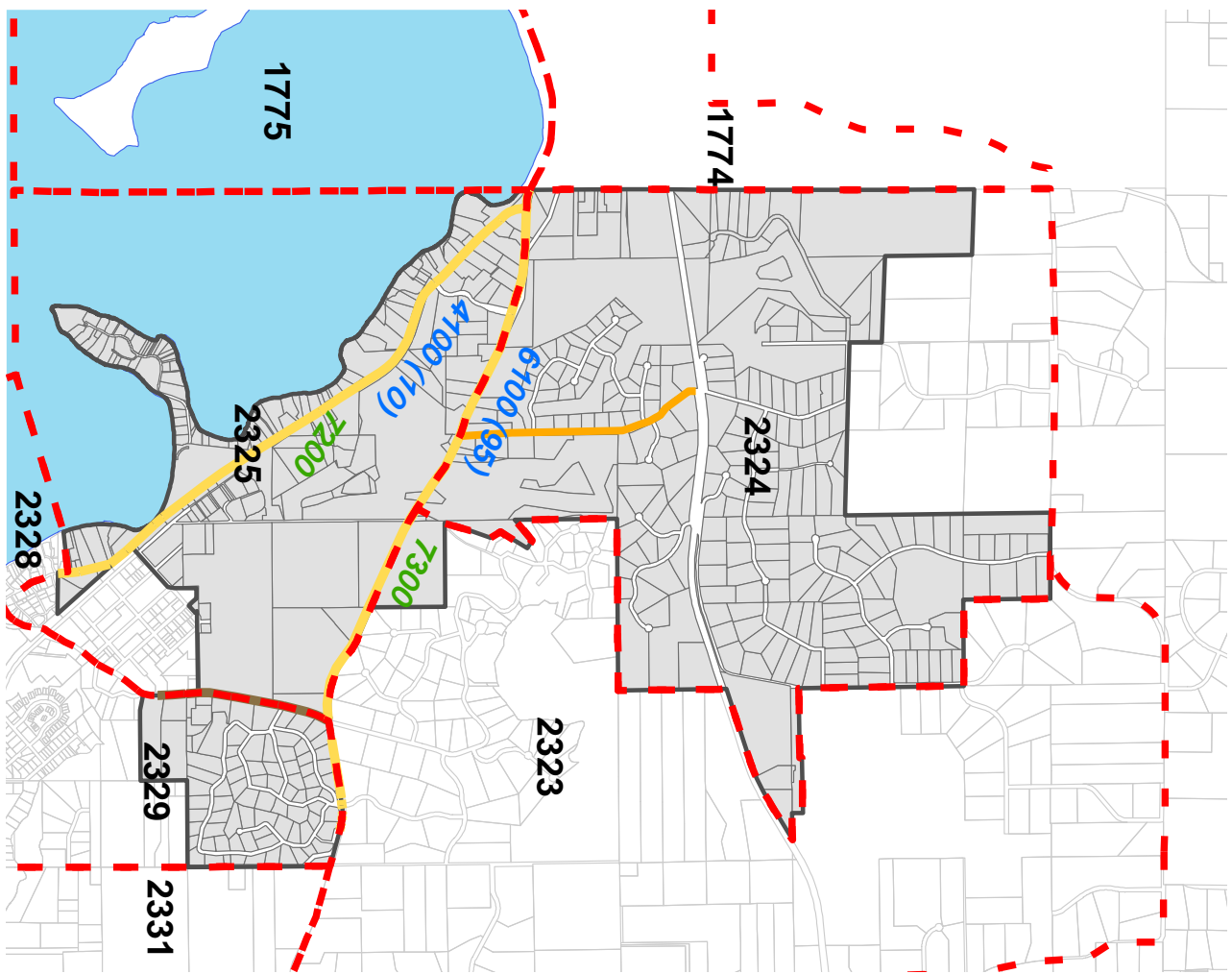


Legend

- A Minor Expander
- Major Collector
- Minor Collector
- - - TAZ Boundaries
- City Boundary

(###) Existing Traffic Volume
(HCAADT Volume)

Forecasted Traffic Volume



4,100 in 2016. However, both are projected to have similar traffic levels by 2040, with 7,300 daily trips on the section of Highway 96, and 7,200 on Highway 244. The increase in daily traffic on both highways will come mostly from other communities served by the roadways. The projected population growth in Dellwood will not significantly contribute to increased traffic count for either.

Maintenance

The City employs a full time road maintenance company as an independent contractor. The City streets are maintained year round in a high quality, safe condition. A regular schedule of road maintenance work is maintained by the City according to inspections and recommendations made by the City Engineer. New construction must meet rigid standards which are set forth in the street construction and maintenance standards on file in the City offices. In all new developments, the developer must provide fully completed streets constructed and surfaced according to the street standards. The City will not accept the streets as public streets, nor assume any obligation for their care and maintenance, until the City Engineer has conducted inspections and has recommended acceptance by the City.

Freight

Freight transportation in Dellwood is served predominantly by the two State Highways 96 and 244. Principal Arterial highways, I-694 and TH 36, along the southern City border. Map 9-11 shows the City's freight system. There are no large traffic generators within the City as identified by the Metropolitan Council. The Roadway Classification and Transportation Analysis Zones map shows Heavy Commercial Average Annual Daily Traffic (HCAADT) within Dellwood. Within the City, the largest amount of heavy commercial vehicles travel on State Highway 96 with a lesser amount on State Highway 244 both of which average below 100 trucks per day.

The only active railroad line in Dellwood is operated by Canadian Pacific. There are crossings of this rail line on Lacosta Drive and Apple Orchard Road. The City will continuously monitor these crossings to ensure property safety measures are in place. There is also a private crossing at the Dellwood Country Club golf course for recreational users of the course.

Aviation

There are currently no existing or planned aviation facilities within the City of Dellwood, however, the City is responsible for airspace protection in order to reduce hazards to air travel within the region. Any proposed structure over 200 feet shall require notification to the Federal Aviation Administration (FAA) at least 30 days prior to construction, using FAA Form 7460-1 "Notice of Proposed Construction or Alteration," as defined under code of federal regulations CFR - Part 77. The City will support, as necessary, compliance with FAA and Metropolitan Council requirements concerning visual and/or electronic interference with airport communications, air traffic operations, and other aviation land-use capability guidelines. White Bear Lake is identified by MnDOT as an authorized landing site for seaplanes. There are currently no heliports in Dellwood or any known plans to construct one.

TRAIL PLANNING

Local residents frequently utilize the shoulders of the local roads for walking and running. Road maintenance programs account for this multi-purpose functionality of local roads. Improvements to the edges of roads to accommodate these users are key without an established sidewalk and trail system.

Currently, there are no established trail systems in the City however the City does have a Tier 2 Regional Bike and Trail Network (RBTN) search corridor running East-West through it. This corridor area includes the alignment for a portion of the planned Lake Links Trail Network. The Highway 96 Trail Corridor would run through Dellwood, coming from White Bear Lake in the West and Grant in the East.

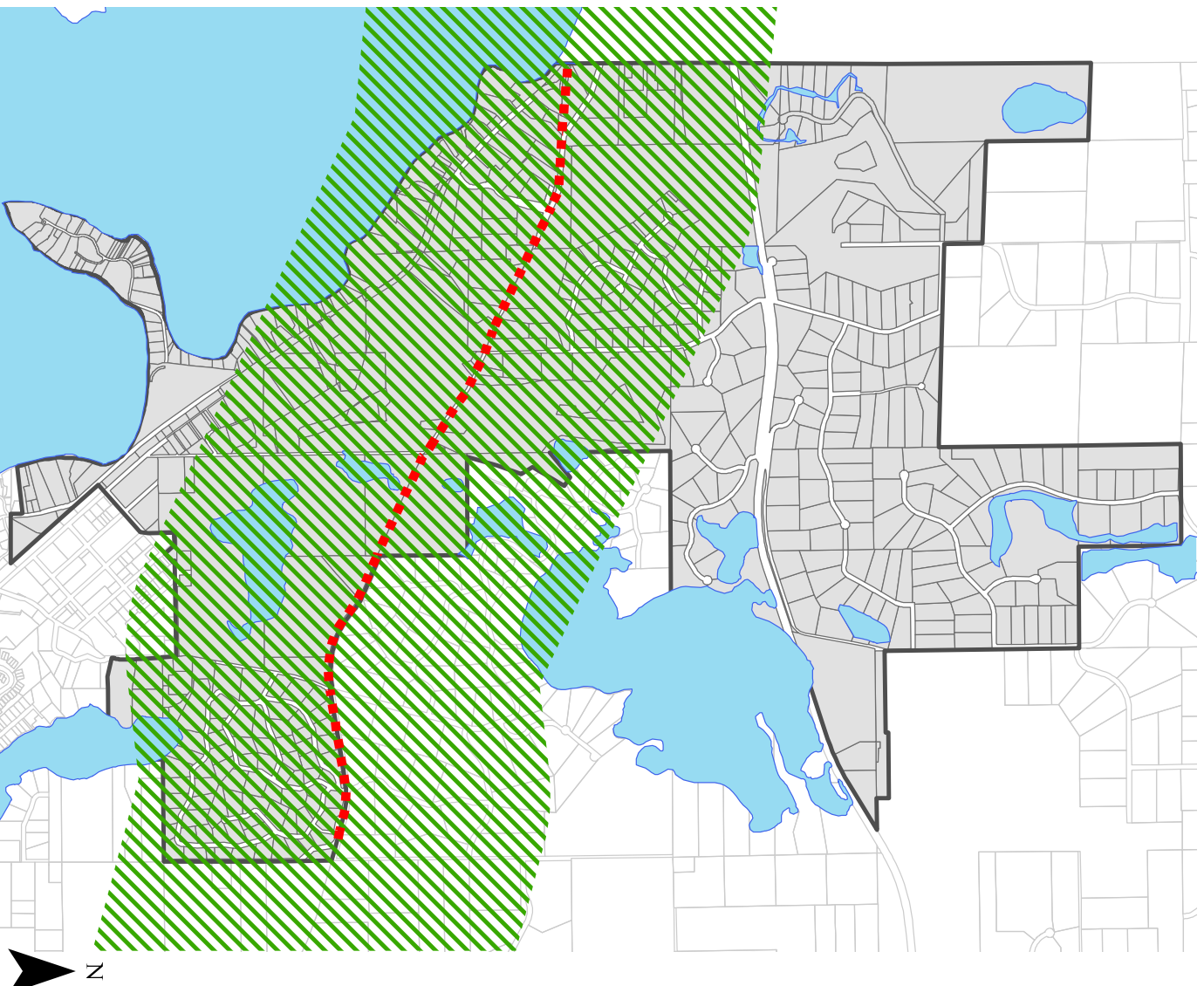
Bicycling Infrastructure/ Systems Map

Dellwood Comprehensive Plan 2040

March 6, 2018



Welcome to the
City of Dellwood



--- Planned Regional Trails

/// RBTN Corridors



Additionally, the City has been supportive of exploring possibilities of a trail corridor along State Highway 244. This support has been conditioned on the ability to provide a safe and practical route through the City.

In their 2040 Transportation Policy plan for the region, the Metropolitan Council identifies a number of key aspects to be considered when investing in and developing a local section of the RBTN. In particular, the Council highlights five key aspects that can and should be addressed at the local level when examining opportunities to developing a bike network:

- **Overcome physical barriers and eliminate critical system gaps.** Local planners will have a better idea of challenges related to the built and natural environments in an area and can give critical feedback about regional alignments in light of local use.
- **Facilitate safe and continuous trips to regional destinations.** The most effective bike networks require that a person can get from one point to another without having to choose between a roundabout route or to ride on vehicle-oriented streets.
- **Accommodate a broad range of cyclist abilities and preferences to attract a wide variety of users.** Understanding the impact of road/trail conditions and the availability of off-street trails has on ridership is important to developing a bike system that appeals to a range of age-groups.
- **Integrate and/or supplement existing and planned infrastructure.** When possible, cities should locate new trails around existing infrastructure or in places where land acquisition is not necessary.
- **Consider opportunities to enhance economic development.** While trails and bike facilities in Dellwood are largely seen as a recreational amenity, they can also have positive economic-related effects. The City should identify opportunities for bikeway projects to enhance community development programs and commuter connections.

COMMUNITY DESIGNATION

The Metropolitan Council designates the City of Dellwood as a “diversified rural” community. The Metropolitan Council stated that diversified rural communities are intended for “protecting land for rural lifestyles and long-term urbanization.” The Metropolitan Council identifies the following land use policies for diversified rural communities:

Access, Mobility, and Transportation Choice

- Plan for and construct local transportation infrastructure, including trails, sufficient to meet local needs.
- Plan and develop local trail connections to the Regional Parks System where appropriate.

GOALS & POLICIES

Goal: Provide a safe, efficient, cost-effective transportation system.

Policies:

- Consider and plan for transportation impacts when making land use decisions.
- Continue to evaluate access points on key transportation routes.
- Improve road shoulders and edges to accommodate safer driving, biking, and walking, as well as enhancing overall aesthetics.
- Maintain Safe Railroad Crossings

Implementation Actions:

- Continue capital improvement planning for infrastructure.
- Continue working with the State and Washington County on access issues and regional planning.
- Continue planning for regional and local trail corridors and connections.



PARKS & RECREATION

INTRODUCTION

Currently, the City of Dellwood has limited demand for public park space. The nature of the community being large lot, low density single family with private recreational amenities generally satisfies the community's need for recreational facilities. The City has ownership of three parcels that may, in the future, be fully integrated into a City Park and Trail system, as needs are identified.

PARK PROPERTIES

The City has ownership of three parcels considered to be part of the City's park system. Two parcels are along Highway 244. The third is at the corner of La Costa Drive and Apple Orchard Road and is currently considered a nature preserve or passive park. As these properties are smaller than the ideal size for a park, the City may need to acquire additional land to fully utilize the sites. In the meantime, these areas are left as open space and minimally maintained. Due to the large lot sizes, the presence of several lakes and two country clubs in the City, public recreational facilities are not a high priority, at this time, but will merit continued evaluation. The City seeks to be in a position where if residents desire park facilities, the City will be able to equip existing properties quickly. Therefore, initial planning and preparations should be made for development of these sites.

Washington County and Ramsey County Parks Departments have developed a master plan for the Lake Links Trail Network, which includes a combination of local and regional trails. The master plan includes a trail around White Bear Lake, most of which is comprised of local trails, with a regional trail along Highway 96 on the north side of the lake. The City acknowledges the 2040 Regional Parks Policy Plan, as shown on the map included herein.

For the portion of the Lake Links Trail that is being studied along Highway 244, the City acknowledges that major obstacles are present along the routes projected for this trail. However, the City will continue to evaluate the opportunities for this trail corridor with regional partners. The City has fully supported this evaluation process and will continue to do so.

Excellent recreational facilities are available at the Mahtomedi Middle School and Mahtomedi High School, within a few miles of the Dellwood City limits.

REGIONAL PARKS

There are no regional parks planned within the City. While lacking in programmed public park facilities itself, a number of regional parks exist in the area to the west, surrounding the City. These parks provide public recreation and open space to residents in the absence of City owned parkland.

Bald Eagle-Otter Lake Park

Just to the west of Dellwood in Ramsey County is Bald Eagle-Otter Lake Park. This park is split into three different areas: the section between Otter and Bald Eagle Lakes, the section to the east of Bald Eagle Lake, and the Tamarack Nature Center. Facilities include boat launches, picnic shelters, fishing piers, cross-country skiing trails, and a dog park.

Rice Creek Regional Park Reserve

To the Northwest in Anoka County, there is the Rice Creek Regional Park Reserve. This is a major natural area consisting of more than 5,000 acres. It has a number of facilities and amenities including camping, golfing, boating, and more.

Parks and Trails

Dellwood Comprehensive Plan 2040

March 6, 2018

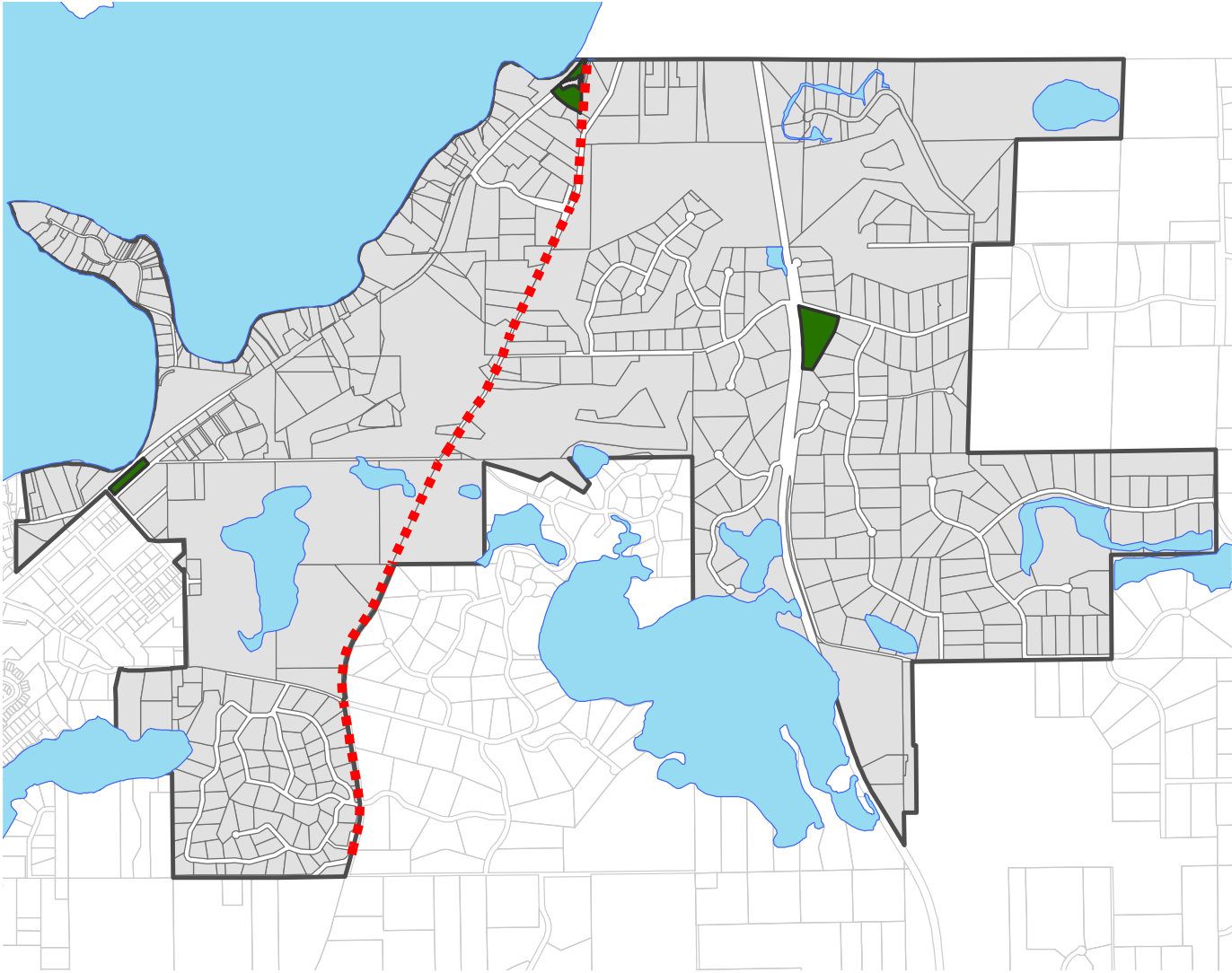


Legend

 Planned Regional Trails

Existing Land Use

 City Park



Vadnais-Sucker Lake

Located in Ramsey County, this park provides playground facilities, recreation trails, fishing spots and picnic shelters which are available for rental.

GOALS & POLICIES

Goals: Provide a cost-effective and efficient park and trail system that meets community needs.

Policies:

- Provide for park and trails as determined to be needed.
- Plan for trails and other such infrastructure where safe, appropriate, and necessary.
- Participate in the preliminary planning for trails with community partners.

Implementation Actions:

- Continue meeting with community partners regarding trails.
- Create plans for utilization of existing park spaces.
- Collect park dedication fees to allow for acquisition of additional property to expand the size of properties available.



PUBLIC FACILITIES

INTRODUCTION

The City of Dellwood has a limited and efficient municipal government. The City's historic development patterns as a rural residential estate community limits the need for large staffing and municipal operations. There are no City operated sewer and water facilities, and none are planned in the future. The primary focus of the municipal government is land use regulation and road maintenance.

EXTERNAL PRIVATE/PUBLIC SERVICES

Schools

Dellwood is served by Mahtomedi School District No. 832. None of the district's school facilities are located in the City of Dellwood and it is not anticipated that any future school facilities will be located in Dellwood. The projected population growth for Dellwood is such that no significant impact would be made upon the Mahtomedi School District. The Mahtomedi School District provides school bus transportation to and from school facilities from elementary through high school.

Utilities

The City of Dellwood provides no public utilities. The City was established as a rural residential estate community with residences served by private well and septic. This is anticipated to continued into the future, as the City lies outside of the MUSA.

There are a few parcels served by sewer and water from neighboring communities. In cases where this is necessary, and no other option is available, the City will assist in establishing joint powers agreements to allow for this type of arrangement.

The City also has one community septic system. Additional community systems may be explored in the future for areas where historic development patterns are incompatible with the establishment of replacement septic systems.

Telephone service is provided by Centurylink. In most cases, telephone service lines have been installed underground. Cable service is provided by Comcast, to operate and maintain a cable communication system in the City of Dellwood.

Xcel Energy provides electricity for the City. Older electric lines are located overhead, while the newer subdivisions since 1970 have underground lines. Xcel has also installed underground gas mains in most parts of the City. Again, these facilities are controlled by the utility company to ordinances and franchise agreements with the City for location in public rights of way.

At present, there are no telecommunication towers or facilities located within the City. The City has adopted a telecommunications ordinance regulating the location, design and use of towers and equipment, and an ordinance to regulate the use of public right of way for private communication equipment.

GOVERNMENTAL FACILITIES

The City does not currently own any municipal buildings. By rental agreement, the Willernie City Hall is used for the Clerk's office, record storage, and public meetings. There are no plans for the City to acquire its own City Hall. Storage of municipal equipment and vehicles, if any, is done through rental facilities within the city or outside the city.

Police & Fire Protection

Since January 1, 1980, the City has joined with the Cities of Mahtomedi, Willernie and Pine Springs under

a contract with the Washington County Sheriff to provide police protection. This contract is renewed on an annual basis with the costs assigned to each community based upon population and other factors. This arrangement has proven to be an economic benefit to the City. Patrol coverage is provided on a 24 hour basis.

The White Bear Lake Fire Department provides fire protection and emergency medical services under contract with Dellwood. The cost includes a monthly charge for dispatching services and billings for actual out calls to Dellwood. The services provided include paramedics and ambulance. Where possible, charges are passed on to property owners for payment through insurance coverage.

Capital Improvement Planning

General operating revenues are budgeted to provide for all necessary maintenance of roads. All equipment needed to support adequate maintenance of the roads is supplied by the independent road maintenance contractor or is rented on an “as needed” basis. Should unforeseen changes in community needs arise, they can be met within the current budget, or by issuance of general obligation bonds.

In the unlikely event that public facilities such as sewers, water, or park facilities are identified in the future the public facilities plan will be revised and amended to accommodate an enhanced capital improvement plan. At this point, however, the City focuses its capital improvement planning on road infrastructure and stormwater management projects.

GOALS & POLICIES

Goals:

- Maintain Dellwood’s efficient level of service delivery.
- Continue the City’s long-term model of small-scale municipal government that is targeted to community needs.

Policies:

- Continue to operate without public utilities, unless responding directly to a necessary situation.
- Create joint powers agreements with adjacent communities to assist in efficient service delivery, when applicable.
- Establish capital improvement plans regarding road maintenance and storm water management.

Implementation Actions:

- Review capital improvement program and ensure all relevant projects are included.
- Identify areas that may need community septic systems.



IMPLEMENTATION

INTRODUCTION

The goals and objectives of the Comprehensive Plan will be implemented through the City's Zoning Ordinance, Subdivision Ordinance, Shoreland Management Ordinance and Sewer Ordinance. The following paragraphs summarize the provisions of these Ordinances as they relate to the Comprehensive Plan.

ZONING ORDINANCE

Zoning is the principal means by which the City will control its future growth. The zoning ordinance consists of text and an official map describing the prescribed land use districts. This ordinance specifies the uses to which any given parcel of land within the City may be devoted, whether permitted outright or granted by variance or conditional use. The zoning ordinance specifies what procedure must be followed in order to obtain a variance or conditional use permit.

In keeping with its rural service area status, Dellwood has limited its zoning uses to single family, residential dwellings only. No provisions exist in the zoning code for commercial, industrial, or multiple family uses. The only existing uses which are inconsistent with this zoning are Pine Tree Apple Orchard, the White Bear Yacht Club, Dellwood Hills Golf Club and a working farm of approximately 240 acres.

Pine Tree Orchard is governed by a conditional use permit issued by the City. In order to control the amount of traffic to and from the orchard, the type and volume of business offered and conducted by the orchard is limited chiefly to that which existed several years ago.

The White Bear Yacht Club and Dellwood Hills Golf Club are zoned as private clubs and are restricted in the number of members and guests which may utilize their facilities. The underlying land occupied by the golf courses and club facilities, in the event of discontinuance of club activities, would be zoned F/E, five acre minimum lot size.

The only remaining large parcel of undeveloped land in the City consists of a working farm of approximately 240 acres under family ownership. This land is also zoned F/E, five acre minimum for subdivision purposes.

The City has adopted a Planned Residential Development section in its Zoning Ordinance, which allows subdivision of any parcel of 20 acres or more, through a negotiated agreement between the developer and the City. This section allows for an average lot size of three acres, provided that no single lot shall be less than two acres. This section is intended to allow the City and the developer to come to an agreement which will divide the land according to its most beneficial attributes and topography. The most suitable soils and topography are devoted to home sites and septic systems, while the undesirable and low land areas are preserved in their natural state. The City is able to protect environmental concerns and control the nature of the development. The developer is able to obtain more developable lots in lieu of the more restrictive five acre limitation of the F/E district.

The remaining zoning districts lie within the already developed areas of the City. Historically, the older development which took place in early years followed a one-acre minimum lot size. Later development which occurred from about 1950 followed a two acre lot size. The present zoning follows this pattern of development which already exists. This zoning method also recognizes the fact that land along White Bear Lake has its own unique appeal and, accordingly, a much different approach to market values. Lakeshore land is quite dear, and economics of the market dictate that it should be utilized to its highest and best use subject to reasonable restrictions for public health and welfare.

The R-1 zoning district generally follows the older development near the lakeshore and requires a minimum lot area of one acre or more. Since the older homes are constantly becoming in need of restoration or

replacement, the zoning ordinance addresses when and under what conditions the home may be restored or replaced.

The R-2 district lies generally away from the lakeshore and requires a minimum lot area of two acres.

In all districts, re-subdividing of a lot is controlled by the zoning requirements of the district in which it lies.

The Shoreland Management District is superimposed upon all other districts within 1,000 feet of the ordinary high water mark of any lake or protected wetland. Certain and more restrictive provisions are present in the Shoreland Ordinance. The statewide standards for management of shoreland areas contained in Minnesota Rules part 6120.2500 through 6120.3900, effective 7-3-1989 are incorporated into Dellwood's Shoreland Ordinance.

Administration and enforcement of the zoning ordinance is accomplished through the Building Official and the City's Building Inspector. The approval process for all building permit applications include:

- Inspection and approval of all building plans and land use plans.
- Soils tests to establish the suitability for placement of a private septic sewer system plus a suitable alternate site, each of which must be not less than 2500 square feet in area.
- Demonstration that the plan complies with all requirements of the Ordinance as to lot size, lot width, setbacks and percentage of lot covered by impervious surfaces.
- Review of plans for compliance with the Building Code.
- Issuance of building permits and certificates of occupancy.

Variances and Conditional Use Permits may be granted by the City Council upon public hearing and report of the Planning Commission. Variances may be granted upon a showing of undue hardship. However, where a variance is sought from the strict application of the minimum lot area and set back requirements, the Council is authorized to relax the strict requirements for good cause, upon receipt of a report from the City Sewer Inspector that granting of the proposed variance will not have an adverse effect upon the proper functioning of the on-site sewage treatment system, or the alternate septic site.

The principal rationale for the large sized lot requirement is the need for adequate land suitable to sustain a functioning septic system. Where the granting of a variance will not affect the septic system, the Council may do so even though the strict area, and yard requirements have not been met. The extent to which these requirements may be relaxed in any given case is within the Council's discretion based upon the particular facts at hand.

It is the intent of the City that a private owner of land should be able to devote his land to its highest and best use subject to the police power of the City to protect the public health, safety, welfare and morals. The public welfare includes consideration of the aesthetic values within the community.

The setback requirements from lakeshore are:

White Bear Lake	75 feet
Pine Tree Lake	150 feet
Echo Lake	200 feet
Long Lake	150 feet

Setbacks apply to all structures (except boathouses) and to all sewage treatment systems. One water-oriented structure may be placed no closer than 10 feet from the lakeshore, cannot exceed 10 feet in height nor 250 square feet in area. No such structure may be designed or used for habitation and may not contain water supply or sewage treatment facilities.

Guest houses and detached rental units are not allowed by Ordinance. A detached accessory building may be used for living quarters of persons who are employed for work or services to be performed on the property itself.

Subdivision Ordinance

Any division of tract or parcel into two or more lots is governed by this Ordinance. A minor subdivision consisting of three parcels or less may be approved by resolution of the council. Larger subdivisions must comply with the technical requirements of the ordinance. The City should review and revise this Ordinance to ensure it is adequate for the implementations of this plan. With all the sensitive natural areas present it may be more appropriate to have more specific requirements.

A summary of major provisions of the Ordinance is as follows:

1. Subdivision into three or more parcels requires a formal survey and plat which must be recorded in the County Recorder's office.
2. No lot may be offered for sale until the final plat has been approved and recorded.
3. Detailed engineering data is required including a topographical map showing all lowland and wetland areas, contour lines at intervals not more than two feet of elevation and no more than 100 feet apart. All existing structures must be shown on the preliminary plan, including streets, railroad rights of way, utility easements, underground lines, pipes, or conduits of any kind, culverts and other drainage facilities.
4. The applicant must submit proof of ownership of the land to be divided.
5. Adequate provisions must be made for the ownership, control and perpetual maintenance of common areas, for soil erosion and sediment control during and after construction, control of tree removal, and restoration of vegetation and trees.
6. Detailed plans for water supply, septic systems, drainage and flood control measures must be submitted by a registered civil engineer. All proposed building lots must be individually tested to demonstrate suitable soils to support an on-site sewage treatment system. Soil boring analysis and percolation tests are required and reviewed by the City Engineer and Sewer Inspector.
7. A public hearing is held by the Planning Commission upon published notice to adjacent property owners. In the lakeshore district, notices are also given to the Minnesota DNR and to Rice Creek Watershed District.
8. Design standards for streets and construction specifications are subject to approval by the City Engineer. Street standards are maintained on file in the City Clerk's Office and updated on a regular basis. The City will not accept ownership or responsibility for the newly constructed streets in the area until they are finally approved by the City Engineer. Until then, it is the developer's responsibility to provide maintenance and control of the streets, including snow removal. The City has at times contracted with the developer to furnish snow plowing before the street is finally accepted.
9. Upon acceptance, the developer is required to provide a warranty for one or two years secured by a performance bond or cash deposit.

10. All utilities in a new subdivision must be placed underground with appropriate easements.
11. The City is careful to require storm water drainage and ponding easements in each plat where required.
12. No plat will be approved unless and until the developer has fully completed all of the required improvements, or has furnished satisfactory guaranties in the form of bonds, letters of credit, cash deposits, or other security for the completion of all improvements. Each subdivision is further controlled by a written Development Agreement covering the various and miscellaneous requirements of the City with regard to any given subdivision.
13. The burden is placed upon the developer to demonstrate clearly that the land is suitable with regard to drainage of surface and subsurface water and that the project complies with all rules and regulations of the Minnesota DNR, Rice Creek Watershed District, the White Bear Lake Conservation District and the Minnesota Environmental Quality Board.
14. All expenses of the City incurred in connection with the subdivision approval process are paid by the developer, including legal and engineering review fees, inspection fees and administrative staff fees.
15. Violations of the Subdivision Ordinances constitute misdemeanor offenses which are prosecuted by the City Attorney.

Implementation Summary

Dellwood intends to implement its Comprehensive Plan, and its goals and objectives therein expressed, by continued adherence to its existing planning controls.

1. Revisions have been made in the present Zoning Ordinance to more clearly reflect the policies identified in this Comprehensive Plan, and to eliminate inconsistencies with the Plan. The Zoning Ordinance and the Shoreland Area Management Ordinance have been consolidated into one Comprehensive Ordinance which makes the statewide standards for management of shoreland areas applicable throughout the entire City.
2. The Subdivision Ordinance will be reviewed and updated for consistency with this plan to address all future development projects. Should any inconsistencies appear between the Subdivision Ordinance and the Comprehensive Plan, the Ordinance will be amended to conform to the Plan. It is anticipated that all future development will proceed under the Planned Unit Development Section of the Zoning Ordinance, which in reality is in the nature of the subdivision regulations.
3. The existing provisions of the Sewer Ordinance are adequate to control the use and placement of existing and future individual treatment systems.

By a Development Agreement between the City and the Developers of the Subdivision known as “The Greens of Dellwood,” a constructed wetland type of community sewage treatment system was approved by the City. Approval was granted after careful review by the City Engineer. The Development Agreement provides for on-going maintenance and monitoring of the system by the Developer and, thereafter, the Homeowner’s Association. The system will be inspected regularly by the City to determine that it is functioning properly to the level of efficiency described in the Agreement. The approval of the subdivision was also conditional upon the agreement of the developer that should the constructed wetland treatment system become dysfunctional, the City will require each homeowner to construct a private on-site system in compliance with the Sewer Ordinance. In this regard, each individual lot in the subdivision was tested and approved for a suitable area of 5000 square feet or more.

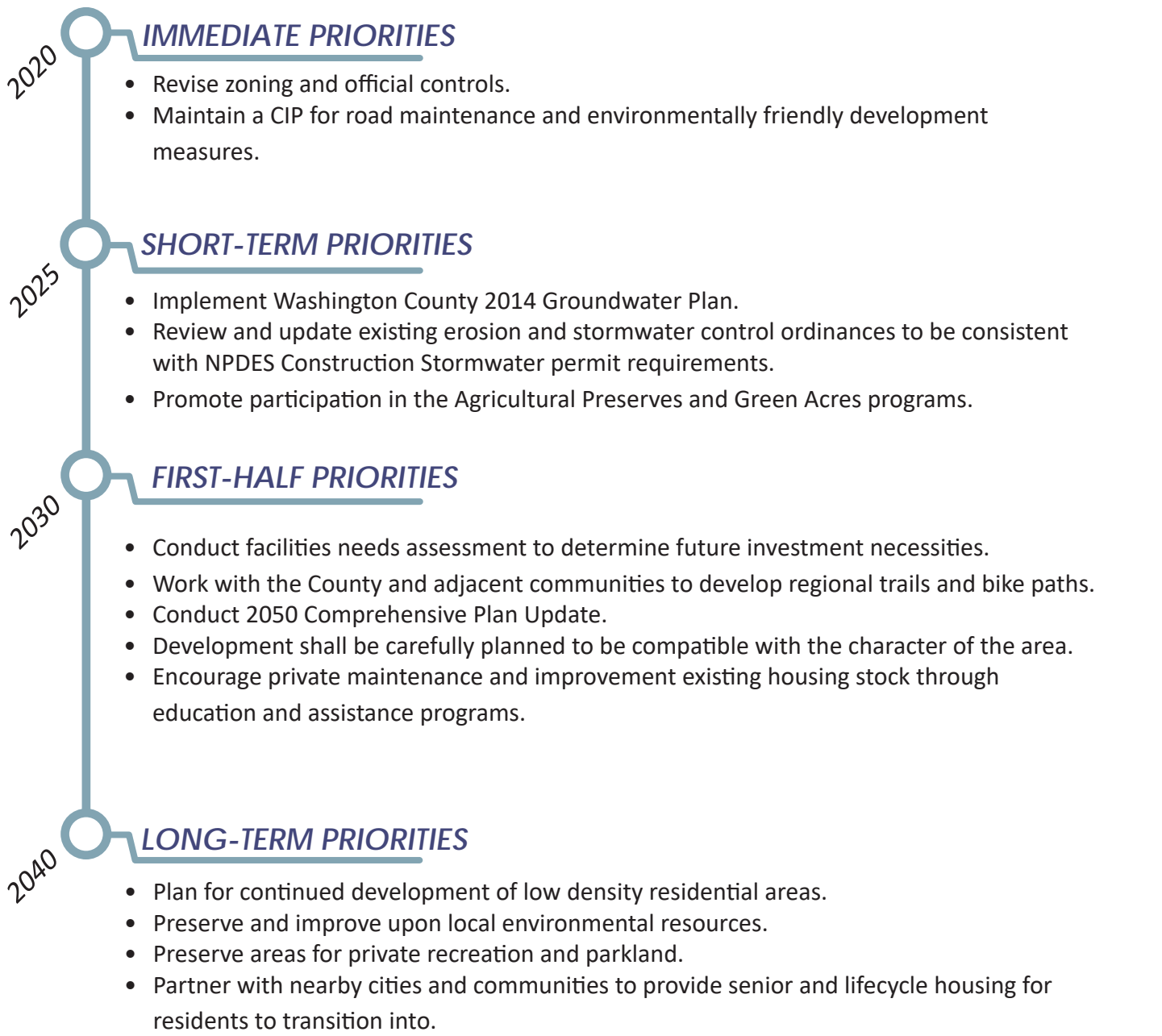
Each and every home in the City is served by its own on-site septic system, except for 8 homes which are

served by the constructed wetland community sewage treatment system in the Plat of “The Greens of Dellwood.” Also, 3 homes on Peninsula Road are currently served by the City owned drainfield area. This area will accommodate up to twelve individual systems.

4. The City intends to require all developers of future housing to follow the existing character of the City as a semi-rural unsewered single family residential community. Clustering of residential units is not now recognized under existing zoning regulations. The City will review its policies regarding clustered development and make revisions in its zoning and subdivision ordinances if it appears to be in the best interests of the City.

Dellwood Capital Improvement Program

IMPLEMENTATION SCHEDULE





APPENDICES

Appendices

<i>Dellwood Capital Improvement Program</i>	94
<i>Dellwood Stormwater Pollution Prevention Plan</i>	95

CAPITAL IMPROVEMENT PROGRAM: 2017-2029
CITY OF DELLWOOD, MINNESOTA

Year:	2019	2023	2029
Project:	Street improvement project with stormwater management controls and culvert replacement	Reclaim and/or Overlay project with stormwater management controls	Reclaim and/or Overlay project with stormwater management controls
Cost:	\$300,000 (estimate)	\$1,004,000.00	\$321,900.00
Included Areas/ Streets	Peninsula (S. Peninsula and Gardener)	Apple Orchard Road, Meadow Lane, Pine Tree Hills, Ordway Street, Echo Street	Dellwood Hills
Funding Source:	City Tax Levy	City Tax Levy	City Tax Levy

**Costs are based on 2016 construction costs and include 10% contingency and engineering.*



**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 Dellwood *County: Washington
(city, county, municipality, government agency or other entity)
*Mailing address: 111 Wildwood Road, PO Box 775
*City: Willernie *State: MN *Zip code: 55090
*Phone (including area code): 651.429.1356 *E-mail: dellwoodcityhall@comcast.net

MS4 General contact (with Stormwater Pollution Prevention Program [SWPPP] implementation responsibility)

*Last name: Nuffort *First name: Bob
(department head, MS4 coordinator, consultant, etc.)
*Title: Mayor
*Mailing address: 111 Wildwood Road, PO Box 775
*City: Willernie *State: MN *Zip code: 55090
*Phone (including area code): 651.429.1356 *E-mail: bnuffort@me.com

Preparer information (complete if SWPPP application is prepared by a party other than MS4 General contact)

Last name: Geheren First name: Cara
(department head, MS4 coordinator, consultant, etc.)
Title: City Engineer
Mailing address: 111 Wildwood Road, PO Box 775
City: Willernie State: MN Zip code: 55090
Phone (including area code): 651.300.4261 E-mail: cara.geheren@focusengineeringinc.com

Verification

1. 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
2. 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: Bob Nuffort
(This document has been electronically signed)

Title: Mayor Date (mm/dd/yyyy): 12/23/2013

Mailing address: 111 Wildwood Road, PO Box 775

City: Willernie State: MN Zip code: 55090

Phone (including area code): 651-429-1356 E-mail: bnuffort@me.com

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
Rice Creek Watershed District	MCM 4, 5
East Metro Water Resources Education Program	MCM 1, 2

- 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 Dellwood is primarily a residential community with a population of 1,063 (2010 Census) with limited growth. Therefore, the City relies on the above referenced partnerships to assist with meeting permit requirements.

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:

Direct link:

☒ 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:

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: RCWD - Rule D - Erosion and Sediment Control Plans

- 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:

Dellwood Ordinances - Title V, Chapter 53

Direct link:

<http://www.dellwood.us/Ordinances/Title%20V.pdf>

http://www.ricecreek.org/vertical/Sites/%7BF68A5205-A996-4208-96B5-2C7263C03AA9%7D/uploads/FINAL_ADOPTED_RULE_06-26-2013.pdf

☐ 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:

Land disturbing activities within Dellwood are subject to RCWD approval whose rules are at least as stringent as the MPCA Construction Stormwater Permit. The City's ordinance is less restrictive so within 12 months from the date permit coverage is extended, Dellwood will modify the City ordinances to incorporate the RCWD Rules by reference.

- 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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| 2. BMPs to minimize the discharge of sediment and other pollutants. | <input type="checkbox"/> Yes <input checked="" 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 type="checkbox"/> Yes <input checked="" 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:

Land disturbing activities within Dellwood are subject to RCWD approval whose rules meet the criteria above. The City's ordinance is less restrictive so within 12 months from the date permit coverage is extended, Dellwood will modify the City ordinances to incorporate the RCWD Rules by reference.

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: RCWD - Rule B - Stormwater Management Plans

- 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:

Dellwood Ordinances - Title V, Chapter 53

Direct link:

<http://www.dellwood.us/Ordinances/Title%20V.pdf>

http://www.ricecreek.org/vertical/Sites/%7BF68A5205-A996-4208-96B5-2C7263C03AA9%7D/uploads/FINAL_ADOPTED_RULE_06-26-2013.pdf

- ☐ 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 review, sufficient to provide a functioning treatment system and prevent adverse impacts to groundwater, when the infiltration device will be constructed in areas: ☐ Yes ☒ No
 - 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:

Land disturbing activities within Dellwood are subject to RCWD approval whose rules meet the criteria above. The City's ordinance is less restrictive so within 12 months from the date permit coverage is extended, Dellwood will modify the City ordinances to incorporate the RCWD Rules by reference.

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:
Within 12 months from the date permit coverage is extended, Dellwood will develop written procedures that satisfy these requirements.
- B. Describe your ERPs:

IV. Storm Sewer System Map and Inventory: (Part II.D.4.)

- A. Describe how you manage your storm sewer system map and inventory:
The City has a paper map containing ponds and pipes 24-inches or larger.
- 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:
Within 12 months from the date permit coverage is extended, Dellwood will develop a map that meets the permit requirements.
- 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:
Within 12 months from the date permit coverage is extended, Dellwood will develop an inventory document that meets the permit requirements.
- 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**:

Dellwood is a small residential community with little to no development or redevelopment. The City is a member of the East Metro Resources Education Program to work towards education and outreach. Through EMWREP articles are published in the local paper. Educational information is included in the Annual City newsletter that is mailed to all property owners.

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
City Newsletter	Include stormwater information in city newsletter sent annually.
Partner with EMWREP for Public Education and Outreach	Participate financially and provide resources if needed.
Annual Meeting	Discuss stormwater at one City Council meeting annually.
BMP categories to be implemented	Measurable goals and timeframes

3. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

Joanne Frane, City Clerk/Administrator

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:

The City holds an annual meeting as part of a regularly scheduled Council Meeting. Notice is properly given in advance of 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
Annual Meeting	Completed annually
Solicit Public Input	Input is solicited through the annual meeting.

BMP categories to be implemented	Measurable goals and timeframes

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:

4. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

Joanne Frane, City Clerk/Administrator

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 for Illicit Discharge Detection and Elimination. The City only employs a part time clerk/administrator. If complaints are received, they are reviewed by a Council member and responded to appropriately.

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:

Within 12 months of when permit coverage is extended, Dellwood will review its program and make changes to meet minimum permit requirements.

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 as needed.
Complaint tracking	Complaints are received by the clerk and turned over to a Council member for follow up as needed.
BMP categories to be implemented	Measurable goals and timeframes
Inspections	Within 12 months, determine an effective inspection process given Dellwood's limited staff.
Storm Sewer Map	Updated electronic storm sewer map.

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:

Within 12 months, Dellwood will develop a tracking form for use by the City Clerk/Administrator for record keeping purposes.

5. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

Bob Nuffort, Mayor

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 has an ordinance in place for Construction site stormwater runoff control. The City relies on RCWD for review and permitting as required by RCWD rules. Applicants are directed to RCWD and must provide proof of RCWD approval prior to starting land disturbing activities.

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 R100001*? ☒ 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.

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
Ordinances	Ordinances outline minimum requirements for plan review and approvals.
Other Regulatory Programs	RCWD provides inspection of construction sites and enforcement of erosion and sediment control violations.
BMP categories to be implemented	Measurable goals and timeframes

4. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

Cara Geheren, City Engineer

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 little to no major construction activity triggering the requirement for post construction stormwater management. However, if any projects were to occur, the City's ordinance would apply. In addition, the City relies on RCWD for review and permitting as required by RCWD rules. Applicants are directed to RCWD and must provide proof of RCWD approval prior to starting land disturbing activities.

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 ☒ Yes ☐ No

the agreement(s) and names of all responsible parties involved?

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.

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
Ordinances	Review plans for conformance with applicable standards.
Other regulatory requirements	RCWD reviews and approves post-construction stormwater management plans as required by their rules.

BMP categories to be implemented	Measurable goals and timeframes

5. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

Cara Geheren, City Engineer

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 has a population of 1,063 (2010 census) and only employs a part time city clerk/administrator. Snow removal operations are conducted by a contractor.

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:

Within 12 months from when permit coverage is extended, the City will prepare a facilities inventory, though it is not anticipated that the City owns any facilities as outlined in the permit requirements.

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
----------------------------	---------------------------------

Training	Send training information to Contractor.
Inspections	Pipes are inspected annually.
BMP categories to be implemented	Measurable goals and timeframes
Facility Inventory	Confirm within 12 months of permit coverage that there are no city facilities as outlined in the permit.
Pond Inventory and Assessment	Develop inventory and procedures for the pond assessment in accordance with permit requirements within 12 months of permit coverage.

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:

Within 12 months from when permit coverage is extended, Dellwood will review the existing program and modify as required to meet permit requirements including development of pond inventory and assessment.

10. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

Cara Geheren, City Engineer

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

Compliance Schedule PART II.D.6.f.-g.

Is your MS4 currently meeting its WLA for any approved TMDLs?

Go to:

☒ **NO** (Complete Table 1, Strategies for continued BMP implementation beyond the term of this permit, and Table 2 below)

[Table 1](#)

☐ **YES** (Provide the following information below)

If YES, indicate the WLAs (may be grouped by TMDL Project) you believe are reasonably being met. For each WLA, list the implemented BMPs as a continuation of meeting each WLA. PART II.D.6.g.(1)-(2)

Table 1
Fill in the following table with your Interim Milestones, BMP IDs, and Implementation Dates. Replace "TMDL Project Name & Pollutant" Columns corresponding pollutant. Then put an "X" in the boxes for the TMDL that corresponds with each BMP. PART II.D.6.f.(1)-(2)

NOTE:
It is recommended to assign each Interim Milestone (BMP) a BMP ID. You will be required to report on the status of each Interim Milestone and include numbers at the time of application may be useful in tracking implementation efforts. If a pond that will be included in the pond inventory (Part III.C.2.) is BMPs are not required to have an ID, but it may be useful to assign it an ID for internal MS4 recordkeeping.

MPCA recommends the Implementation Dates align with the submittal of MS4 Annual Reports. Dates selected may not reflect the actual date a BMP is in

Interim Milestone (Best Management Practice)	BMP ID	Implementation Date
Coordination of Efforts with RCWD	BALD-001	Ongoing
Update of RCWD Rules per TMDL Implentation Plan Recommendations	BALD-002	Complete
Public Education and Outreach	BALD-003	Annually
Septic Monitoring, Inspection and Enforcement	BALD-004	Ongoing

Strategies for continued BMP implementation beyond the term of this permit. PART II.D.6.f.(3)

The TMDL implementation plan targets reductions downstream to meet Bald Eagle Lake TMDL. Dellwood will continue to require development and/or recreation City will continue to participate in the East Metro Water Resources Education Program to provide education and outreach to the public on nutrient load

Table 2
Target dates the applicable WLA(s) will be achieved. PART II.D.6.f.(4)

TMDL Project	Target Date to Achieve WLA
Bald Eagle Lake TMDL	2032

Go to:
[Strategies...](#)

Go to:
[Table 2](#)

nd provide a narrative strategy for the long-term



with each TMDL Project Name and the

Assign a BMP ID for all structural BMPs as part of the MS4 Annual Report (see Part III.E.), so including those ID
to be applied toward a WLA, use the same ID for both the pond inventory and TMDL tracking. Non-structural

implemented, but shall indicate a BMP will be implemented on that date or before for that reporting year.

Bale Eagle Lake Excess Nutrients TMDL	TMDL Project Name & Pollutant2	TMDL Project Name & Pollutant3	TMDL Project Name & Pollutant4	TMDL Project Name & Pollutant5	TMDL Project Name & Pollutant6
X					
X					
X					
X					

development projects to comply with RCWD. The
ing.

[illegible]

[illegible]

TMDL Wasteload Allocation Excel Spreadsheet PART II.D.6.a.-e.

Copy and paste from the Master List MS4 TMDL Spreadsheet for your MS4 to the space below.

Attach this completed form with your SWPPP Document at the time of submittal. At a **minimum**, provide all of the information "*" items (TMDL Project Name, Type of WLA, Numeric WLA, Unit, Flow Condition, and Pollutant of Concern).

Permittee name	Preferred ID	TMDL project name*	Waterbody ID
Dellwood City	MS400084	Bald Eagle Lake: Excess Nutrients TMDL	62-0002

Type of WLA*	Numeric WLA*	Unit*	Percent reduction	Flow condition*	Waterbody name	Pollutant of concern*	Date approved
Categorical	719	lbs/year	38%	N/A	Bald Eagle Lake	Phosphorus	6/11/2012

CITY OF DELLWOOD

ORDINANCE NO. 53.085

ILLCIT DISCHARGE AND CONNECTION ORDINANCE

SECTION 1. PURPOSE/INTENT.

The purpose of this ordinance is to provide for the health, safety, and general welfare of the citizens of the City of Dellwood through the regulation of non-storm water discharges to the storm drainage system to the maximum extent practicable as required by federal and state law. This ordinance establishes methods for controlling the introduction of pollutants into the municipal separate storm sewer system (MS4) in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process. The objectives of this ordinance are:

- (1) To regulate the contribution of pollutants to the MS4 by storm water discharges by any user.
- (2) To prohibit illicit connections and discharges to the MS4.
- (3) To establish legal authority to carry out all inspection, surveillance, monitoring, and enforcement procedures necessary to ensure compliance with this ordinance.

SECTION 2. DEFINITIONS.

For the purposes of this ordinance, the following shall mean:

Authorized Enforcement Agency. The City of Dellwood, Minnesota.

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 storm water, receiving waters, or storm water 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 (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.

Construction Activity. Activities subject to NPDES Construction Permits. 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 material, including any substance, waste, or combination thereof, which because of its 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 non-storm water discharge to the storm drain system, except as exempted in Section 8 of this ordinance.

Illicit Connections. An illicit connection is defined as either of the following:

- Any drain or conveyance, whether on the surface or subsurface that allows an illegal discharge to enter the storm drain system including but not limited to any conveyances that allow any non-storm water 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 land use to the storm drain system that has not been documented in plans, maps, or equivalent records and approved by the City of Dellwood.

Municipal Separate Storm Sewer System (MS4). The system of conveyances (including sidewalks, roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) and designed or used for collecting or conveying storm water, and that is not used for collecting or conveying sewage.

National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit. means a permit issued by EPA (or by a State under authority delegated pursuant to 33 USC § 1342(b)) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

Non-Storm Water Discharge. Any discharge to the storm drain system that is not composed entirely of storm water.

Person. Any individual, association, organization, partnership, firm, corporation or other entity recognized by law and acting as either the owner or as the owner's agent.

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; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordinances, 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.

Premises. Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

Storm Drainage System. Publicly-owned or privately owned facilities by which storm water 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.

Storm Water. Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.

Storm Water Management Plan. 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 Storm Water, Storm Water Conveyance Systems, and/or Receiving Waters to the Maximum Extent Practicable.

Wastewater. Any water or other liquid, other than uncontaminated storm water, discharged from a facility.

SECTION 3. APPLICABILITY.

This ordinance shall apply to all water entering the storm drain system generated on any developed and undeveloped lands unless explicitly exempted by the City of Dellwood.

SECTION 4. RESPONSIBILITY FOR ADMINISTRATION.

The City of Dellwood shall administer, implement, and enforce the provisions of this ordinance. Any powers granted or duties imposed upon the City of Dellwood may be delegated in writing by the Mayor of the City of Dellwood to persons or entities acting in the beneficial interest of or in the employ of the City.

SECTION 5. COMPATIBILITY WITH OTHER REGULATIONS.

This ordinance 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.

SECTION 6. SEVERABILITY.

The provisions of this ordinance are hereby declared to be severable. If any provision, clause, sentence, or paragraph of this ordinance or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this ordinance.

SECTION 7. ULTIMATE RESPONSIBILITY.

The standards set forth herein and promulgated pursuant to this ordinance are minimum standards; therefore this ordinance does not intend or imply that compliance by any person will ensure that there will be no contamination, pollution, or unauthorized discharge of pollutants.

SECTION 8. DISCHARGE PROHIBITIONS.

8.1. Prohibition of Illegal Discharges.

No person shall throw, drain, or otherwise discharge, cause, or allow others under its control to throw, drain, or otherwise discharge into the MS4 any pollutants or waters containing any pollutants, other than storm water.

The commencement, conduct or continuance of any illegal discharge to the storm drain system is prohibited except as described as follows:

(1) The following discharges are exempt from discharge prohibitions established by this ordinance: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water.

(2) Discharges or flow from firefighting, and other discharges specified in writing by the City of Dellwood as being necessary to protect public health and safety.

(3) Discharges associated with dye testing, however this activity requires a verbal notification to the City of Dellwood prior to the time of the test.

(4) The prohibition shall not apply to any non-storm water discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the United States Environmental Protection Agency (EPA), 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.

The City of Dellwood may evaluate and remove any of the above exemptions if it is determined that they are causing an adverse impact.

8.2. 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 ordinance 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 of Dellwood.

(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 of Dellwood 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 of Dellwood.

SECTION 9. 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.

SECTION 10. CONSTRUCTION ACTIVITY DISCHARGES.

10.1. Submission of NOI.

- (1) Any person subject to a 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 of Dellwood prior to the allowing of discharges to the MS4.
- (2) The operator of a facility, including construction sites, required to have an NPDES permit to discharge storm water associated with construction activity shall submit a copy of the Notice of Intent (NOI) to the City of Dellwood at the same time the operator submits the original Notice of Intent to the EPA as applicable.
- (3) The copy of the Notice of Intent may be delivered to the City of Dellwood either in person or by mailing it to:

Notice of Intent to Discharge Storm Water
City of Dellwood
111 Wildwood Road
Willernie, MN 55090

- (4) A person commits an offense if the person operates a facility that is discharging storm water associated with construction activity in a manner which is not in compliance with such permit.

SECTION 11. COMPLIANCE MONITORING

11.1. Right of Entry: Inspection and Sampling.

The City of Dellwood shall be permitted to enter and inspect facilities subject to regulation under this ordinance as often as may be necessary to determine compliance with this ordinance.

Unreasonable delays in allowing the City of Dellwood access to a permitted facility is a violation of a storm water discharge permit and of this ordinance. A person who is the operator of a facility with an NPDES permit to discharge storm water associated with construction activity

commits an offense if the person denies the City of Dellwood reasonable access to the permitted facility for the purpose of conducting any activity authorized or required by this ordinance.

11.2. Search Warrants.

If the City of Dellwood has been refused access to any part of the premises from which storm water 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 ordinance or any order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then the City of Dellwood may seek issuance of a search warrant from any court of competent jurisdiction.

SECTION 12. REQUIREMENT TO PREVENT, CONTROL, AND REDUCE STORM WATER POLLUTANTS BY THE USE OF BEST MANAGEMENT PRACTICES.

The City of Dellwood will adopt requirements identifying Best Management Practices for any activity, operation, or facility which may cause or contribute to pollution or contamination of storm water, the storm drain system, or waters of the United States. The owner or operator of such activity, operation, or facility shall provide, at their own expense, reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses through the use of these structural and non-structural BMPs. Further, any person responsible for a property or premise that is, or may be, the source of an illicit discharge, may be required to implement, at said person's expense, additional structural and non-structural BMPs to prevent the further discharge of pollutants to the MS4. Compliance with all terms and conditions of a valid NPDES permit authorizing the discharge of storm water associated with construction activity, to the extent practicable, shall be deemed compliance with the provisions of this section. These BMPs shall be part of a storm water management plan (SWMP) as necessary for compliance with requirements of the NPDES permit.

SECTION 13. 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 of Dellwood 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 of

Dellwood within three (3) business days of the phone notice. If the discharge of prohibited materials emanates from a commercial 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 five (5) years.

Failure to provide notification of a release as provided above is a violation of this ordinance.

SECTION 14. VIOLATIONS, ENFORCEMENT, AND PENALTIES.

14.1. Violations.

It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this ordinance. Any person who has violated or continues to violate the provisions of this ordinance, may be subject to the enforcement actions outlined in this section or may be restrained by injunction or otherwise abated in a manner provided by law.

In the event the violation constitutes an immediate danger to public health or public safety, the City of Dellwood is authorized to enter upon the subject private property, without giving prior notice, to take any and all measures necessary to abate the violation and/or restore the property. The City of Dellwood is authorized to seek costs of the abatement as outlined in Section 17.

14.2. Warning Notice.

When the City of Dellwood finds that any person has violated, or continues to violate, any provision of this ordinance, or any order issued hereunder, the City of Dellwood 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 of Dellwood to take any action, including emergency action or any other enforcement action, without first issuing a Warning Notice.

14.3. Notice of Violation.

Whenever the City of Dellwood finds that a person has violated a prohibition or failed to meet a requirement of this ordinance, the City of Dellwood may order compliance by written notice of violation to the responsible person.

The Notice of Violation shall contain:

- (1) The name and address of the alleged violator;

- (2) The address when available or a description of the building, structure or land upon which the violation is occurring, or has occurred;
- (3) A statement specifying the nature of the violation;
- (4) A description of the remedial measures necessary to restore 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;
- (6) A statement that the determination of violation may be appealed to the City of Dellwood by filing a written notice of appeal within ten (10) days of service of notice of violation; and
- (7) 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.

Such notice may require without limitation:

- (1) The performance of monitoring, analyses, and reporting;
- (2) The elimination of illicit connections or discharges;
- (3) That violating discharges, practices, or operations shall cease and desist;
- (4) The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property
- (5) Payment of a fine to cover administrative and remediation costs; and
- (6) The implementation of source control or treatment BMPs.

14.5. Compensatory Action.

In lieu of enforcement proceedings, penalties, and remedies authorized by this ordinance, the City of Dellwood may impose upon a violator alternative compensatory actions, such as storm drain stenciling, attendance at compliance workshops, creek cleanup, etc.

14.6. Suspension Of MS4 Access.

14.6.1. Emergency Cease and Desist Orders

When the City of Dellwood finds that any person has violated, or continues to violate, any provision of this ordinance, 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 of Dellwood 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 of Dellwood 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. The City of Dellwood may allow the person to recommence its discharge when it has demonstrated to the satisfaction of the City of Dellwood that the period of endangerment has passed, unless further termination proceedings are initiated against the discharger under this ordinance. A person that is responsible, in whole or in part, for any discharge presenting imminent endangerment shall submit a detailed written statement, describing the causes of the harmful discharge and the measures taken to prevent any future occurrence, to the City of Dellwood within five (5) days of receipt of the emergency order. Issuance of an emergency cease and desist order shall not be a bar against, or a prerequisite for, taking any other action against the violator.

14.6.2. Suspension due to Illicit Discharges in Emergency Situations. The City of Dellwood may, without prior notice, suspend MS4 discharge access to a person when such suspension is necessary to stop an actual or threatened discharge which presents or may present imminent and substantial danger to the environment, or to the health or welfare of persons, or to the MS4 or waters of the United States. If the violator fails to comply with a suspension order issued in an emergency, the City of Dellwood may take such steps as deemed necessary to prevent or minimize damage to the MS4 or waters of the United States, or to minimize danger to persons.

14.6.3. Suspension due to the Detection of Illicit Discharge

Any person discharging to the MS4 in violation of this ordinance may have their MS4 access terminated if such termination would abate or reduce an illicit discharge. The City of Dellwood will notify a violator of the proposed termination of its MS4 access. The violator may petition the City of Dellwood for a reconsideration and hearing.

A person commits an offense if the person reinstates MS4 access to premises terminated pursuant to this Section, without the prior approval of the City of Dellwood.

14.7. Civil Penalties.

In the event the alleged violator fails to take the remedial measures set forth in the notice of violation or otherwise fails to cure the violations described therein within ten (10) days, or such greater period as the City of Dellwood shall deem appropriate, after the City of Dellwood has taken one or more of the actions described above, the City of Dellwood may impose a penalty not to exceed \$500.00 (depending on the severity of the violation) for each day the violation remains unremedied after receipt of the notice of violation. The amount of the maximum penalty may be increased from time to time by resolution of the City Council.

14.8. Criminal Prosecution.

Any person that has violated or continues to violate this ordinance shall be liable to criminal prosecution to the fullest extent of the law, and shall be subject to a criminal penalty of \$1,000.00 per violation per day and/or imprisonment for a period of time not to exceed 90 days or both. Each act of violation and each day upon which any violation shall occur shall constitute a separate offense.

SECTION 15. APPEAL OF NOTICE OF VIOLATION.

Any person receiving a Notice of Violation may appeal the determination of the City of Dellwood. The notice of appeal must be received within 5 business days from the date of the Notice of Violation.

SECTION 16. ENFORCEMENT MEASURES AFTER APPEAL.

If the violation has not been corrected pursuant to the requirements set forth in the Notice of Violation, the City of Dellwood shall enter upon the subject private property and is authorized to take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, owner, agent or person in possession of any premises to refuse to allow the government agency or designated contractor to enter upon the premises for the purposes set forth above.

SECTION 17. COST OF ABATEMENT OF THE VIOLATION.

Within thirty (30) days after abatement of the violation, the owner of the property will be notified of the cost of abatement, including administrative costs. The property owner may file a written protest objecting to the amount of the assessment within ten (10) days. If the amount due is not paid within a timely manner as determined by the decision of the municipal authority or by the expiration of the time in which to file an appeal, the charges shall become a special

assessment against the property and shall constitute a lien on the property for the amount of the assessment.

SECTION 18. VIOLATIONS DEEMED A PUBLIC NUISANCE.

In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this ordinance is a threat to public health, safety, and welfare, and is declared and deemed a nuisance, and may be summarily abated or restored at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken.

SECTION 19. REMEDIES NOT EXCLUSIVE.

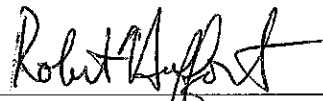
The remedies listed in this ordinance are not exclusive of any other remedies available under any applicable federal, state or local law and it is within the discretion of the City of Dellwood to seek cumulative remedies.

The City of Dellwood may recover all attorney's fees court costs and other expenses associated with enforcement of this ordinance, including sampling and monitoring expenses.

SECTION 20. ADOPTION OF ORDINANCE.

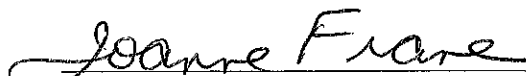
This ordinance shall be in full force and effect upon its final passage and adoption. All prior ordinances and parts of ordinances in conflict with this ordinance are hereby repealed.

PASSED AND ADOPTED this 13 day of December 2011.



Robert Nuffort, Mayor

Attest:



Joanne Frane, City Clerk

Summary
Published in the
White Bear Press 12-28-11