

EBERSOLE RESIDENTIAL SUBDIVISION EAW
DELANO, MN
Environmental Assessment Worksheet

Responsible Government Unit (RGU)

City of Delano
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Delano, MN 55328

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Memorandum

To: Minnesota Environmental Quality Board
Environmental Review Distribution List

From: Shawn Louwagie, City Engineer

Date: June 2, 2023

Subject: Ebersole Residential Subdivision EAW

As the Responsible Governmental Unit (RGU), the City of Delano is issuing this Environmental Assessment Worksheet (EAW) for the Ebersole Residential subdivision project. The public comment period on this EAW begins when the public notice is published in the Minnesota Environmental Quality Board (EQB) Monitor on June 13, 2023. A press release and public notice has been submitted for publication in the Delano Herald Journal newspaper. Public comments on this EAW will be accepted by the City of Delano until 4:30pm on July 13, 2023.

Environmental Assessment Worksheet (EAW)

December 2022 version

EBERSOLE RESIDENTIAL SUBDIVISION EAW DELANO, MN

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Environmental Assessment Worksheet (EAW)

December 2022 version

EBERSOLE RESIDENTIAL SUBDIVISION EAW DELANO, MN

This most recent Environmental Assessment Worksheet (EAW) form and guidance documents are available at the Environmental Quality Board's website at: <https://www.eqb.state.mn.us/> The EAW form provides information about a project that may have the potential for significant environmental effects. Guidance documents provide additional detail and links to resources for completing the EAW form.

Cumulative potential effects can either be addressed under each applicable EAW Item or can be addressed collectively under EAW Item 21.

Note to reviewers: Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.

1. **Project Title:** Ebersole Residential Subdivision EAW

2. **Proposer:** Capstone Homes

Contact: Tom Bakritges

Title: Land Project Manager

Address: 14015 Sunfish Lake Blvd, Ste 400
Ramsey, MN 55303

Phone: (763) 450-1213

Email: tbakritges@capstone-homes-mn.com

3. **RGU:** City of Delano

Contact: Shawn Louwagie

Title: City Engineer

Address: 234 2nd Street North
Delano, MN 55328

Phone: (763) 972-0586

Email: slouwagie@delano.mn.us

4. **Reason for EAW Preparation:** (check one)

Required:

☐ EIS Scoping

☒ Mandatory EAW

Discretionary:

☐ Citizen petition

☐ RGU discretion

☐ Proposer initiated

If EAW or EIS is mandatory give EQB rule category subpart number(s) and name(s):

MN Rules Part 4410.4300, Subp. 19a. (Residential development in shoreland outside of the seven-county Twin Cities metropolitan area. Project is located partially in shoreland and partially not in shoreland. The sum of the quotients obtained by dividing the number of units in each type of area by the applicable threshold for each area exceeds one. Ratio = 1.62)

Mandatory EAW Required if:	Residential # of Units Subp. 19.D Threshold	+	Residential Dev in Shoreland Subp. 19a.C Threshold	>=	1.00
Non-Shoreland Plus Shoreland	285 250	+	12 25	=	1.62

5. Project Location:

County: Wright
City/Township: Delano
PLS Location (¼, ¼, Section, Township, Range):
Section 2, Township 118 North, Range 25 West
Watershed (81 major watershed scale):
20 Mississippi River
GPS Coordinates: 45.0574505575816, -93.79732190660518
Tax Parcel Number: Wright County PIDs:
208200022401 (SE1/4 OF NW1/4)
208200024200 (W1/2 OF NW1/4 OF SE1/4)
208200024401 (SW1/4 & SW1/4 OF SE1/4)

At a minimum attach each of the following to the EAW:

- *County map showing the general location of the project;*
- *U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable); and*
- *Site plans showing all significant project and natural features. Pre-construction site plan and post-construction site plan.*
- *List of data sources, models, and other resources (from the Item-by-Item Guidance: Climate Adaptation and Resilience or other) used for information about current Minnesota climate trends and how climate change is anticipated to affect the general location of the project during the life of the project (as detailed below in item 7. Climate Adaptation and Resilience).*

6. Project Description:

- a. *Provide the brief project summary to be published in the EQB Monitor, (approximately 50 words).*

The Ebersole Residential Subdivision project is proposed on approximately 88.25 acres of land northwest of the City of Delano, Wright County. The project will include approximately 183 single-family lots and homes, and 102 attached townhomes in 23 buildings. Development of the project area will include installation of roads, municipal utilities, mass grading, storm water management practices, and new home construction.

- b. *Give a complete description of the proposed project and related new construction, including infrastructure needs. If the project is an expansion include a description of the existing facility. Emphasize: 1) construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes, 2) modifications to existing equipment or industrial processes, 3) significant demolition, removal or remodeling of existing structures, and 4) timing and duration of construction activities.*

The Ebersole Residential Subdivision project is proposed on approximately 88.25 acres of land outside and northwest of the City of Delano, Wright County (**Figure 1 and 1A**). The project area is within the City's planned transition area boundary and is primarily agricultural fields with some wetland, woodland, the Crow River and riverbanks. The project area is located east of Highway 12 and northwest of downtown Delano on three existing parcels referred to as the Rutherford Parcel, Otto Parcel and Running Parcel. (**Figure 2**).

The project will demolish and remove existing structures from two of the three parcels. The existing home on the Running parcel will be preserved as a lot within the new subdivision as shown on the site plans (**Appendix A**). One small shed on the Otto parcel will be demolished and removed from the project area. The barn, silo, storage sheds, home, and garage buildings on the Rutherford parcel will also be demolished and removed from the project area. Demolition of the structures on the Rutherford parcel will not occur for 2 to 3 years after the start of the project until development has progressed on the Running and Otto parcels as described below.

The project will construct approximately 183 single-family lots and homes, and 102 attached townhomes in 23 buildings. Development of the project area will include installation of roads, municipal utilities, mass grading, storm water management practices, and new home construction. The proposed Site Plans are attached (**Appendix A**). Project construction will convert 61.6 acres of crop land designated as green acres, permanently impact approximately 0.8 acres of wetland with fill, remove 11.9 acres of trees to allow room for site grading and new home construction, and create lots within a shoreland overlay. Mass grading of the site will cause physical manipulation of the existing vegetation, soil, and topography within the project areas as required to develop the new roads, lots, homes, landscaping, and storm water features. The balance of the project area will include about 7.9 acres of tree avoidance, 9.46 acres of wetland preservation and dedication of approximately 2.6 acres of greenspace to the City of Delano. An alternative to the greenspace dedication is being discussed with the City where the project proponent will place a conservation easement over the riverfront lots in the shoreland overlay to include the riverbank slopes and floodplain on the opposite side of the river.

Development of the project area will involve physical excavation, trenching and backfill of existing soil for the installation of public infrastructure including municipal water and sanitary sewer, storm water systems, electrical lines, and telephone and communication lines. The project area will be served by the Wright County Sheriff's department for law enforcement and the volunteer Delano fire department for fire protection.

Access roads, sanitary sewer and water main will be extended from the south end of the project area at Ebersole Avenue. Storm water basins will be created at the start of each construction phase to treat storm water and minimize potential effects of storm water runoff.

It is anticipated that project construction will be completed over several phases in approximately five to six years. Construction of the development will start with tree clearing on the Otto and Running properties in the winter of January to March 2024 and then mass grading on these 2 parcels will begin in the Spring of 2024. Followed by 2 phases of home construction that are anticipated to take 2 to 3 years depending on the housing market. The next mass grading phase will start at or near the completion of home construction associated with the first grading phase and will include the Rutherford parcel. After the Rutherford parcel is graded, 2 phases of home construction will begin and is anticipated to take 2 to 3 years depending on the housing market.

c. *Project magnitude:*

Table 1: Project Magnitude

Description	Number
Total Project Acreage	88.25
Linear project length	N/A
Number and type of residential units	183 single family and 102 multifamily units
Residential building area (in square feet)	Approximately: <ul style="list-style-type: none"> • 335,940 SF – Single Family • 171,360 SF – Attached Townhome
Commercial building area (in square feet)	0
Industrial building area (in square feet)	0
Institutional building area (in square feet)	0
Other uses – specify (in square feet)	N/A
Structure height(s)	N/A

d. *Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.*

The purpose of the Ebersole Residential Subdivision project is to provide a mixed single-family and multi-family residential development in the City of Delano to meet market demand, in proximity to transportation corridors, an emerging suburban community, and open spaces. The project will be carried out by a private entity.

e. *Are future stages of this development, including development on any other property, planned or likely to happen?* ☐ Yes ☒ No

If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.

The proposed project will occur in several construction phases through the project area. But there are not future stages planned outside of the project area.

f. *Is this project a subsequent stage of an earlier project?* ☐ Yes ☒ No

If yes, briefly describe the past development, timeline and any past environmental review.

The project is not a subsequent stage of an earlier project.

7. Climate Adaptation and Resilience:

- a. *Describe the climate trends in the general location of the project (see guidance: Climate Adaptation and Resilience) and how climate change is anticipated to affect that location during the life of the project.*

The climate trends in the general project location are following observations of changing weather and precipitation patterns, rising temperatures, stronger storms, increasing risk of heat waves, and increasing risk of drought. Several Minnesota sources were reviewed to help determine location specific climate trends and future climate projections in accordance with the EQB's Revised EAW Guidance (dated January 2022), which are described in the following paragraphs.

Minnesota Climate Explorer

The Ebersole Residential Subdivision project in the City of Delano, MN is located near the borders of several geographic units mapped in the Minnesota Climate Explorer. Including the Central and East Central climate divisions, Wright and Hennepin counties, and the North Fork Crow River and South Fork Crow River major watersheds. The Central and East Central climate divisions were selected together to represent the project area and identify current climate trends (historical up to the present) and projected future conditions (2040-2059 and 2080-2099) in the general location of the project for annual warming (average, minimum and maximum temperature) and for annual total precipitation. A summary of the historic data is shown below (**Table 2**), and a summary of the projected future data is shown below (**Table 3**). The graphic trends from the Minnesota Climate Explorer website are attached (**Appendix B**).

Table 2: Minnesota Climate Explorer Historic Data

	Historic (1895 to 2023)	
Annual	Mean	Trend/ Decade
Precipitation	27.39"	+ 0.36"
Min. Temperature	31.03 °F	+ 0.32 °F
Avg. Temperature	41.40 °F	+ 0.25 °F
Max. Temperature	51.78 °F	+ 0.18 °F

Table 3: Minnesota Climate Explorer Projected (Future) Climate Data

	Projected Mid-Century (2040-2059)			Projected Late-Century (2080-2099) RCP = 4.5, Inter. Scenario			Projected Late-Century (2080-2099) RCP = 8.5, Extreme Scenario		
Annual	Lower Range	Mean	Upper Range	Lower Range	Mean	Upper Range	Lower Range	Mean	Upper Range
Precipitation	17.01"	30.16"	59.61"	16.36"	31.44"	65.52"	17.28"	33.65"	72.35"
Min. Temperature	35.44 °F	39.52 °F	43.84 °F	38.45 °F	42.25 °F	45.87 °F	43.48 °F	46.54 °F	49.55 °F
Avg. Temperature	43.00 °F	46.33 °F	50.28 °F	44.85 °F	48.65 °F	52.26 °F	49.42 °F	52.52 °F	55.7 °F
Max. Temperature	50.37 °F	53.34 °F	57.08 °F	51.34 °F	55.35 °F	59.27 °F	55.52 °F	58.99 °F	62.43 °F

Risk Factor

The project location has a minimal flood factor according to the Risk Factor online tool created by the nonprofit First Street Foundation. Using the Running Parcel address of 6800 Ebersole Avenue SE, Delano, MN 55328, the Risk Factor tool shows a Flood Factor score of 1 out of 10. Meaning that the project area's likelihood and depth of flooding reaching buildings is minimal. When compared to the 1980-2010 average, the projected change in extreme rainfall events is expected to be consistently from 0% to 5% heavier this year and for the next 15 and 30 years, according to the Risk Factor tool.

Wildfire risk ranked 1 out of 10 suggesting that the project area has a minimal fire factor based on the distance to wildfire risk areas and burnable vegetation. Wildfire risks are changing with a changing environment because higher temperatures and drier conditions are creating conditions which are prime for wildfires to spread. The projected change in temperature degrees Fahrenheit (°F) in 30 years is from 3% to 4% according to the Risk Factor tool.

Heat risk ranked 2 out of 10 suggesting that the project area has a minor heat factor based on the current and future temperature and humidity. A hot day near the project area is considered to be any day with a heat index (feels like) above 98 °F. The project area is expected to experience 7 hot days on average this year. Due to changing environmental conditions, the project area is projected to experience 14 hot days on average in 30 years.

A wind factor of 2 out of 10 is assigned for the project area giving it a minor rating for the projected likelihood and speed of tornados or severe storm winds. Historically there have been 139 recorded wind events in Wright County. The most severe event was an F4 tornado which occurred in 1951 causing \$2,750,000 in property damage and caused 20 injuries and 1 fatality. In order for a thunderstorm to be considered severe, it must consist of winds greater than 58 miles per hour. Damaging winds from thunderstorms can also turn into tornadoes. Future forecasts are not currently available for thunderstorms or tornadoes in the Risk Factor tool.

Climate Resilience Evaluation and Awareness Tool (CREAT)

The EPA's Climate Resilience Evaluation and Awareness Tool (CREAT) Climate Scenarios Projection Map provides scenario-based climate change projections for specific climate conditions including temperature, precipitation, storms and extreme heat. Change in sea level rise data was not available for the project area through this tool. The results of the climate change projects for the project area are listed below (**Table 4**).

Table 4: CREAT Climate Change Projections

Change in Average Annual Temperature			
Period	Scenario		
	Hot/Dry	Central	Warm/Wet
2035	+3.8 °F	+2.9 °F	+2.5 °F
2060	+7.5 °F	+5.7 °F	+5.0 °F

Change in Average Annual Precipitation			
Period	Scenario		
	Hot/Dry	Central	Warm/Wet
2035	0.8%	3.3%	7.8%
2060	1.5%	6.5%	15.3%

Change in 100-year Storm Intensity		
Period	Scenario	
	Stormy	Not as Stormy
2035	13.80%	2.60%
2060	26.90%	5.20%

Number of Days over 100 °F (3 stations in the map grid cell)			
Period	Scenario		
	Hot/Dry	Central	Warm/Wet
Historical		0	
2035	1	1	1
2060	5	3	2

Streamflow Projection Map

The EPA's Streamflow story map shows projections of possible changes in flow conditions for U.S. streams and rivers under a range of future environmental conditions. The nearest United States Geological Survey (USGS) stream gage for the Crow River is gage station ID 0280000 downstream of the project area in Rockford, MN. The results of the historical flow of the Crow River that borders the project area are listed below (**Table 5**). Observed historical streamflow conditions for annual average, annual low, 2-year low, 10-year low, and annual high historic streamflow depend on data availability at that stream gage during the overall period of record from 1900 to 2017.

Table 5: Historic Streamflow in the Crow River Near the Project Area
Crow River at Rockford, MN

Historical Streamflow Observations	
USGS gage ID 05280000	
Drainage Area: 2,640.0 sq mi	
Period of Record: 1906 - 2017	
Annual Average	922.72 ft ³ /s
Annual Low	98.65 ft ³ /s
2-year Low	66.69 ft ³ /s
10-year Low	19.09 ft ³ /s
Annual High	5,422.03 ft ³ /s

The results of the historical flow of the Crow River that borders the project area are listed below (**Table 6**). For annual daily projected average, low and high stream flows, changes are calculated as the ratio of the projected future flow (2071–2100) divided by baseline historical flow (1976–2005). As an example, in (**Table 6**) for the wetter projection, the maximum projected change for the observed annual low flow elevation in the Crow River may increase 2.15 times higher than what is observed now. Compared to the drier projection, where the minimum projected change for the observed annual low flow elevation in the Crow River may slightly decrease by 0.99 times lower than what is observed now.

Table 6: Projected Average, Low and High Stream Flows in the Crow River Near the Project Area.

		Projected Change in Daily Streamflow (Ratio)				
		Annual Average	Annual Low	2-year Low	10-year Low	Annual High
Wetter Projection	Max	1.3	2.15	2.17	2.97	1
	90th Percentile	1.17	1.99	2.13	2.56	0.98
Drier Projection	10th Percentile	0.89	0.99	1.29	0.99	0.81
	Min	0.86	0.91	1.27	0.92	0.75

Heat Vulnerability in Minnesota Tool

The heat Vulnerability in Minnesota Tool assesses community vulnerability to extreme heat. The tool provides recent historical data on excessive heat warnings and heat advisories, as well as projections for cooling degree days. Pre-loaded sensitivity data in the tool shows the change in projected population from 2018 to 2050 for three age groups at highest risk for heat-related illness in Minnesota. These age groups include children under age 5, males aged 15-34, and age 65+. The composite sensitivity score for the project area is ranked as high. The four levels of sensitivity are low, mild, moderate, and high.

Pre-loaded exposure data shows projected number of cooling degree days for 2050, which is used as a proxy to estimate cooling needs for buildings. The composite exposure score for the project area is ranked as moderate. The four levels of sensitivity are low, mild, moderate, and high.

- b. For each Resource Category in the table below: Describe how the project's proposed activities and how the project's design will interact with those climate trends. Describe proposed adaptations to address the project effects identified.*

Future climate trends and predicting how the project's proposed activities will interact with those trends are uncertain. The following table (**Table 7**) attempts to identify the risk of long-term impacts climate trends might pose to the proposed project throughout the project life.

Table 7: Climate Trend Considerations

Resource Category	Climate Considerations	Project Information	Adaptations
Project Design	Aspects of the building architecture/materials choices and site design may negatively affect urban heat island conditions in the area considering changing climate zones, temperature trends, and potential for extended heat waves	Climate change risks and vulnerabilities identified include: Dark roofing materials absorb heat during the day and radiate it at night, which increases urban heat island effect and amplifies the warming temperatures of climate change.	Project will use energy efficient building materials that reduce needs for home heating and cooling. Project will preserve green space and wooded areas, and plant replacement trees to break up impervious areas and provide shading.
Land Use	Land use change will increase the amount of impervious surfaces that may negatively affect urban heat island conditions in the area considering changing climate zones, temperature trends, and potential for extended heat waves. Land use change will increase the amount of impervious surfaces that may negatively affect localized flooding considering changing precipitation and event intensity	Climate change risks and vulnerabilities identified include: Dark road materials absorb heat during the day and radiate it at night, which increases urban heat island effect and amplifies the warming temperatures of climate change. Impervious surfaces generate stormwater runoff, and paired with increased storm intensity could generate higher volumes of stormwater runoff more rapidly.	Project will preserve green space and wooded areas, and plant replacement trees to break up impervious areas, provide shading, and intercept some precipitation in the canopy. Project will create 6.80 acres of stormwater ponds to control runoff rates, and 0.80 acres of constructed infiltration systems to infiltrate stormwater.
Water Resources	Addressed in item 12	Addressed in item 12	Addressed in item 12
Fish, wildlife, plant communities, and sensitive ecological resources (rare features)	Addressed in item 14	Addressed in item 14	Addressed in item 14

8. Cover Types:

Estimate the acreage of the site with each of the following cover types before and after development:

Existing cover types and areas are listed (**Table 8, 9 and 10**) and shown (**Figure 4**).

Table 8: Cover Types

Land Cover	Before (acres)	After (acres)
Wetlands and shallow lakes (<2 meters deep)	10.40	9.61
Deep lakes (>2 meters deep)	0.00	0.00
Wooded/forest	4.34	1.95
Rivers and/streams	2.41	2.41
Brush/Grassland	6.00	0.00
Cropland	58.10	0.00
Livestock rangeland/pastureland	0.00	0.00
Lawn/landscaping	0.00	44.18
Green infrastructure TOTAL (from table below*)	0.00	0.80
Impervious surface	7.00	22.50
Stormwater Pond (wet sedimentation basin)	0.00	6.80
Other (describe)	0.00	0.00
TOTAL	88.25	88.25

Table 9: Green Infrastructure Cover Types

Green Infrastructure*	Before (acres)	After (acres)
Constructed infiltration systems (infiltration basins/infiltration trenches/ rainwater gardens/bioretentention areas without underdrains/swales with impermeable check dams)	0.00	0.80
Constructed tree trenches and tree boxes	0.00	0.00
Constructed wetlands	0.00	0.00
Constructed green roofs	0.00	0.00
Constructed permeable pavements	0.00	0.00
Other (describe)	0.00	0.00
TOTAL*	0.00	0.80

Table 10: Tree Coverage

Trees	Number	Area (Acres)
Existing significant trees	1,828 to 1,868	19.74
Significant trees removed during development	1,240	11.89
Significant trees preserved	588 to 628	7.85
Anticipated number of new trees planted to meet or exceed ordinance minimum requirements	645	-

A significant tree is defined in City of Delano ordinances as a healthy tree measuring a minimum of 6 inches in diameter for deciduous trees, or a minimum of 12 feet in height for coniferous trees. City ordinances do not require a minimum number of trees be preserved on a project. Only that an approved tree preservation plan be provided for all subdivisions of 5 or more lots, if significant trees or woodlands are present in the project area. Tree replacement is only required if significant trees are removed, destroyed or damaged after they were indicated to be saved on an approved tree preservation plan. There are no new tree requirements per lot in the City ordinance, but the project will be providing an average of 2 new trees per lot.

9. Permits and Approvals Required:

List all known local, state and federal permits, approvals, certifications and financial assistance for the project. Include modifications of any existing permits, governmental review of plans and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure. All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules, Chapter 4410.3100.

Table 11. Permits and Approvals Required

Unit of Government	Type of Application	Status
City of Delano	Mandatory EAW Decision	To be applied for
City of Delano	Preliminary and Final Plat Approval	To be applied for
City of Delano	Grading Permit	To be applied for
City of Delano	Building Permit	To be applied for
City of Delano	Comprehensive Plan Amendment	To be applied for
City of Delano	Zoning Amendment	To be applied for
City of Delano	Storm water Management and Erosion Control Approval	To be applied for
City of Delano	Variance	To be applied for if needed
City of Delano	Municipal Water Connection Permit	To be applied for
City of Delano	Sanitary Sewer Connection Permit	To be applied for
City of Delano	Wetland Boundary and Type Approval	Approved
City of Delano	Wetland Fill Permit	To be applied for
City of Delano	Floodplain Alteration Permit	To be applied for
Minnesota Department of Health	Water Main Extension Approval	To be applied for
Minnesota Department of Natural Resources	Water Appropriation Permit	To be applied for, if needed
Minnesota Department of Natural Resources	Public Waters Work Permit	To be applied for
Minnesota Department of Natural Resources	Endangered and Threatened Species (Butternut) Take Permit	Submitted
Minnesota Pollution Control Agency	NPDES/SDS General Permit	To be applied for
Minnesota Pollution Control Agency	Sanitary Sewer Extension Approval	To be applied for
Minnesota Pollution Control Agency	Pre-Demolition Asbestos and Regulated Waste Assessment	To be completed before any building demolition occurs
U. S. Army Corps of Engineers	Wetland Delineation Concurrence	Approved
U. S. Army Corps of Engineers	Approved Jurisdictional Determination	To be applied for
U. S. Army Corps of Engineers	Wetland or Water Resource Impact Permit	To be applied for

Cumulative potential effects may be considered and addressed in response to individual EAW Item Nos.10-20, or the RGU can address all cumulative potential effects in response to EAW Item No.22. If addressing cumulative effect under individual items, make sure to include information requested in EAW Item No. 21.

10. Land Use:

a. Describe:

- i. Existing land use of the site as well as areas adjacent to and near the site, including parks and open space, cemeteries, trails, prime or unique farmlands.*

Existing land use within the project area is primarily crop land identified as green acres and prime farmland in some areas according to the U.S. Department of Agriculture Soil Survey Geographic Database (SSURGO) (**Figure 15**). Neighboring parcels to the northwest and southeast are similar agricultural land with some wetlands and woodland. Parcels to the northeast consist of larger lot (5+ acre), low density, residential properties. Parcels to the southwest are existing commercial businesses with frontage on Hwy 12 to the west. There are no cemeteries near the project area.

Cramer Park is directly to the east of the southern project parcel, on the east side of the Crow River. There are no existing parks or trails within the project area.

Mapping prepared by the Minnesota DNR shows that all three parcels of the project area are partially or entirely in a Metro Conservation Corridor (**Figure 5**). Metro Conservation Corridors are areas mapped out by conservation organizations as areas and connections between the areas, or corridors, of ecologically important land throughout the greater Twin Cities area. These areas provide a planning overview for areas to protect or restore ecological features and functions as possible while also accommodating growth in the metro region.

The project area does not include any other conservation lands like Wildlife Management Areas (WMA), Scientific and Natural Areas (SNA), waterfowl production areas, wildlife refuges, or conservation easements.

- ii. Plans. Describe planned land use as identified in comprehensive plan (if available) and any other applicable plan for land use, water, or resources management by a local, regional, state, or federal agency.*

The Wright County US Highway 12 Corridor Land Use Plan shows all 3 parcels of the project area as Transition Area (TA) land use. Transition areas are identified at the urban/rural fringe as land planning moves from the County to the City. Setting up planned annexation of land to expand the municipal boundary and services for controlled development growth.

The project area is outside of City limits but shown in the transition area boundary identified on the City of Delano's Comprehensive Plan Extraterritorial Land Use map that shows the project area designated as low density residential and low to medium density residential. These land uses designate 0 to 3 units per acre and 0 to 8 units per acre respectively. The Ebersole Residential Subdivision project will comply with the low density and low to medium density zoning requirements with plat approval. The proposed project meets that density requirement of 3 dwelling units per acre.

Planned land use surrounding the project area is designated commercial to the west of the project parcels, low to medium density residential to the north, and low density residential and parks and open space to the east. The area south of the project parcels is designated as commercial/industrial land use. The area to the east of the north most project parcel is outside of the City limits, and the Extraterritorial Land Use map, and is not designated for specific land use (**Figure 6**). The proposed project fits the planned and surrounding land uses.

The City of Delano Comprehensive Parks and Trail Plan shows future pedestrian trail along Ebersole connecting to future pedestrian trail along Hwy 12. There are no planned parks within the project area.

There are no other known local, regional, state, or federal governmental management plans adopted for this project area.

- iii. *Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.*

Zoning

The project area is outside the City of Delano limits and not classified on the existing City zoning map. The existing City zoning map does show Flood Fringe District 1 and District 2 classifications on a portion of the two southern, Otto and Running parcels in the project area. Wright County zoning does not show any codes or descriptions for the 3 parcels located in the project area.

Floodplain

The southeast portion of the project area along the Crow River is within the 100-year floodplain of the Crow River (**Figure 7**). The Flood Fringe District 1 (FF-1) Overlay Zoning District requires all structures within the district to be on fill with a finished fill elevation no lower than 1 foot above the 100-year flood elevation.

The Flood Fringe District 2 (FF-2) Overlay Zoning District restricts or prohibits development within the 100-year floodplain within newly annexed areas of the City. With the goal of preserving the flood fringe areas as a natural greenway amenity.

The proposed project will conform with requirements in both Flood Fringe districts by keeping all buildings out of the 100-year floodplain, and the finished floor elevations above the 100-year flood elevation.

Shoreland

The southeast portion of the project area along the Crow River lies within the City of Delano's Shoreland District that specifies minimum lot and setback requirements (**Figure 7**). The shoreland district also limits the removal of natural vegetation to prevent erosion into public waters, to conserve nutrients in the soil, and to preserve shoreland aesthetics.

The proposed project will conform with the shoreland overlay requirements by minimizing land disturbance activities and preserving existing trees and vegetation along the Crow River.

The project area does not fall in or near a wild and scenic river, or a critical area. The project area is not located with an agricultural preserve, but all three parcels are classified as green acres.

- iv. *If any critical facilities (i.e. facilities necessary for public health and safety, those storing hazardous materials, or those with housing occupants who may be insufficiently mobile) are proposed in floodplain areas and other areas identified as at risk for localized flooding, describe the risk potential considering changing precipitation and event intensity.*

The proposed project does not include any critical facilities. The proposed project is keeping all residential buildings out of the current 100-year floodplain, and the finished floor elevations above the current 100-year flood elevation. Changing precipitation and event intensity patterns in Minnesota could cause flood elevations to rise higher than current designations more frequently. But the topography of this project area has the low floor elevations for proposed residential buildings on top of a bluff approximately 8 feet to 10 feet above the current 100-year flood elevation. This difference in elevations should minimize the risk of localized flooding.

- b. *Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 10a above, concentrating on implications for environmental effects.*

The project is compatible with surrounding land uses identified as commercial, commercial/industrial, low density and low to medium density residential, or parks and open space. The project is compatible with zoning shoreland and Flood Fringe District 1 and District 2 overlays.

- c. *Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 10b above.*

The project proposer will keep structures out of, and the finished floor elevations above, the 100-year floodplain of the Crow River. The project proposer is also designing these shoreland lots to minimize land disturbance activities and preserve existing trees and vegetation along the Crow River.

To minimize the effects of development on adjacent properties, the project proposer may include additional landscape plantings to buffer differing land use and to minimize the effects of development on adjacent properties.

11. Geology, Soils and Topography/Landforms:

- a. *Geology - Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project could have on these features. Identify any project designs or mitigation measures to address effects to geologic features.*

The Geologic Atlas of Wright County, Minnesota (Minnesota Geological Survey 2016) indicates the surficial geology in the project area (**Figure 8**) is characterized by the following two map units:

ng – Des Moines Lobe Outwash

This geological unit contains sand and gravel, with some areas having fine-grained sand and silt layers. The unit is mostly cross-bedded with angled layers, but there are some horizontal layers in the finer-grained parts. The material is calcareous under a leached zone of 1 to 3 feet and is typically brown and yellowish-brown in color. It is believed to be braided stream sediment deposited by meltwater from the retreating Des Moines glacial lobe, including sediment from the Heiberg and Villard Members. The outwash along the main valley of the Crow River includes some spillway sediment from a glacial lake outlet, deposited just before the stream shrank to postglacial size and began depositing alluvium.

vt – Glacial Till

This geological unit is described as poorly sorted sandy loam to loam soil that contains some coarse-grained clasts or fragments of rock broken off of other rocks through weathering. It is brown to yellowish-brown when oxidized and dark gray when unoxidized. The material is calcareous under a leached zone of 1 to 5 feet and generally contains gray siliceous shale, which typically composes 15 to 30 percent of the very coarse-grained sand fraction. The till is transitional at the contact between the Heiberg and Twin Cities Members and was deposited by ice of the glacial Des Moines lobe and by mudflows as the ice melted.

The Geologic Atlas of Wright County, Minnesota (Minnesota Geological Survey 2016) indicates the bedrock geology in the project area (**Figure 9**) is characterized by the following two map units:

Csl – St. Lawrence Formation, Late Cambrian

Dominantly tan, white to light gray, very fine- to fine-grained quartzose sandstone with interbedded pale yellowish-green feldspathic siltstone and light green shale. Light pink to gray dolomite cement as well as dark green to black glauconite grains occur in the lower portion. The formation is 20 to 35 feet (6 to 10 meters) thick where uneroded. It occurs in the easternmost part of the map area. The upper contact with the Jordan Sandstone is conformable and gradational. The gradational nature of the contact can make selecting a precise contact between these formations problematic even in borehole cuttings samples and natural gamma logs.

Ctc – Tunnel City Group, Late Cambrian

Formerly referred to as the Franconia Formation (Mossler, 2008). It is 115 to 130 feet (35 to 40 meters) thick where it has not been eroded and is divided into two formations not shown separately on the map: the Mazomanie Formation and the Lone Rock Formation. The Mazomanie Formation is dominantly white to yellowish gray, fine- to medium-grained, cross-stratified, friable, quartz sandstone with minor amounts of glauconite. The Mazomanie Formation is present in the upper 40 feet (12 meters) of the Tunnel City Group and is mostly restricted to the northeastern part of the map area. The Lone Rock Formation underlies the Mazomanie Formation and intertongues with it in Wright County. It is a very fine- to fine-grained, glauconite-rich, feldspathic sandstone and siltstone interbedded with very thin, greenish-gray shale partings. Thin to medium beds of pink, orange, and dark red dolostone are present in the lower third of the formation. These beds also contain minor amounts of white linguliform brachiopod shells. The contact between the Tunnel City Group and the overlying St. Lawrence Formation is conformable but fairly distinct between the fine- to medium-grained quartzose sandstone of the Mazomanie Formation and the silty sandstone and shale of the St. Lawrence Formation.

The estimated depth to bedrock in the project area, based on the Geologic Atlas, generally ranges between 200 to 275 feet below the surface with bedrock topographic contours ranging from 700 to 750' MSL (**Figure 9**). Soil boring information from the project area plus additional boring on the Otto parcel were reviewed and the borings only extended 21 feet to 25 feet below the surface and did not encounter bedrock.

Sinkholes and karst lands are not known to be prone in Wright County where the project is located. Minnesota Karst Lands and Sinkhole Mapping prepared by Calvin Alexander and others (2006) does not show karst lands or sinkholes in or near the project area.

It is not anticipated that the proposed project will have an environmental effect on the geologic features of the project area.

- b. *Soils and topography - Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 12.b.ii.*

The project area includes loam soils with 86 feet of topographic relief from a peak elevation of 996 ft Mean Sea Level (MSL) to the Crow River at 908 ft MSL. Slopes on the project area range from flat to over 12% (**Figure 3**). **Figure 3**.

The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service's (NRCS) Web Soil Survey indicates the project area includes thirteen soil mapping units that consist of mostly sandy loam, loam and clay loam soils (**Table 12** and **Figure 10**).

Table 12: Soil Classifications

Symbol	Soil Name	% of Area	% Hydric	Hydric Category	Farmland Category
106C2	Lester loam, 6 to 10 percent slopes, moderately eroded	17.40	2	Predominantly Non-Hydric	Farmland of statewide importance
106D2	Lester loam, 10 to 16 percent slopes, moderately eroded	13.90	0	Non-Hydric	Not prime farmland
106E	Lester loam, 10 to 22 percent slopes	3.60	0	Non-Hydric	Not prime farmland
109	Cordova clay loam, 0 to 2 percent slopes	2.10	90	Predominantly Hydric	Prime farmland if drained
114	Glencoe clay loam, 0 to 1 percent slopes	0.30	100	Hydric	Prime farmland if drained
235	Nessel loam, 1 to 3 percent slopes	1.00	10	Predominantly Non-Hydric	Prime farmland
414	Hamel loam, 0 to 2 percent slopes	4.50	90	Predominantly Hydric	Prime farmland if drained
539	Klossner muck, 0 to 1 percent slopes	2.50	100	Hydric	Farmland of statewide importance
603	Hanlon fine sandy loam, 0 to 2 percent slopes, occasionally flooded	0.30	20	Predominantly Non-Hydric	Prime farmland
740	Hamel-Glencoe complex, 0 to 2 percent slopes	1.60	90	Predominantly Hydric	Prime farmland if drained
1163	Suckercreek loam, 0 to 2 percent slopes, frequently flooded	7.40	95	Predominantly Hydric	Not prime farmland
1362B	Angus loam, 2 to 6 percent slopes	40.90	5	Predominantly Non-Hydric	Prime farmland
1388B	Terril loam, 2 to 6 percent slopes	2.50	8	Predominantly Non-Hydric	Prime farmland

All thirteen soil units have limitations for dwellings with basements due to factors such as slope, depth to saturated zone, shrink-swell, ponding, flooding, and subsidence. All thirteen soil units have limitations for local roads and streets due to factors such as slope, depth to saturated zone, frost action, low strength, shrink-swell, ponding, and flooding.

Grading operations for construction are expected to affect about 75 acres and involve movement of about 350,000 cubic yards of soil to construct access roads, building pads, and storm water features.

Elevations in the project area ranges from 996 feet above mean sea level (MSL) at the highest point on the southeast corner of the Rutherford parcel to 908 feet (MSL) at the water's edge of the Crow River on the east edge of the Running parcel and southeast corner of the Otto parcel. Review of a Digital Elevation Model (DEM) highlighting slopes greater than 12%, shows that the proposed project area contains some steep slopes of 12% or more (**Figure 3**). These steep slopes are located on the edges of the historic mining areas of the Otto parcel and the riverbanks of the Running and Otto parcels. The proposed project design will grade and remove the steep slopes associated with mining. But the steep slopes of the Crow River riverbank will be preserved. The project area does not contain any bluffs.

Development of the project area will disturb more than one acre of land and therefore will require application for coverage under the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) General Permit administered by the Minnesota Pollution Control Agency (MPCA) prior to initiation of earthwork. In compliance with the General NPDES Permit for construction activities, the project proposer and construction contractor will need to implement Best Management Practices (BMPs) to reduce erosion and sedimentation and stabilize exposed soils after construction. These BMPs include:

1. Temporary stabilization of exposed soils when no soil disturbing activities occur on that portion of the project area for 14 or more consecutive days.
2. Phase the construction when feasible to limit the amount of soil exposed at one time.
3. Delineate areas not to be disturbed with flags stakes, silt fence or with signs. These areas also need to be noted on the plan sets.
4. Avoid disturbance of steep slopes or utilize stabilization practices designed for steep slopes, such as terracing or slope draining to minimize erosion.
5. Minimize the total area exposed at once by leaving as much vegetation on the project area as possible, for as long as possible, to reduce the overall amount of disturbed area.
6. Minimize the length of time that soil is exposed by stabilizing areas as work progresses.
7. Cover soil stockpiles.

Erosion and sedimentation control BMPs related to storm water runoff are discussed in greater detail within **Item 11.b.ii**. Additional BMPs required for construction projects within 1 mile of and draining to impaired waters are listed under **Item 11.a.i**.

NOTE: For silica sand projects, the EAW must include a hydrogeologic investigation assessing the potential groundwater and surface water effects and geologic conditions that could create an increased risk of potentially significant effects on groundwater and surface water. Descriptions of water resources and potential effects from the project in EAW Item 12 must be consistent with the geology, soils and topography/landforms and potential effects described in EAW Item 11.

12. Water Resources:

- a. Describe surface water and groundwater features on or near the site in a.i. and a.ii. below.*
- i. Surface water - lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, shoreland classification and floodway/floodplain, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include the presence of aquatic invasive species and the water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within 1 mile of the project. Include DNR Public Waters Inventory number(s), if any.*

Six wetlands were delineated on the Rutherford and Running parcels of the project area by Kjolhaug Environmental Services on September 23 and 29, 2021. A wetland delineation report was submitted to Wright County Soil and Water Conservation District (SWCD) and the U.S. Army Corps of Engineers (USACE). The Minnesota Board of Water and Soil Resources (BWSR) issued a Notice of Decision approving the wetland boundaries and types on November 15, 2021. The USACE issued an Approved Jurisdictional Determination (AJD) on March 25, 2022, stating that Wetlands 1, A, and E are not Section 404 regulated waters of the U.S. subject to USACE jurisdiction. The BWSR Notice of Decision approving the wetland boundaries and types, and the USACE Approved Jurisdictional Determination (AJD) are included (**Appendix C**).

One wetland was delineated on the Otto parcel of the project area by Kjolhaug Environmental Services on April 26, 2022. A wetland delineation report was submitted on June 3, 2022, to Wright County Soil and Water Conservation District (SWCD) and the U.S. Army Corps of Engineers (USACE). The BWSR Notice of Decision approving the wetland boundaries and types, and the USACE Approved Jurisdictional Determination (AJD) are included (**Appendix C**).

Delineated wetland boundaries within the project area for all three parcels are summarized below (**Table 13**). In addition to the delineated wetlands, the South Fork Crow River is a Public Water (M-064-005) (**Figure 7**).

Table 13: Wetlands Delineated Within the Project Area

Parcel	Wetland ID	Wetland Type			Dominant Vegetation	Size (On Site)
		Circular 39	Cowardin	Eggers and Reed		
Running	1	Type 1	PEMA	Seasonally flooded basin	Barnyard grass, smartweed, reed canary grass, stinging nettle, wood nettle, drowned out, skullcap	0.2
Running	2	Type 1/6	PFO1A/PSS1A	Floodplain forest and scrub-shrub	Green ash, American elm, red osier dogwood, sandbar willow, reed canary grass, sedges, giant goldenrod, avens	5.69
Rutherford	3	Type 1/3	PEMA/PEMC	Wet meadow and shallow marsh	Reed canary grass, cattail	2.52
Rutherford	4	Type 1	PEMA	Wet meadow	Reed canary grass	0.45
Rutherford	A	Type 1	PEMAf	Farmed, seasonally flooded basin	Healthy corn for 2021	0.28
Rutherford	E	Type 1	PEMAf	Farmed, seasonally flooded basin	Healthy corn for 2021	0.73
Otto	1	Type 5	PUBGx	Excavated, open water	Narrow leaf cattail, reed canary grass	0.31

The Crow River is on the Minnesota Pollution Control Agency (MPCA) 2022 impaired waters list as delisted in 2018 for Chloride (**Table 14**) and listed for several additional impairments (**Table 15**). and borders the Otto and Running parcels. There are no other impaired waters listed within 1 mile of the project area.

Table 14: Delisted Waters Within 1 Mile

Name	AUID	Pollutant	Type	Affected Designated Use(s)	Year Delisted
Crow River, South Fork	07010205-508	Chloride	Stream	AQL	2018

AQL = aquatic life, AQR = aquatic recreation, AQC = aquatic consumption

Table 15: 2022 Impaired Waters Within 1 Mile

Name	AUID	Use Class	Type	Impairment Type (s)	Approved TMDL(s)
Crow River, South Fork	07010205-508	2Bg	Stream	AQC, AQL, AQR	FC; Hg-F; T Additional impairments: FishesBio; InvertBio; Nutrients

The project area is located within three active Total Maximum Daily Load (TMDL) plan areas, the South Metro Mississippi River Sediment TMDL project, the North Fork Crow River Watershed TMDL project and the North Fork Crow and Lower Crow River Bacteria, Turbidity and Dissolved Oxygen (DO) TMDL project (**Table 16**). It is not anticipated that the proposed project will create a significant impact compared to the scale of these TMDL projects.

Table 16: Active TMDL Projects

Project Name	Project ID	Data Organization	Status
South Metro Mississippi River Sediment TMDL	PRJ05968-001	MPCA	Active
North Fork Crow River Watershed TMDL	PRJ07722-001	MN DNR	Active
North Fork Crow and Lower Crow River Bacteria, Turbidity, DO	PRJ05480-001	MN DNR	Active

A Storm water Pollution Prevention Plan (SWPPP) must be prepared and submitted to the MPCA at least 30 days prior to the start of construction activities. The SWPPP will require a mandatory review because the project will disturb more than 50 acres of land and will include the following BMPs to protect water quality:

1. Route storm water around exposed soil areas through use of conveyance channels when feasible.
2. Direct storm water discharges from the project area to vegetated areas in order to increase sediment removal and infiltrate storm water on the project area when feasible.
3. Utilize vegetative buffers, horizontal slope grading, and maintenance to protect surface waters.
4. Use check dams, sediment traps, riprap, or grouted rip rap at outlets and along conveyance channels to control velocity and minimize erosion along the channel and outlets.
5. Prevent runoff from flowing across disturbed areas by diverting the flow to vegetated areas.
6. Break up slope lengths and steepness to promote sheet flow with check dams.
7. Install energy dissipation such as concrete aprons, splash pads, rip rap, and gabions at pipe outlets within 24 hours of connecting to surface water.
8. Initiate soil stabilization immediately on portions of the project area, including soil stockpiles, where construction activity has temporarily or permanently ceased and will not resume for 14 days.

9. Stabilize the last 200 feet of the normal wetted perimeter of any temporary or permanent drainage ditch or swale that drains water from the project area within 24 hours of connecting to a property edge or a discharge point to a surface water. Use erosion blankets, rip rap or other cover designed for concentrated flow areas.

Because there are impaired receiving water within 1 mile of the project, additional BMPs are required for water quality protection, including:

1. complete stabilization of exposed soil within seven calendar days after construction activity in respective parts the project temporarily or permanently ceases.
2. temporary sediment basin(s) for common drainage areas covering five or more acres of area disturbed at one time.

The project area does not include any trout streams/lakes, wildlife lakes, migratory waterfowl feeding/resting lake, or outstanding resource value waters.

- ii. *Groundwater – aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.*

According to the Minnesota Hydrogeology Atlas, depth to groundwater across the project area ranges from 0 feet to 30 feet of depth (**Figure 11**).

Depth to groundwater varies across the upland portion of the Otto Property project area from 18 feet to 20 feet deep based upon geotechnical borings by Haugo GeoTechnical Services (HGTS).

The Minnesota Well Index shows 2 verified wells in the project area, both located on the Running parcel. The well index shows an additional 15 verified wells and 2 unverified wells outside of and within 0.5 miles of the project area. Boring logs for these wells were also referenced to determine the depth to aquifer groundwater in the project area. The average elevation of static groundwater level in the groundwater wells located near the project area is 912.2 ft msl (**Table 17**)

Table 17: Nearby Groundwater Wells – Minnesota Well Index

Well No.	Surface Elevation (ft msl)	Depth (feet)	Casing Depth (feet)	Static Water Level Elevation (ft msl)	Depth to Bedrock (feet)	Aquifer	Status	Proximity to Project Area
451359	961	158	154	893	null	QBAA	Verified	Nearby
107078	961	84	79	909	null	QBAA	Verified	Nearby
670827	944	92	84	929	null	QBAA	Verified	Nearby
417836	970	100	96	905	null	QBAA	Verified	Nearby
500927	932	120	112	924	null	QBAA	Verified	Nearby
157855	984	92	88	921	null	QBAA	Verified	Nearby
100345	935	123	null	908	null	QBAA	Verified	Nearby
705717	964	103	98	920	null	QBAA	Verified	Nearby
107051	965	86	81	909	null	QBAA	Verified	Onsite
797328	948.4	123	115	917.4	null	Not Listed	Verified	Nearby
770031	936	114	106	908	null	QBAA	Verified	Onsite
433437	955	117	112	918	null	QBAA	Verified	Nearby
810258	941	120	116	914	null	Not Listed	Verified	Nearby
750833	951	200	182	926	180	Jordan-St. Lawrence	Verified	Nearby
504043	944	128	124	894	null	QBAA	Verified	Nearby
709750	972	121	113	912	null	QBAA	Verified	Nearby
415449	960	108	104	900	null	QBAA	Verified	Nearby
670812	null	170	166	null	null	Not Listed	Unverified	Nearby
662835	null	76	71	-35 ft. below surface	null	Not Listed	Unverified	Nearby

QBAA = Quaternary buried artesian aquifer

The southern boundary of the project area is approximately 200 feet from the Delano Drinking Water Supply Management Area (DWSMA) and 900 feet from the Delano Wellhead Protection Area (WHPA) boundaries according to the online Minnesota Department of Health Source Water Protection Web Map viewer. Both WHPA and DWSMA areas are areas where contamination on the land surface or in the water can affect the public drinking water supply.

b. *Describe effects from project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below.*

i. *Wastewater - For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site.*

1) *If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.*

The project would generate domestic wastewater that is typical of suburban residential development. The project will not include industrial wastewater production or on-site wastewater treatment.

The City of Delano owns and operates its own sanitary wastewater treatment plant. Domestic wastewater from the project will be routed through the City of Delano sanitary sewer system and utility corridor, to the City of Delano wastewater treatment plant that discharges to an unnamed stream which flows a short distance to the South Fork Crow River.

The City of Delano wastewater treatment plant has an average design wet weather flow of 2.199 million gallons per day (MGD). The City's 2020 Facility Plan for Wastewater Treatment Plant Improvements forecasts the City's population growth through 2040 to be between 10,000 and 12,100 and was the basis for selecting design improvements to the wastewater treatment plant. The City of Delano population was 6,484 based on 2020 Census data.

Sanitary wastewater production for the project was estimated using methods described in the Sewer Availability Charge (SAC) Procedure Manual (Metropolitan Council 2022). Metropolitan Council has established 274 gallons per day (GPD) as the average daily wastewater production from a typical single-family residential unit. Based on this residential equivalent, the project is expected to generate an average flow of 76,720-79,460 gallons of wastewater per day (280-290 residential units). Sanitary sewer will be extended from the south end of the project area at Ebersole Avenue and run to properties to the north and west.

- 2) *If the wastewater discharge is to a subsurface sewage treatment systems (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system. If septic systems are part of the project, describe the availability of septage disposal options within the region to handle the ongoing amounts generated as a result of the project. Consider the effects of current Minnesota climate trends and anticipated changes in rainfall frequency, intensity and amount with this discussion.*

Wastewater will not be discharged to a subsurface sewage treatment (septic) system.

- 3) *If the wastewater discharge is to surface water, identify the wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects.*

Wastewater will be treated in the City of Delano Wastewater Treatment Plant described above and then discharged to the South Fork Crow River. The wastewater treatment facility uses a sequencing batch reactor (SBR) system followed by ultraviolet (UV) disinfection. Sludge produced in the SBR is pumped to aerated waste activated sludge (WAS) holding tanks and then pumped to constructed reed

beds for long term stabilization and dewatering. Filtrate from the reed beds is returned to the wastewater treatment plant and remaining biosolids are landfilled or land applied as fertilizer. The City of Delano has also incorporated a screw press into the wastewater treatment operations to dewater the sludge, which is then hauled and landfilled. The screw press addition will allow the City to phase out the use of the reed beds.

The potential impacts of anticipated climate change on wastewater conveyance systems, pump stations, and wastewater treatment plants include increased inflows of stormwater and flooding overflows. Increased inflows can cause reductions in detention times for treatment or treatment bypassing altogether. Flooding can cause power outages that stop treatment if backup power supplies fail, or inundate the treatment facility itself causing uncontrolled mingling of floodwater with sewer effluent. Both causing partially treated or untreated wastewater to directly enter the receiving environment. The City of Delano does not have a combined storm and sanitary sewer system, reducing the likelihood of increased inflows unless there is localized flooding that is able to enter sanitary sewer facilities like pump stations. The City of Delano Wastewater Treatment Plant is currently located 2' to 4' higher than the current South Fork Crow River 100-year floodplain elevation. This difference in elevations should minimize the risk of localized flooding from current Minnesota climate trends and anticipated climate change.

- ii. *Stormwater - Describe changes in surface hydrology resulting from change of land cover. Describe the routes and receiving water bodies for runoff from the project site (major downstream water bodies as well as the immediate receiving waters). Discuss environmental effects from stormwater discharges on receiving waters post construction including how the project will affect runoff volume, discharge rate and change in pollutants. Consider the effects of current Minnesota climate trends and anticipated changes in rainfall frequency, intensity and amount with this discussion. For projects requiring NPDES/SDS Construction Stormwater permit coverage, state the total number of acres that will be disturbed by the project and describe the stormwater pollution prevention plan (SWPPP), including specific best management practices to address soil erosion and sedimentation during and after project construction. Discuss permanent stormwater management plans, including methods of achieving volume reduction to restore or maintain the natural hydrology of the site using green infrastructure practices or other stormwater management practices. Identify any receiving waters that have construction-related water impairments or are classified as special as defined in the Construction Stormwater permit. Describe additional requirements for special and/or impaired waters.*

Pre-Construction Site Runoff

Soils in the project area are predominantly non-hydric, well drained, farmed, loam soils with moderately high to high infiltration rates, and most precipitation likely infiltrates until the soils are saturated. Once the soils are saturated, precipitation generates storm water runoff. Storm water runoff from the project area under existing conditions likely contains low amounts of pollutants like sediment, pesticides, fertilizers, and other

nutrients. Existing runoff on the project area drains to the wetlands on the north boundary of the Rutherford parcel and to the South Fork Crow River east of the Otto and Running parcels.

Post-Construction Site Runoff

Compliance with City of Delano and NPDES storm water requirements will minimize and mitigate potential adverse effects on receiving waters. Project development will change the land use from agricultural to residential with streets. This land use change is expected to have mixed effects on runoff water volume and quality. Post-development runoff water quality will be typical of suburban developments and will likely be slightly degraded by pollutants carried in runoff from streets, roofs, and driveways.

The proposed project will add about 22.5 acres of impervious surface, consisting of streets, homes, and driveways. The increased impervious surface area is expected to increase runoff volume and urban pollutants locally during significant storm events. However, storm water rate and volume controls that comply with City of Delano storm water requirements will limit increases in runoff volume and associated pollutant transport. Much of the increased runoff and pollution is expected to be associated with large, infrequent storm events. The creation of storm water ponds and filtration basins is expected to mitigate potential adverse effects from the increased impervious surface area.

The project will include approximately 6.8 acres of storm water and infiltration basins in compliance with City of Delano requirements. Potential adverse effects of runoff volume and quality will be mitigated by the construction of storm water basins designed to manage peak runoff rates, runoff volume, and water quality.

Storm events will discharge runoff at flow rates that are less than existing rates. The Crow River will receive treated storm water runoff from the Otto and Running parcels. Storm water runoff from the Rutherford parcel will be treated and discharged to the wetlands on the north side of that parcel. Proposed storm water management and erosion and sediment control practices are expected to minimize cumulative effects of post-development runoff on downstream waters. Project construction will include other water quality BMPs such as temporary sediment basins to comply with the MPCA General Storm water Permit for Construction Activity.

The City of Delano Subdivision Code section 7-9 on Storm Water Management, Erosion and Sediment Control specifies that storm water drainage shall be consistent with policies and standards of the City of Delano Storm Water Management Plan. The latest plan is dated June 1997 and requires water quantity and water quality improvements to the City storm water drainage facilities. The City will review and approve the project proposers storm water management system design for both quantity and quality metrics.

Permanent storm water volume management practices, including ponds, will be designed to store the runoff volume from rainfall over the area tributary to the pond. These ponds will store and release the storm water at reduced runoff rates, and will

improve storm water quality through Nationwide Urban Runoff Program (NURP) standard design to settle out pollutants before discharge to a downstream lake, stream, wetland, or offsite. The proposed project design will meet the City's requirements.

Storm water ponds designed to NURP criteria are considered effective in removing sediment, pollutants, and nutrients, as discussed in Protecting Water Quality in Urban Areas: Best Management Practices for Dealing with Storm Water Runoff from Urban, Suburban and Developing Areas of Minnesota (MPCA 2000). The NURP research projects conducted by the U.S. EPA concluded that 90% removal of total suspended solids was an attainable goal, and that significant removal of other pollutants, such as phosphorus, was also achievable. Although nutrient removal efficiency varies with site conditions, well-designed wet ponds and constructed wetland treatment systems are effective in removing sediment and associated pollutants, such as trace metals, nutrients and hydrocarbons. Storm water basins also remove or treat oxygen-demanding substances, bacteria and dissolved nutrients.

Based on current climate trends in Minnesota, it is anticipated that there will be an increase in the frequency and intensity of heavy rainfall events. This means that the state is likely to experience more frequent and more intense rainstorms than in the past. Additionally, there is expected to be an increase in overall precipitation amount, particularly in the winter and spring months. Climate models suggest that Minnesota's climate will become warmer and wetter over time, with increased precipitation falling in the form of rain instead of snow. This could result in more flooding and erosion, as well as more frequent and severe droughts. These changes in precipitation patterns could also have impacts on stormwater infrastructure that is not designed to store, treat, and release more frequent and larger rain events. Bypassing or overflowing the stormwater management practices that are at capacity could cause localized flooding of streets and properties, as well as receiving waterbodies like the South Fork Crow River on the east border of the project area. Additional stormwater management requirements to account for changes in climate trends have not been codified into City of Delano ordinances. All proposed stormwater management practices will be designed to meet current ordinance requirements.

Storm water and Erosion Control BMPs

Because project construction will disturb more than one acre of land, the project proposer will be required to apply to the MPCA for coverage under the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) General Permit prior to initiating earthwork in the project area. The total number of acres proposed to be disturbed by the project is 74.61 acres. And following the Minnesota Stormwater Manual erosion prevention best practices, land disturbance will be done in phasing according to areas that can be effectively inspected and maintained to ensure integrity and effectiveness. Phase 1 grading will disturb up to 40.51 acres and phase 2 grading will disturb up to 34.1 acres. BMPs will be employed during construction to reduce erosion and sediment loading of storm water runoff. Inspection of BMPs will be required after each rainfall exceeding 0.5 inches in 24 hours, and on a routine basis every 7 days. The NPDES permit will also require perimeter sediment control

maintenance and sediment removal. BMPs to be implemented during construction include:

1. Construction of temporary sediment basins in the locations proposed for storm water ponding, and development of these basins for permanent use following construction.
2. Installation of silt fence and other perimeter erosion controls prior to initiation of earthwork and maintenance of these controls until viable turf or ground cover is established on exposed areas.
3. Periodic street cleaning and installation of a rock construction entrance to reduce tracking of dirt onto public streets.
4. Stabilization of exposed soils within the time limits specified in the General NPDES permit.
5. Energy dissipation, such as riprap, installed at storm sewer outfalls.
6. Use of cover crops, native seed mixes, sod, and landscaping to stabilize exposed surface soils after final grading.
7. Establishment and revegetation of wetland buffer around the existing wetlands to filter storm water runoff before it enters the wetlands.

Erosion control plans will be reviewed and accepted by the City of Delano to the start of project construction. Potential adverse effects from construction-related sediment and erosion on water quality will be minimized by implementation of the above BMPs during and after construction.

The South Fork Crow River is not designated as special (prohibited, restricted, or outstanding resource value) waters, but it is listed as an impaired water and additional BMPs are required for water quality protection, as discussed in **12.a.i** above.

- iii. *Water appropriation - Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Discuss how the proposed water use is resilient in the event of changes in total precipitation, large precipitation events, drought, increased temperatures, variable surface water flows and elevations, and longer growing seasons. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation. Describe contingency plans should the appropriation volume increase beyond infrastructure capacity or water supply for the project diminish in quantity or quality, such as reuse of water, connections with another water source, or emergency connections.*

Surface/Groundwater Appropriations and Dewatering

Project construction may require temporary dewatering and groundwater appropriation to facilitate installation of roads, sewer and water utilities, foundations, and for the excavation of storm water management BMPs. The project will not involve installation

of new water wells. Project construction will require a MN DNR water appropriation permit if dewatering required for installation of utilities exceeds 10,000 gallons/day or 1 million gallons/year. The extent and duration of temporary construction dewatering needed is currently unknown. Construction dewatering may be unnecessary. Groundwater appropriated for construction dewatering will be discharged to temporary sediment basins within the project area. It is not anticipated that construction dewatering will be extensive or continue long enough to affect nearby domestic water wells.

Well Abandonment

The project area includes two existing registered wells according to the Minnesota Well Index. To mitigate the potential for groundwater contamination, registered wells identified, and unregistered wells if found, will be sealed and abandoned in compliance with Minnesota Department of Health regulations prior to development on respective parts of the project area. Well abandonment is expected to help mitigate the potential for groundwater contamination.

Connection to a Public Water Supply

The project will be connected to the City of Delano municipal water supply. The City's water is currently supplied by 4 wells drawing from the Quaternary Buried Artesian aquifer. These 4 municipal wells have a permitted capacity to pump a total of 220 million gallons of water per year (MGY) based on Minnesota DNR water use data (**Table 18**).

Table 18: City of Delano Municipal Water Appropriation Permits

Permit No.	Well Number	Annual Permitted Volume (MGY)	Annual Average Use 2013-2018 (MGY)	Annual Maximum Use 2013-2018 (MGY)
1980-3106	1	220	25.5	39.1
1980-3106	2		44.7	55.3
1980-3106	3		25.0	48.3
1980-3106	4		95.3	125.1
Total			190.5	267.9

During 2013-2018, these wells used a combined annual average of 190.5 MGY, indicating an average available unused permitted volume of 29.5 MGY. Based on past use and permitted capacity, the existing municipal wells have sufficient surplus capacity to serve the proposed project. A water main connection will be extended from the south end of the project area at Ebersole Avenue to serve the project area properties to the north and west. Water flow, pressure, and storage will be adequate to serve the project area. As indicated under **Item 11.a.ii**, the project area is not in a wellhead protection area.

Climate change trends may result in local and regional surface-water/groundwater interactions that create long-term uncertainty related to surface water and groundwater levels. This may create risk of conditions that reduce or inhibit surface-water and groundwater supply availability, quality and quantity.

The City of Delano municipal water supply has a written goal in the 2030 comprehensive plan to identify and address utility system improvements and anticipated demands. Which may include studying how water use demand can be met with diversified sources of water to reduce short-term and long-term risks. And how water use demand may be reduced through conservation and efficiency programs.

The City of Delano water appropriations permit includes contingency plans for diminished water supply which includes restricting water use for irrigation during times of short water supply. If climate change causes reductions in groundwater availability for the City and this project, further water restrictions and investigation into drawing surface water from the South Fork Crow river may be required.

iv. *Surface Waters*

a) *Wetlands - Describe any anticipated physical effects or alterations to wetland features such as draining, filling, permanent inundation, dredging and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed and identify those probable locations.*

The project is estimated to include 0.79 acres of wetland impacts as shown on the preliminary wetland impact and buffer plans (**Appendix C**). Proposed impacts will primarily consist of wetland 1 on the Running parcel, wetland 1 on the Otto property, and portions of wetland 4 on the Rutherford parcel. The project proposer will be required to demonstrate wetland impact avoidance and minimization measures by preparing a wetland permit application and responding to agency comments during the permitting process.

The project proposer will be required to replace wetland impacts at appropriate ratios through the purchase of approved wetland credits from available wetland banks. Wetland replacement is most likely to occur offsite at available wetland banks because wetland banking allows for use of wetland credits that are created and functioning prior to wetland impacts. Under the WCA and CWA, it is anticipated that required wetland credits will come from banks located in the same Wetland Bank Service Area, and potentially within the same Major Watershed as the wetland impacts. Ultimately, the wetland credits that may be purchased for compensatory mitigation will depend upon the credit balances available for sale at the time when wetland replacement occurs.

The project proposer will be required to implement BMPs or other management practices that help reduce and eliminate wetland impacts over time. Project proposers and construction contractors will choose storm water practices appropriate for the project area and install practices according to permit guidelines. Storm water treatment basins will be designed to treat runoff from impervious surfaces and help maintain the hydrology of avoided wetlands either through discharge of treated surface runoff or infiltration. Buffers will be provided around avoided wetlands, which will preserve wetland functions and values over time.

- b) *Other surface waters- Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.*

The proposed project is not expected to affect any other surface water features such as lakes, streams, ponds, intermittent channels, or county/judicial ditches.

13. Contamination/Hazardous Materials/Wastes:

- a. *Pre-project site conditions - Describe existing contamination or potential environmental hazards on or in close proximity to the project site such as soil or ground water contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.*

Carlson McCain, Inc. completed a Phase I Environmental Site Assessment (ESA) for the three parcels contained in the project area located at 4450 65th St SE (the Rutherford Property), 4545 65th St SE (the Otto Property), and 6800 Ebersole Ave SE (the Running Property) in the City of Delano, Minnesota. The Phase I ESA revealed two "recognized environmental conditions" (RECs), one Historical recognized environmental condition (HRECs), several areas of surficial debris and numerous buildings on the property that may contain asbestos (**Appendix D**).

Two RECs were found in the project area. The placement of unregulated fill material on the northwest corner of the Rutherford property and the placement of fill soil to restore a former sand/gravel mining operation on the Otto property. Both fill areas were considered as RECs since the source of fill material is unknown and it is possible it could contain contamination.

The former Tapio feedlot located on the Running parcel, and associated pollution and violations, are considered an HREC since they were resolved to the satisfaction of the regulatory agency (MPCA).

Several areas of surficial debris were identified on the Otto and Rutherford Properties including items such as appliances, wire, concrete, metal cans/drums, scrap metal, and miscellaneous garbage. These items are not necessarily a REC but should be cleaned up prior to redevelopment of the project area.

Reconnaissance of the project area did identify numerous buildings on the Property that may contain asbestos, and other regulated wastes. Therefore, an Asbestos and Regulated Waste Assessment should be completed prior to any building demolition, in accordance with MPCA guidance document W-SW4-07. The Minnesota Pollution Control Agency's (MPCA) demolition requirements apply to all structures in Minnesota, including residential, agricultural, governmental, commercial, and industrial structures. Hazardous and other problem wastes must be removed from a structure before it is demolished, and the removed wastes must be managed properly through recycling or disposal. Common wastes that must be removed and disposed before building demolition include appliances, asbestos, electronics, thermostats, chemicals, paints, lead-containing items, lighting components, oils, refrigerants, fire extinguishing equipment, solid wastes, and other wastes not accepted at a disposal facility.

A limited Phase II investigation report was completed by Carlson McCain for the area of unregulated fill on the Otto property (**Appendix D**). Nine soil and one groundwater samples were collected and analyzed for volatile organic compounds (VOCs), diesel range organics (DRO), gasoline range organics (GRO), Resource Conservation and Recovery Act (RCRA) metals, and/or polynuclear aromatic hydrocarbons (PAHs). Other than a low-level, naturally-occurring concentration of barium, there were no impacts identified in the groundwater. Low level DRO and PAH impacts were identified in the soil samples, however, all detections fell below their respective screening limits. The investigation report recommended that no further investigation was required but did recommend the project proposer create a Development Response Action Plan to ensure the impacted soil (and any additional environmental concerns uncovered during development) were properly managed in the future.

A limited Phase II investigation report was completed by Carlson McCain for the area of historic stockpiled fill placed on the Rutherford property (**Appendix D**). Surficial soil samples were taken from three soil mounds and one soil boring was completed to investigate geotechnical suitability and enable the collection of a groundwater sample. Measurable groundwater was not encountered so a deeper soil sample was collected. The four soil samples were collected and analyzed for volatile organic compounds (VOCs), diesel range organics (DRO), gasoline range organics (GRO), Resource Conservation and Recovery Act (RCRA) metals, and/or polynuclear aromatic hydrocarbons (PAHs). DRO was detected in one soil sample at a level above laboratory reporting limits, but it was well below the MPCA screening limit. PAHs were detected in two soil samples, but all detections fell below MPCA screening limits. Arsenic, Barium, chromium, lead, and/or mercury were detected in each sample analyzed, however none of the detections exceeded their respective MPCA screening limits. There were no detections above the respective laboratory reporting limits for GRO or VOCs in any of the soil samples. The investigation report recommended that no further investigation was required. There were low

levels of PAH and DRO impacts identified in the soil, but those impacts are below residential standards.

A soil sampling investigation report was completed by Carlson McCain for the Tapio feedlot and associated pollution and violations Historical Recognized Environmental Condition (HREC) identified in the Phase I Environmental Site Assessment (ESA) on the Running property (**Appendix D**). Fourteen composite soil samples were collected for laboratory testing and the results were compared to Screening Limits developed by the Minnesota Department of Agriculture (MDA). Nitrogen was detected in one soil sample below the published values requiring remediation. Total Kjeldahl Nitrogen (TKN) was detected in three soil samples, all exceeding the published values requiring remediation. Carlson McCain is recommending additional sampling based on the results of this investigation, in an attempt to further define the horizontal and vertical extent of the area in which Total Kjeldahl Nitrogen exceeded its soil cleanup goals. Once the area of concern has been further defined, remediation options will be presented to address these impacts.

A subsequent, supplemental soil sampling investigation report was completed by Carlson McCain on July 19, 2022, for the Tapio feedlot and associated pollution and violations Historical Recognized Environmental Conditions (HREC) identified in the Phase I Environmental Site Assessment (ESA) on the Running property (**Appendix D**). Carlson McCain collected 43 soil samples and submitted them to Pace for chemical analysis of Total Kjeldahl Nitrogen (TKN). Total Kjeldahl Nitrogen (TKN) levels that exceeded the published values requiring remediation were detected in 33 of the 43 soil samples taken from the upper 2.5 feet of soil. All 43 samples were mapped to show the horizontal extent of sample locations in which TKN exceeded the published values requiring remediation. Based on the collected soil samples, the horizontal extent of TKN impacts is not fully defined. Additional deeper samples were taken from the depth of 2 – 2.5 feet below ground surface at known hotspot locations to map the vertical extent of contamination. All concentrations of the deeper soil samples were below the published values requiring remediation, defining the vertical extent of contamination to the upper two feet of soil in the contamination area. Based on the results of the Investigation, Carlson McCain recommended remediation of the impacted soil in preparation of residential redevelopment of the project area. A common remediation practice is likely to consist of excavation and land application of the impacted soil in a nearby field. Additional sampling of the area of concern to define the horizontal extent and further narrow the vertical extent is also recommended to reduce remediation costs.

What's in My Neighborhood

Review of MPCA and Minnesota Department of Agriculture (MDA) "What's in My Neighborhood" (WIMN) interactive website shows one inactive feedlot on the Running parcel in the project area. The Daniel Tapio Farm feedlot registration was last updated on 11/25/2020.

Two hazardous waste generator sites were indicated on properties west of the project area (**Table 19**). Both of these sites are currently listed with an inactive status and are within 0.5 mile of the project area (**Figure 14**).

Table 19: Hazardous Waste Generators 0.5 Miles of the Project Area

Site ID	Name	Activities	MPCA ID	Status
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37416	Anchor Marine Repair	Hazardous Waste Generator	MNR000076349	Inactive
58778	Leone Landscape	Hazardous Waste Generator	MNR000102343	Inactive

- b. *Project related generation/storage of solid wastes - Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.*

Neither the construction process nor the proposed residential development is expected to generate substantial solid or hazardous wastes, solid animal manure, sludge, or ash. Construction contractors will be required to dispose of wastes generated at the project area during construction using approved methods and facilities. Contractors will be expected to minimize and mitigate adverse effects from solid waste generation and storage by recycling construction waste to the degree practicable. Brush and tree waste generated by construction will likely be chipped or otherwise disposed of offsite rather than burned on site.

The City of Delano contracts with Randy's Environmental Services, a Republic Services Company, for weekly, curb-side collection of solid waste, recycling, organics recycling, and yard waste for all residential properties connected to municipal water system. Solid waste generated in the City of Delano that is not recycled or hazardous is trucked to a nearby landfill such as the Elk River or Spruce Ridge Landfill.

Once constructed, the project will generate wastes typical of residential development operations. Most solid waste is expected to include organics, paper, other waste, and plastic (**Table 20**).

Table 20. Estimated Solid Waste Composition

Waste Type	Estimated %
Organic	31
Paper	24.5
Other	18.3
Plastic	17.9
Hazardous	0.4
Metal	4.5
Glass	2.2
Electronics	1.2
Total	100

Source: 2013 Statewide Waste Characterization (Burns & McDonnell for MPCA 2013).

- c. *Project related use/storage of hazardous materials - Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location and size of any new above or below ground tanks to store petroleum or other materials. Indicate the number, location, size and age of existing tanks on the property that the project will use. Discuss potential environmental effects from accidental spill or release of hazardous materials. Identify measures to avoid, minimize or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.*

Development of the project area is not expected to generate or require storage of substantial amounts of hazardous wastes or materials. Future residential development is expected to result in the storage or generation of small amounts of typical household cleaners, paints, lubricants, and small engine fuels over time. Petroleum storage tanks and commercial petroleum-based businesses are not proposed in the project area. The project may include temporary storage of fuel for construction equipment, which will be conducted in accordance with local and state regulations.

- d. *Project related generation/storage of hazardous wastes - Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of hazardous waste including source reduction and recycling.*

Normal construction and household hazardous wastes are anticipated. Toxic or hazardous materials such as fuel for construction equipment and materials used in the construction of homes (paint, adhesives, stains, contaminated rags, acids, bases, herbicides, and pesticides) will likely be used during site preparation and home construction. Spills of these materials are not likely to occur, but a substantial spill could require notification of the Minnesota Duty Officer. Contractors and builders will be responsible for proper management and disposal of wastes generated during construction. Homeowners will be responsible for management and disposal of hazardous waste thereafter. Homeowners will be able to dispose of household hazardous waste at Randy's Environmental Services Delano public drop site location.

14. Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources (Rare Features):

- a. *Describe fish and wildlife resources as well as habitats and vegetation on or near the site.*

Fish and wildlife resources on and near the project area are related to the composition, quality, size, and connectivity of plant communities such as cultivated cropland, wetlands, woodlands, grasslands and riverbanks. Vegetative cover types on the project area were mapped based on aerial photography and site observations made during the wetland delineation and field reviews (**Figure 7**). The project area is primarily cropland, forest, brush and grassland, with a lesser amount of wetland. Habitats in the project area are likely used by wildlife adapted to agricultural and suburban environments, such as white-tailed deer, songbirds, small mammals, reptiles, and amphibians.

The project area falls in the Big Woods Ecological Subsection of the Eastern Broadleaf Forest Province according to the MN DNR Ecological Classification System and the Big Woods of the

Alexandria Moraines and Detroit Lakes Outwash Plain Level IV Ecoregion of the U.S. EPA. This area consists of a flat, loamy plain and sandy sloping riverbank along the South Fork Crow River. Land use and vegetative community types in the area include row crops, small grains, suburban development, wetlands, woodlands, and floodplain.

Much of the project area has reduced wildlife habitat value because it was converted to annually tilled agricultural land for years. Cropland on the Rutherford and Running parcels consisted of corn during field surveys in 2021. Cropland on the Otto parcel had not been planted yet during the field survey in spring of 2022.

A tree survey and inventory was completed for the project area by Midwest Natural Resources Inc. (MNR) in May 2022 to assess the quantity and quality of woodland on the project area and identify any specimen trees present. The survey tagged 1,339 individual trees and estimated the additional trees located in the floodplain and two evergreen plantation areas (**Appendix G**).

- b. *Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-____) and/or correspondence number (MCE__) from which the data were obtained and attach the Natural Heritage Review letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.*

A Natural Heritage Review was completed through the MN DNR's Minnesota Conservation Explorer online tool to assess the projects potential to affect rare features. An NHIS response letter (MCE # 2022-00303, dated May 3, 2022) was provided (**Appendix F**) stating that it is not believed that the proposed project will negatively affect any known occurrences of rare features. The results of the review expired on May 3, 2023, prior to the completion of this draft Environmental Assessment Worksheet (EAW). MN DNR staff recommended a new project review be submitted in correspondence with them on how to proceed. They also said that if the response letter indicated a manual review was required, that they would move the review to the front of the line to assist in moving the EAW process forward. The new Natural Heritage project review was submitted, and a new NHIS response letter (MCE # 2023-00365, dated May 9, 2023) was provided (**Appendix F**). The response letter did indicate that one or more rare features may be impacted by the proposed project and further manual review by the Natural Heritage Review Team is needed. A copy of the letter was sent to the DNR so that they could move the review to the front of the line. Results of the manual review were not available before the publication of the EAW for public comment but will be included in the drafted response to comments received.

A comment was provided in the original 2022 NHIS letter regarding bats. Even though there are no known roost trees or hibernacula in the project area, the available information is not exhaustive. All seven of Minnesota's bat species, including the federally threatened northern long-eared bat (*Myotis septentrionalis*), can be found throughout Minnesota. Tree removal can negatively impact bats by destroying roosting habitat, especially during the pup rearing season when females are forming maternity roosting colonies and the pups cannot yet fly. To minimize these impacts, the MN DNR recommends that tree removal be avoided during the months of June and July.

As directed by both automated NHIS review letters, a review of the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) website with a polygon encompassing the project area was completed on May 11, 2023 to conduct a federal regulatory review and ensure compliance with federal law. The IPaC generated species list letter (**Appendix F**) identified the following threatened, endangered, or candidate species (**Table 21**) that may potentially be affected by activities at the project location. The IPaC generated species list letter (**Appendix F**) noted that there are no critical habitats at this location.

Table 21: USFWS IPaC Listed Species

Common Name	Scientific Name	Status
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Endangered
Tricolored Bat	<i>Perimyotis subflavus</i>	Proposed Endangered
Whooping Crane	<i>Grus americana</i>	Experimental Population, Non-essential
Monarch Butterfly	<i>Danaus plexippus</i>	Candidate

The USFWS listed the northern long-eared bat (*Myotis septentrionalis*) as federally threatened on May 4, 2015, and reclassified the northern long-eared bat from threatened to endangered under the Endangered Species Act on March 31, 2023. The northern long-eared bat hibernates in caves during winter and establishes maternity roosting colonies under the loose bark of trees during the summer. The project area is not known to include caves and includes limited tree cover upland and more concentrated tree cover along the South Fork Crow River riverbanks and floodplain that fall within the shoreland overlay and will be preserved during construction of the proposed project. As of June 7, 2021, MN DNR data showed no documented maternity roost trees or hibernacula entrances of the northern long-eared bat in the project vicinity.

The USFWS proposed to list the tricolored bat as endangered on September 13, 2022. Tricolored bats hibernate in caves, mines, and tunnels, often in the same sites as large populations of other bats. The USFWS [Environmental Conservation Online System](#) (ECOS) website lists Wright County, MN as a US County in which the Tricolored bat is known to or is believed to occur. In Minnesota the tricolored bat has been found to occur regularly, although in low numbers, in caves and mines in the southeastern part of the state. No maternity colony has yet been found in the state. In the summer, tricolored bats generally roost singly, often in trees, but some males and non-reproductive females also roost in their winter hibernaculum (Carter et al. 1999). Maternity colonies have not yet been located in Minnesota, but elsewhere they have been found in trees, rock crevices, and barns or other buildings (Whitaker 1998). Tricolored bats forage early in the evening mainly over water and tend to avoid deep woods or open fields. The project area is not known to include caves and includes limited tree cover upland and more concentrated tree cover along the South Fork Crow River riverbanks and floodplain that fall within the shoreland overlay and will be preserved during construction of the proposed project.

The U.S. Fish and Wildlife Service (USFWS) listed the whooping crane (*Grus americana*) as endangered on March 11, 1967 wherever found, except where listed as an experimental population. On June 26, 2001 Minnesota was listed as an experimental population, non-essential. The whooping crane occurs only in North America and there is only one self-sustaining wild population, the Aransas-Wood Buffalo National Park population, which nests in Wood Buffalo National Park and adjacent areas in Canada, and winters in coastal marshes in Texas at

Aransas. In addition, there is a small captive-raised, non-migratory population in central Florida, and a small migratory population of individuals introduced beginning in 2001 that migrate between Wisconsin and Florida in an eastern migratory population. The whooping crane breeds, migrates, winters, and forages in a variety of wetland and other habitats, including coastal marshes and estuaries, inland marshes, lakes, ponds, wet meadows and rivers, and agricultural fields. Bulrush is the dominant vegetation type in the potholes used for nesting, although cattail, sedge, musk-grass, and other aquatic plants are common. Nest sites are primarily located in shallow diatom ponds that contain bulrush. During migration, whooping cranes use a variety of habitats; however wetland mosaics appear to be the most suitable. For feeding, whooping cranes primarily use shallow, seasonally and semi permanently flooded palustrine wetlands and various cropland and emergent wetlands for roosting.

The USFWS considers the monarch butterfly as a candidate species under consideration for official listing, but not yet listed or proposed for listing. During the breeding season, when Monarch butterflies are typically present in Minnesota, the butterflies lay their eggs on their obligate milkweed host plant (primarily *Asclepias* spp.). In the fall monarchs begin migrating to their respective overwintering sites.

A review of the USFWS Rusty Patched Bumble Bee Map indicates the project area falls within a Low Potential Zone. This means that the rusty patched bumble bee is not likely to be present in the project area. Most habitats suitable for rusty patched bumble bees in the Upper Midwest have been converted by agriculture or other land uses. Rusty patched bumble bees need areas that provide nectar and pollen from flowers, nesting sites (underground and abandoned rodent cavities or clumps of grasses), and overwintering sites for hibernating queens (undisturbed soil). Site reviews have not identified native prairie plantings or diverse areas of native wildflowers in the project area, indicating a lack of existing highly suitable bumble bee habitat. However, the following project measures will be implemented to minimize potential impacts:

- Restoring outlot areas with native prairie seed mixes as required by City ordinance.
- Preserving trees along the South Fork Crow River riverbanks and floodplain that fall within the shoreland overlay.

The tree survey by Midwest Natural Resources Inc. (MNR) located 9 individual Butternut trees (*Juglans cinerea*) within the south project area. Butternut trees are listed as state-endangered species by the Minnesota DNR because of the spread of a lethal fungal disease known as butternut canker. The surveyors' notes for the butternut trees are included (**Table 22**) and detail each tree's condition. Two of the trees were found to be dead. Six more of the trees had cankers and are exhibiting dieback. Only one tree appeared to be alive and canker free. There is no known treatment or control for butternut canker, and few if any trees are immune.

Table 22: Summary of Observed Butternut Trees

DBH	Common Name	Scientific Name	Notes
20	Butternut	<i>Juglans cinerea</i>	Cankers present, 40% top dieback
7	Butternut	<i>Juglans cinerea</i>	Tree is dead
10	Butternut	<i>Juglans cinerea</i>	Cankers present, top dieback
10	Butternut	<i>Juglans cinerea</i>	Cankers present, top dieback
17	Butternut	<i>Juglans cinerea</i>	Cankers present, top dieback
12	Butternut	<i>Juglans cinerea</i>	Full of cankers present, 60% dead
15	Butternut	<i>Juglans cinerea</i>	Appears canker-free
9	Butternut	<i>Juglans cinerea</i>	Full of cankers along lower 15' of trunk
6	Butternut	<i>Juglans cinerea</i>	Tree is dead

To date, butternut canker has spread throughout the state of Minnesota, and throughout the North American range of *Juglans cinerea*. The species was listed in Minnesota as a special concern in 1996 and was elevated to endangered in 2013 when it became clear that butternut canker will eventually result in the demise of this species.

- c. *Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project including how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.*

Project development is expected to convert approximately 58.5 acres of crop land and 0.72 acres of wetland to roads, houses, driveways, landscaping, and storm water features. The balance of the project area will include about 7.9 acres of tree avoidance, 9.46 acres of wetland preservation and dedication of approximately 2.6 acres of greenspace to the City of Delano.

The project may affect the number and type of wildlife species in the area but changes in wildlife abundance are not expected to be regionally significant. The existing cropland and woodland provide wildlife food and cover. Some wildlife species that depend on agricultural cropland and woodland will be displaced by the project. The project will likely have short-term negative effects and long-term positive effects on species adapted to suburban habitats. Non-migratory species with small home ranges, like small mammals, may experience adverse effects such as displacement and mortality during project construction.

The project is unlikely to adversely affect monarch butterflies that may occur in the area as the habitat in the project area is generally unsuitable. These insects prefer fields and parks where milkweed and native flowering plants are common. The existing grass vegetation in the project area is dominated by low-diversity, non-native brome and reed canary grass.

The project is unlikely to adversely affect whooping crane that may nest, roost, feed or migrate through the area. Whooping crane are a rare occurrence in Minnesota and the existing wetland habitat in the project area is generally unsuitable. These birds prefer shallow ponds for nesting, and for migration they prefer wetland mosaics, or a concentration of multiple small wetlands less than an acre in size and less than 100 feet from each other. The existing wetlands onsite are

mostly seasonally flooded basins, wet meadows, or shallow marshes without open water, and are too few and far apart to be considered a mosaic.

Nest sites are primarily located in shallow diatom ponds that contain bulrush. During migration, whooping cranes use a variety of habitats; however wetland mosaics appear to be the most suitable. For feeding, whooping cranes primarily use shallow, seasonally and semi permanently flooded palustrine wetlands and various cropland and emergent wetlands for roosting.

The project involves removal of 11.89 acres of woodland that may provide suitable roosting habitat for northern long-eared and tricolor bat. Tree clearing and removal for all three parcels in the project area will occur during the winter months, prior to March 31, to minimize impacts to both bat species while they are hibernating below ground in caves, mines, or tunnels. Neither the federally endangered northern long-eared bat, nor the federally proposed endangered tricolor bat, have been documented in the project area. The majority of the construction area is cropland devoid of potential mature trees and woodland habitat and 7.85 acres of existing woodland along the banks and floodplain of the South Fork Crow River will be preserved as potential roosting habitat for both bat species.

Two determination keys were applicable and completed for the project through the USFWS Information for Planning and Consultation (IPaC) system on May 11, 2023 – the Minnesota-Wisconsin Endangered Species Determination Key, and the Northern Long-eared Bat Rangewide Determination Key.

A no-effect determination was made for the monarch butterfly, tricolor bat and whooping crane species based on project information and answers provided with the assistance of the USFWS Minnesota-Wisconsin Determination Key. The consistency letter for the project through the Minnesota-Wisconsin Determination Key is attached (**Appendix F**). It was noted in the consistency letter that the Northern Long-eared Bat species may also occur in the project area and is not covered by the Minnesota-Wisconsin Determination Key.

The project was reviewed through the USFWS Northern Long-eared Bat Rangewide Determination Key which determined that the Project is consistent with a “may affect, but not likely to adversely affect” determination. Based on this determination, the project is not reasonably certain to cause incidental take of the northern long-eared bat. The consistency letter for the project through the Northern Long-eared Bat Rangewide Determination Key is attached (**Appendix F**). It was noted in the consistency letter that the USFWS has 15 days from the date of this letter to review if the determination was correct or not. If USFWS does not make contact, the attached consistency letter verifies that the project is not likely to result in unauthorized take of the northern long-eared bat.

Most of the woodland proposed for removal with implementation of the project will occur upland of the South Fork Crow riverbanks and floodplain. With the trees on the South Fork Crow riverbanks and floodplain being preserved. The state-endangered butternut tree species may be removed as required for grading of the project area. The project proposer has submitted a MN DNR take permit application on March 13, 2023 demonstrating impact avoidance, minimization, and mitigation measures. No response or agency comments on the permit application have been received before distribution of this EAW document for public review and comment.

Project construction could be expected to slightly increase the potential for spread of invasive and weedy species as much of the project area has been dominated with reed canary grass for decades. BMPs to mitigate the spread of invasive species may include the cleaning of construction equipment before transport, which might reduce the potential spread of invasive species.

Current Minnesota climate trends and anticipated climate change in the general location of the project may cause changes in vegetation composition due to changes in precipitation frequency and amounts and increases in temperature. These changes are separate from proposed project effects but could compound to change habitat suitability for wildlife species found in and near the project area.

- d. *Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to fish, wildlife, plant communities, and sensitive ecological resources.*

Measures to minimize and mitigate adverse effects on wildlife include 9.94 acres of wetland avoidance, preservation of 2.4 acres of trees on the South Fork Crow riverbanks (approximately 160 to 200 significant trees) and floodplain (approximately 160 to 200 significant trees), and creation of 6.8 acres of storm water basins. Additional measures to mitigate potential effects to monarch butterfly include considering the revegetation of disturbed areas, storm water ponds and landscape areas that are not turf grass with native grassland prairie and wildflower seed mixes.

The project proposer will be required to demonstrate butternut tree avoidance, minimization and reparative measures as the project grading plans are finalized. Butternut trees located on the edges of the grading limits and property boundaries may be avoidable from disturbance or removal. Butternut trees within the limits of grading will be removed and mitigated for as required in the take permit application and approval process.

15. Historic Properties:

Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.

A phase I archaeological survey was completed by Nienow Cultural Consultants, LLC on May 9, 2022. A desktop literature review of the project area on April 28, 2022 found no known archaeological sites previously recorded within the project area. Sixteen formally recorded archaeological sites were identified within two miles of the project area, along with two alpha sites. Alpha sites are potential site leads identified via literature or mapping resources. The two Alpha sites identified in the literature review have not been field-verified through archaeological survey. SHPO records contained no previously recorded architectural sites within the project area.

Fieldwork was completed May 4-5, 2022 and consisted of surface survey of all cultivated fields and shovel testing along the terrace overlooking the South Fork Crow River. A single retouched

prehistoric lithic flake was observed and collected during the surface survey. A single prehistoric lithic flake was noted in one of the shovel tests. Bracket shovel tests were completed surrounding the positive test and all brackets were negative for cultural materials. The collected flakes were reported to the Office of the Minnesota State Archaeologist as two separate sites and received site numbers 21WR0224 (surface find) and 21WR0225 (shovel test find). These sites were not considered eligible for the National Register of Historic Places. Based on those findings, Nienow Cultural Consultants recommended no further archaeological work be completed.

The phase I archaeological survey concluded:

With any project there is the chance of unanticipated discovery. Should archaeological materials surface during any future construction, it is advised a professional archaeologist be consulted. Minnesota Statute 307.08 protects unplatted cemeteries (including burial mounds) and issues guidelines for dealing with unexpected finds. Should human remains be encountered during earth moving activity, all work must stop, and local law enforcement must be called.

16. Visual:

Describe any scenic views or vistas on or near the project site. Describe any project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.

The project primarily entails conversion of farm field to a single-family residential development, with smaller areas of wetland conversion and 11.89 acres of woodland removal. Tree removal will occur [on](#) the northern half of the Running Parcel, the southwest corner of the Otto parcel, and along the west-central and southeastern areas of the Rutherford parcel. Substantial effects on visual resources are not anticipated in conjunction with project development, as the main visual effect will be the transition of views of the project area from mostly open agricultural land to residential development. Tree plantings along the new roads and residential lots will distribute trees throughout the entire development to help mitigate tree removal effects from the project. Two highpoints occur in the project area on the southeast corner of the Rutherford parcel and the north third of the Otto parcel. These hills and a terrace above the riverbanks of the South Fork Crow River offer views of the surrounding area and the river valley. The project will try to maintain these elevated views out of the project area for the future residential properties. The project will include landscape buffer plantings along the edges of the project area that neighbor differing land uses, as required by the City of Delano's ordinances, to mitigate potential changes in the viewshed looking into the project area. Preservation of 7.85 acres of trees on the riverbanks and floodplain of the South Fork Crow River will buffer views of the development from the river and the City of Delano's Cramer Park east of the project.

The project will not involve installation of intense lights that would cause glare, nor will it include industries that would emit vapor plumes.

17. Air:

- a. *Stationary source emissions - Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used to assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.*

The proposed project does not include heavy industrial facilities, but the project will still involve some stationary source air emissions. New residences are expected to include heating and cooling systems operated by natural gas and electricity, which will result in direct or indirect sources of stationary greenhouse gas (GHG) emissions. Emissions from heating and cooling systems are expected to be similar to those from other homes in the surrounding area. Greenhouse Gas (GHG) Emissions are listed under **Item 18** below.

The project does not include air quality monitoring or modeling.

- b. *Vehicle emissions - Describe the effect of the project's traffic generation on air emissions. Discuss the project's vehicle-related emissions effect on air quality. Identify measures (e.g. traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.*

The proposed project will generate increased traffic in the area as detailed in **Item 20** below, which will result in a relatively small corresponding increase in carbon monoxide, carbon dioxide and other vehicle-related air emissions. GHG emissions related to traffic and transportation during the construction phase of the development and the homeowner annual operation phase are listed under **Item 18** below.

- c. *Dust and odors - Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under item 17a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.*

The project is not expected to generate dust or odors at levels considered unusual for suburban development construction practices. Dust and odors produced during construction is expected to be consistent with applicable regulations of the MPCA and local governments. Dust and odor levels are expected to be slightly higher during project construction than post-construction.

The construction process is expected to generate some fugitive dust, but dust is not expected to be generated in objectionable quantities. The dust receptors near the project area include the rural residential homes east of Rutherford and Otto parcels. There are some commercial properties along the southwest corner of the Running parcel that may receive dust if the wind comes out of the east, but the prevailing winds in this area generally come from the west. Odors routinely generated during construction will be typical of those associated with construction activity, such as exhaust from diesel and gasoline powered construction equipment.

Consideration will be given to suppression of airborne dust by application of water if fugitive dust generation during site grading exceeds levels typically expected during normal construction practices. Should water for dust control be taken from a lake, wetland, river or stream in volumes that exceed 10,000 gallons of water in a single day, then a DNR Water Appropriation Permit will be secured for the taking of the water. Products containing chloride for dust control will be avoided in areas that drain to Public Waters.

18. Greenhouse Gas (GHG) Emissions/Carbon Footprint:

- a. *GHG Quantification: For all proposed projects, provide quantification and discussion of project GHG emissions. Include additional rows in the tables as necessary to provide project-specific emission sources. Describe the methods used to quantify emissions. If calculation methods are not readily available to quantify GHG emissions for a source, describe the process used to come to that conclusion and any GHG emission sources not included in the total calculation.*

Greenhouse gas (GHG) emissions commonly include carbon dioxide – CO₂, methane – CH₄, and nitrous oxide – N₂O. And GHG emissions are customarily quantified by converting individual gases into carbon dioxide equivalents (CO₂e) using global warming conversion factors to represent the global warming potential over 100 years, equivalent to one ton of CO₂ derived from fossil fuel.

GHG emissions are expected to result from:

1. Operation of petroleum fueled equipment during project construction;
2. Energy used to produce common building materials;
3. Combustion of natural gas used for heating homes;
4. Fossil fuels burned to generate electricity used at the project during construction and in homes;
5. Vehicle and air transportation related to project operation;
6. Transport, treatment, and storage of solid waste and wastewater produced on-site;
7. Loss of carbon sequestration due to conversion of natural vegetation to developed and paved surfaces; and
8. Refrigeration, air conditioning, and the related manufacturing, service, and leakage of equipment.

There are two phases for this project that need to be quantified, the construction phase of the development and the homeowner annual operation phase. For the construction phase the emissions are considered to be one-time, and reported in total tons of carbon dioxide equivalents. For the homeowner annual operation phase, the tons of carbon dioxide equivalents are reported annually and will continue every year during the operational life of the new homes.

For reporting on GHG emission for each phase, there are three types or scopes of emissions. Scope 1 emissions are direct emissions released directly from properties owned or under the control of the project proposer. This includes, for example, the use of mobile equipment during construction. Indirect emissions are known as Scope 2 or 3 emissions. Scope 2 emissions are emissions associated with the offsite generation of purchased electricity and/or steam. Scope 3 emissions are emissions from the offsite provision of waste management services, including land disposal (landfilling), recycling, and solid waste composting.

Quantification of the construction phase greenhouse gas emissions are summarized below (Table 23).

Table 23: Construction Greenhouse Gas Emissions

						Project-related CO ₂ -e Emissions (tons)	
Category	Scope	Project Phase	Type of Emission	Emissions Sub-type	GHG Emittent	Low Range	High Range
Direct Emissions	Scope 1 - Emissions	Construction	Combustion	Mobile Equipment Fossil Fuel Combustion	CO ₂	842.33	1,123.10
					N ₂ O	21.43	28.58
					CH ₄	1.94	2.59
	Scope 1 - Emissions	Construction	Combustion	Mobile Equipment nonfuel use of fossil fuels (lubricants, waxes, etc.)	CO ₂	44.10	58.80
					N ₂ O	0.11	0.15
					CH ₄	0.04	0.06
Indirect Emissions	Scope 2 - emissions	Construction	Home construction materials	Energy used to produce common building materials.	CO ₂	4,275.00	28,500.00
	Scope 3 - emissions	Construction	Off-site waste management	Solid waste landfilling	CH ₄	305.65	9,359.69
Atmospheric Releases of GHGs	Scope 1 - Emissions	Construction	Land-use conversion	Forestland converted to suburban uses	Biogenic CO ₂	214.86	214.86
	Scope 1 - Emissions	Construction	Land-use conversion	Grassland converted to suburban uses	Biogenic CO ₂	94.80	94.80
	Scope 1 - Emissions	Construction	Land-use conversion	All wetlands conversions	Biogenic CO ₂	0.19	0.19
						5,800.46	39,382.81

The simplified Intergovernmental Panel on Climate Change (IPCC) linear equations involving emission factors and activity factors were used for the quantification of Scope 1 combustion emissions during construction. An estimated 75,000 to 100,000 gallons of diesel fuel will be required for the mass grading of the project area. And it is estimated that lubricants will be required at a factor of 5% of the required fuel used.

The carbon footprint of home construction materials is estimated in a range of 15 to 100 tons of CO₂e per average home according to an MIT Climate Portal article published on December 9, 2022, answering how much CO₂ is emitted by building a new house. The article determined that the answer varies depending on the size of the home, materials used for construction and how

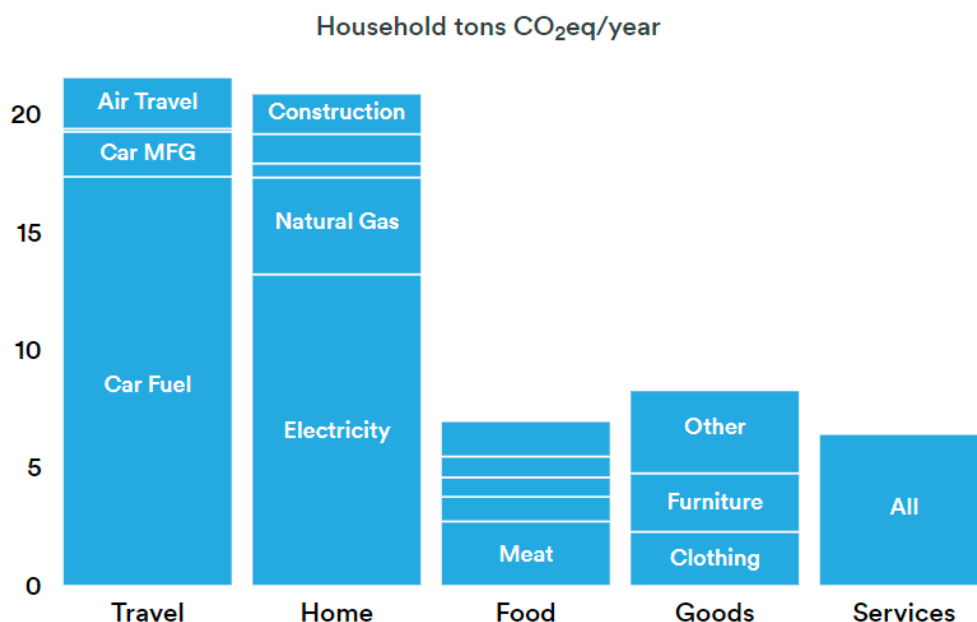
those materials are sourced. This range was multiplied by the number of proposed units being constructed by this proposed project.

Off-site, solid waste landfilling of residential construction debris is estimated to range from 2.41 lb/sq ft to 8.20 lb/sq ft based on a US EPA (2023) Inventory of U.S. Greenhouse Gas Emissions and Sinks from 1990-2021. In addition to the range of estimated waste, emission factors from Table 9 in the EPA's CCCL GHG Emission Factor hub listed a range of 0.02 to 0.18 Metric Tons CO₂e / Short Ton Material for typical construction materials. These ranges were multiplied by the total proposed square footage of residential buildings listed in **Table 1** above.

Conversion factors of 89.9 tons/acre for forestland converted to suburban land use, 15.8 tons/acre for grassland converted to suburban land use and 0.42 tons/acre of wetland conversion were used to determine biogenic CO₂ emissions from proposed land-use conversion during construction. These factors were based on a US EPA (2023) Inventory of U.S. Greenhouse Gas Emissions and Sinks from 1990-2021 and multiplied by the areas converted as listed in **Table 8** above.

Once the proposed development project construction is complete, new home buyers will become the operators in phase 2 of the GHG quantification. The average annual U.S. household carbon footprint for the Delano, MN zip code area 55328 according to the CoolClimate Maps tool is 67.2 tons of CO₂e/year. This estimate includes emissions from travel, home operations, food and goods consumed by the household, and other purchased services as shown (**Photo 1**). The services category includes health care, communications, medical, and vehicle services, along with charity, personal business and finance, and household maintenance and repairs.

Photo 1: Emissions Categories Included in Average Household tons CO₂e/Year Estimate Compared to Households of Similar Size and Income in Delano, MN.



The average annual U.S. household carbon footprint was multiplied by the total number of new proposed homes to be constructed by this project. Quantification of the operation phase greenhouse gas emissions are summarized below (**Table 24**).

Table 24: Operation Greenhouse Gas Emissions

Category	Scope	Project Phase	Type of Emission	Emissions Sub-type	GHG Emittent	Project-related CO ₂ -e Emissions (tons/year)
Direct Emissions	Scope 1 - Emissions	Operations	Combustion	Stationary Equipment Fossil Fuel Combustion	CO ₂	19,152
					N ₂ O	
					CH ₄	
	Scope 1 - Emissions	Operations	Combustion	Mobile Equipment & Travel Fossil Fuel Combustion	CO ₂	
					N ₂ O	
					CH ₄	
Indirect Emissions	Scope 2 - emissions	Operations	Off-site home energy production and delivery	Grid-based purchased electricity (emitted offsite at generation), purchased natural gas, and purchased municipal water.	CO ₂	
					N ₂ O	
					CH ₄	
	Scope 2 - emissions	Operations	Off-site food, goods and services production and delivery	Consumer purchased food, furniture, clothing, and services.	CO ₂	
					N ₂ O	
					CH ₄	
	Scope 3 - emissions	Operations	Off-site waste management	Solid waste landfilling	CH ₄	
	Scope 3 emissions	Operations	Off-site waste management	Wastewater treatment	N ₂ O	
					CH ₄	

19,152

b. GHG Assessment

i. Describe any mitigation considered to reduce the project's GHG emissions.

Mitigation and adaptation measures could help the project lessen the impacts of climate change and GHG emissions and should be considered when feasible. Such measures may include:

1. Use energy efficient building materials that reduce needs for home heating and cooling.
2. Install energy star appliances and programable thermostats (already assumed).
3. Install smart irrigation, or no irrigation at all, to reduce outdoor water use (many Minnesota lawns now stay green all summer long without irrigation).

4. Encourage residents to sign up for utility-sponsored renewable energy programs, such as renewable connect or windsourse.
5. Plant some turf areas with no-mow fine fescue mixes or native prairie/pollinator gardens to decrease mowing and increase carbon sequestration.
6. Consider rooftop solar, electric vehicle charging stations, and/or battery storage in new homes to make them more energy autonomous and EV-ready.

- ii. *Describe and quantify reductions from selected mitigation, if proposed to reduce the project's GHG emissions. Explain why the selected mitigation was preferred.*

No project specific mitigation is being proposed during the construction phase of the project. Individual homeowners that buy properties will assume the operations phase of the project and can individually consider additional measures to reduce their carbon footprint including:

1. Upgrade to energy star appliances and programable thermostats (already assumed).
2. Install smart irrigation, or no irrigation at all, to reduce outdoor water use (many Minnesota lawns now stay green all summer long without irrigation).
3. Sign up for utility-sponsored renewable energy programs, such as renewable connect or windsourse.
4. Purchase hybrid or electric vehicles to reduce commuting and travel emissions.
5. Consider contracting for enhanced materials recycling and organic composting.

- iii. *Quantify the proposed projects predicted net lifetime GHG emissions (total tons/#of years) and how those predicted emissions may affect achievement of the Minnesota Next Generation Energy Act goals and/or other more stringent state or local GHG reduction goals.*

The proposed projects predicted total lifetime GHG emissions ranges from 963,400 to 996,983 tons of CO₂e emissions. Assuming a 50-year lifecycle of single and multi-family homes. This was calculated by adding the low and high range of construction phase emissions to 50 times the annual operation phase estimate of emissions.

19. Noise:

Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area, 2) nearby sensitive receptors, 3) conformance to state noise standards, and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.

Existing Noise Levels

Existing local noise levels are consistent with the current rural residential agricultural land use of the project area and the Highway 12 transportation corridor and commercial/industrial land uses along the west border of the project area.

A noise study or evaluation was not completed for the preparation of this EAW. Following the MN DOT 2017 Traffic Noise Flowchart for EA-EAW, the project is not a Type I project and there are no noise sensitive receptors in the existing project area. Therefore no further analysis is necessary. A Type I project is defined as a proposed Federal or Federal-Aid highway project. A noise sensitive area is defined as a geographic area containing noise sensitive receptors who could be protected behind a single noise barrier, like a continuous neighborhood next to a highway.

Construction Noise

It is anticipated that local noise levels will temporarily increase for the duration of project construction which will vary following the phasing schedule described above. Noise levels are expected to be at or near existing levels after construction is complete. Noise levels on and adjacent to the project area will vary considerably during construction, depending on the amount of construction that occurs simultaneously, the time of operation, and the distance between construction equipment and receptors.

Noise receptors near the project area include the rural residential homes east of Rutherford and Otto parcels and the commercial properties along the southwest corner of the Running parcel. The residences and businesses near the project area will experience elevated noise levels at various times during construction compared to existing noise levels. Grading and excavation will require heavy equipment, such as scrapers, bulldozers, and other excavating equipment.

The project is expected to minimize disturbances caused by construction noise and conform to Minnesota noise rules and standards. These rules require noise to stay within specified levels depending on the land use and the time of day or night.

Noise generated by construction equipment and building construction will be limited to daylight hours when noise levels are commonly higher than at night. City of Delano ordinances required construction hours to be limited to 7am-7pm, Monday through Saturday. Contractors will be required to minimize noise impacts by maintaining equipment properly, including the use of mufflers and other noise controls as specified by manufacturers.

Operation (Homeowner) Noise

It is anticipated that local noise volume, or quantity, will slightly increase after project construction during the homeowner annual operation phase of the project due to the increased density of homes

in the project area and the resulting increase in traffic numbers. The proposed realignment and extension of Ebersole Ave SE through the project area will not increase vehicle speed limits and is unlikely to increase individual vehicle noise levels (decibels). Additional noises are expected to be generated by yard equipment, people, and pets consistent with residential suburban land use. Noise receptors near the project area are expected to be similar to those described in the construction phase of the project. Noise level restrictions will be required to comply with City ordinances and Minnesota Noise Standards.

20. Transportation:

- a. *Describe traffic-related aspects of project construction and operation. Include: 1) existing and proposed additional parking spaces, 2) estimated total average daily traffic generated, 3) estimated maximum peak hour traffic generated and time of occurrence, 4) indicate source of trip generation rates used in the estimates, and 5) availability of transit and/or other alternative transportation modes.*

S² Traffic Solutions, LLC (SSTS) completed a Traffic Analysis to estimate the trips generated by the proposed project and evaluate the potential need for transportation or roadway improvements. The complete Traffic Analysis is included (**Appendix G**).

Existing and Proposed Parking Spaces

The project area includes gravel driveways and parking areas dedicated to the existing rural homes. The proposed single-family residential development project will include paved internal roadways designed with two specific sections, local and collector. Both the local and collector street sections will provide parking on one side of the road. The proposed project includes approximately 9,000 linear feet of internal roads and would provide approximately 500 on-street, vehicle parking spaces within the project area. This does not include any of the parking that could occur on the private driveways of single-family and multi-family homes. A parking exhibit for the detached and multi-family townhomes is included (**Appendix G**) that shows 416 off-street, in-driveway parking spaces in addition to the on-street and in-garage parking provided.

Estimated Traffic Generation

SSTS prepared a Traffic Analysis for the proposed project that will include 183 single family homes and 102 townhome units. The existing conditions of the roadways and intersection providing direct access to the project area were documented. Figures 3 through 9 in the traffic study (**Appendix G**) show the existing lane geometry, traffic control, and existing, 2028 no-build, 2045 no-build, build, 2028 build, and 2045 build traffic volumes at the study intersections.

Trip generation was estimated using the methodology outlined in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition (2021). The proposed project is expected to generate about 2,486 vehicle trips per weekday. Within the PM peak hour, the project is expected to generate the maximum peak number of trips, consisting of 144 entering vehicles and 88 exiting vehicles (**Table 25**). The Traffic Analysis included (**Appendix G**) provides a full description and analysis of the peak hour traffic and traffic recommendations.

Table 25: Trip Generation Forecast

Land Use	AM Peak Hour		PM Peak Hour		Daily Trips
	Enter	Exit	Enter	Exit	
Single Family Housing	32 Trips	97 Trips	110 Trips	65 Trips	1,759 Trips
Single Family Attached	12 Trips	35 Trips	34 Trips	23 Trips	727 Trips
NET TOTAL	176 Trips		232 Trips		2,486 Trips

Availability of Transit and Alternative Transportation

Trailblazer Transit is available in the project area as a general public transit system that utilizes elevator-equipped buses to provide Dial-A-Ride service throughout Sibley, McLeod, and Wright Counties. There are no predefined routes, and schedules change regularly, as the buses pick up and drop off passengers at locations specified by the customers. The Trailblaze Joint Powers Board operates the program and is an independent government entity subsidized by federal, state, and local government dollars including funding from participating counties and cities. There are no qualifications or requirements to use this general public transit system. The buses operate Monday through Friday from 6:30 a.m. to 5:30 p.m. starting and ending at the garages in Glencoe and Buffalo. Ride availability for each customer varies depending on travel times and other factors.

- b. *Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system. If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW. Use the format and procedures described in the Minnesota Department of Transportation's Access Management Manual, Chapter 5 (available at: <http://www.dot.state.mn.us/accessmanagement/resources.html>) or a similar local guidance,*

The S2 Traffic Solutions, LLC (SSTS) traffic analysis determined the trip generation potential and analyzed the distribution of traffic and the impacts to the surrounding roadway network. Traffic operational analysis was conducted for the study area intersections for a No-Build and Build condition for two design years, 2028, the estimated year after full completion of the project, and 2045 as the long-range planning horizon. The historical traffic growth rate in the area is 1.7 percent per year and was assumed to be constant through the analysis. The traffic operation analysis suggests there is sufficient capacity on the surrounding roadways in 2028 to accommodate the traffic from this development. The standard used for evaluating capacity and operating conditions are from the Transportation Research Board's Highway Capacity Manual, 6th Edition. The procedures describe operating conditions in terms of driver delay represented as a Level of Service (LOS). Operations are given letter designations with "A" representing the best operating conditions and "F" representing the worst. Generally, level of service "D" represents the threshold for acceptable overall intersection operating conditions during a peak hour.

The 2045 analysis identified that there is currently insufficient intersection capacity at some of the study area intersections in their current striped geometrics to accommodate the 2045 No-Build traffic. Hypothetical improvements including restriping the intersection of TH 12 and Woodland Rd, and the installation of a mini-roundabout at Bridge Ave E and River St N were

included to provide acceptable operation and capacity in this study for the 2045 No-Build scenario. The 2045 analysis of the Build condition indicated that the hypothetical improvements for the 2045 No-Build scenario, plus the City's future, planned extension of 65th Ave SE to Highway 12 would provide acceptable operations in the 2045 Build scenario. The City's future, planned extension of 65th Ave SE is adjacent to the project area and would form a new signalized intersection at TH 12 that would reduce traffic at the existing Ebersole Ave SE and TH 12 intersection.

- c. *Identify measures that will be taken to minimize or mitigate project related transportation effects.*

The proposed project will realign and extend Ebersole Ave SE through the project area as a collector street and provide other local streets. The design of the local streets within the project area will focus on traffic calming and safety of the neighborhood as opposed to mobility by providing roadways that are two feet narrower than the City's typical sections. This will provide a more urban feel and will calm traffic, creating a more pedestrian and bicycle friendly environment. These proposed improvements and streets as planned have sufficient roadway capacity to accommodate neighborhood traffic and will provide appropriate access to the project area and to the surrounding roadway network. The traffic operational analysis indicated that there is available capacity on the roadways surrounding the project area to accommodate the new site-generated traffic in the 2028 design year.

In the long term, the City of Delano Long Range Plan includes the extension of 65th Ave SE to the west to intersect TH 12 as demands warrants. This improvement along with additional improvements, such as the hypothetical restriping the intersection of TH 12 and Woodland Rd, and the installation of a mini roundabout at Bridge Ave E and River St N, would be required to provide sufficient capacity in the 2045 design year to maintain operational capacity on the roadways surrounding the project area.

21. Cumulative Potential Effects:

Preparers can leave this item blank if cumulative potential effects are addressed under the applicable EAW Items

- a. *Describe the geographic scales and timeframes of the project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.*

The City of Delano and the project proposer are not aware of other developments that have been proposed or initiated in the project vicinity recently. It is anticipated that the project area will develop over the next five years, although the timing of development could vary, depending on the demand for housing and market conditions. At least some other projects are expected to develop in the Delano area in the next five years and coincide with the development of the project area.

- b. *Describe any reasonably foreseeable future projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed project within the geographic scales and timeframes identified above.*

The City of Delano and the project proposer are not aware of other developments planned or proposed in the project vicinity in the foreseeable future. The City of Delano will consider the timing and staging of specific development proposals within the context of the Comprehensive Plan and related growth management tools at the time that such proposals are brought forward. It is currently uncertain what specific land use proposals will arise and at what time.

- c. *Discuss the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects.*

Reasonably foreseeable future projects may combine with the proposed project to result in cumulative effects on municipal infrastructure and natural resources. The potential for cumulative effects varies with the type of resource affected and the geographic area of impact. Geographic separation between projects serves to reduce the potential for cumulative effects.

Potential cumulative effects on public infrastructure relate to municipal water supply systems, sanitary sewer conveyance and treatment systems, storm water management systems, and traffic and transportation systems. The City of Delano has planned for continued growth and expanded infrastructure system capacity to address these effects and serve anticipated future projects. The City of Delano will consider the timing and staging of other development proposals within the context of the Comprehensive Plan and related growth management tools. Cumulative effects on public infrastructure are not expected to be significant.

Potential cumulative effects of known and anticipated future projects on natural resources depend on the type, density, and location of future developments. Effects on natural resources such as wetlands and wildlife habitat vary with project location and biological diversity. Project effects on natural resources may combine with effects of nearby concurrent projects to result in subtle local cumulative effects, such as habitat fragmentation. Requirements for storm water management and erosion and sediment control are expected to minimize cumulative effects of post-development runoff on downstream waters and the environment. Policies and regulations of the City of Delano, Wright County, and other government agencies require the storm water mitigation measures discussed in this EAW.

The project will contribute to and be affected by cumulative effects related to climate change. In Minnesota, climate change has caused increased extreme heat and precipitation events, flooding, annual precipitation, and growing season days. Climate change impacts are incremental and cumulative in nature. Just as the project will be impacted by climate change, the project will also make an incremental contribution to climate change impacts through the emission of greenhouse gases.

22. Other Potential Environmental Effects:

If the project may cause any additional environmental effects not addressed by items 1 to 19, describe the effects here, discuss how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

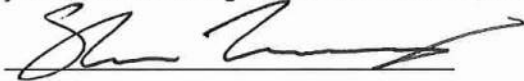
No other additional environmental effects are anticipated as a result of the development of the project area. All potential environmental effects have been addressed in **Items 1** through **21**.

RGU Certification

*(The Environmental Quality Board will only accept **SIGNED** Environmental Assessment Worksheets for public notice in the EQB Monitor.)*

I hereby certify that:

- The information contained in this document is accurate and complete to the best of my knowledge.*
- The EAW describes the complete project; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively.*
- Copies of this EAW are being sent to the entire EQB distribution list.*

Signature  Date 06/02/2023

Title City Engineer

Figures

Ebersole Residential Subdivision EAW
Delano, MN

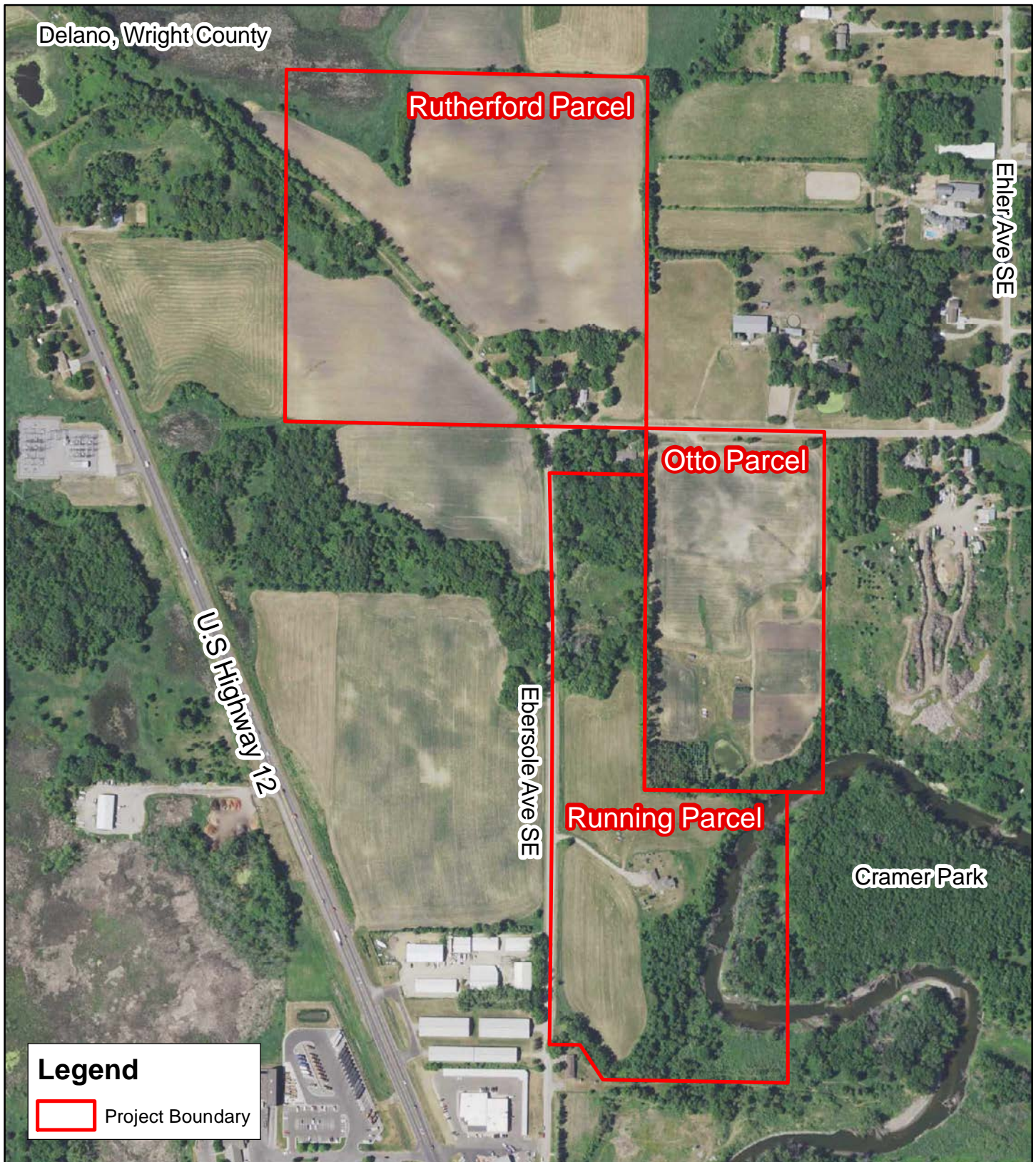


Figure 1 - Site Location



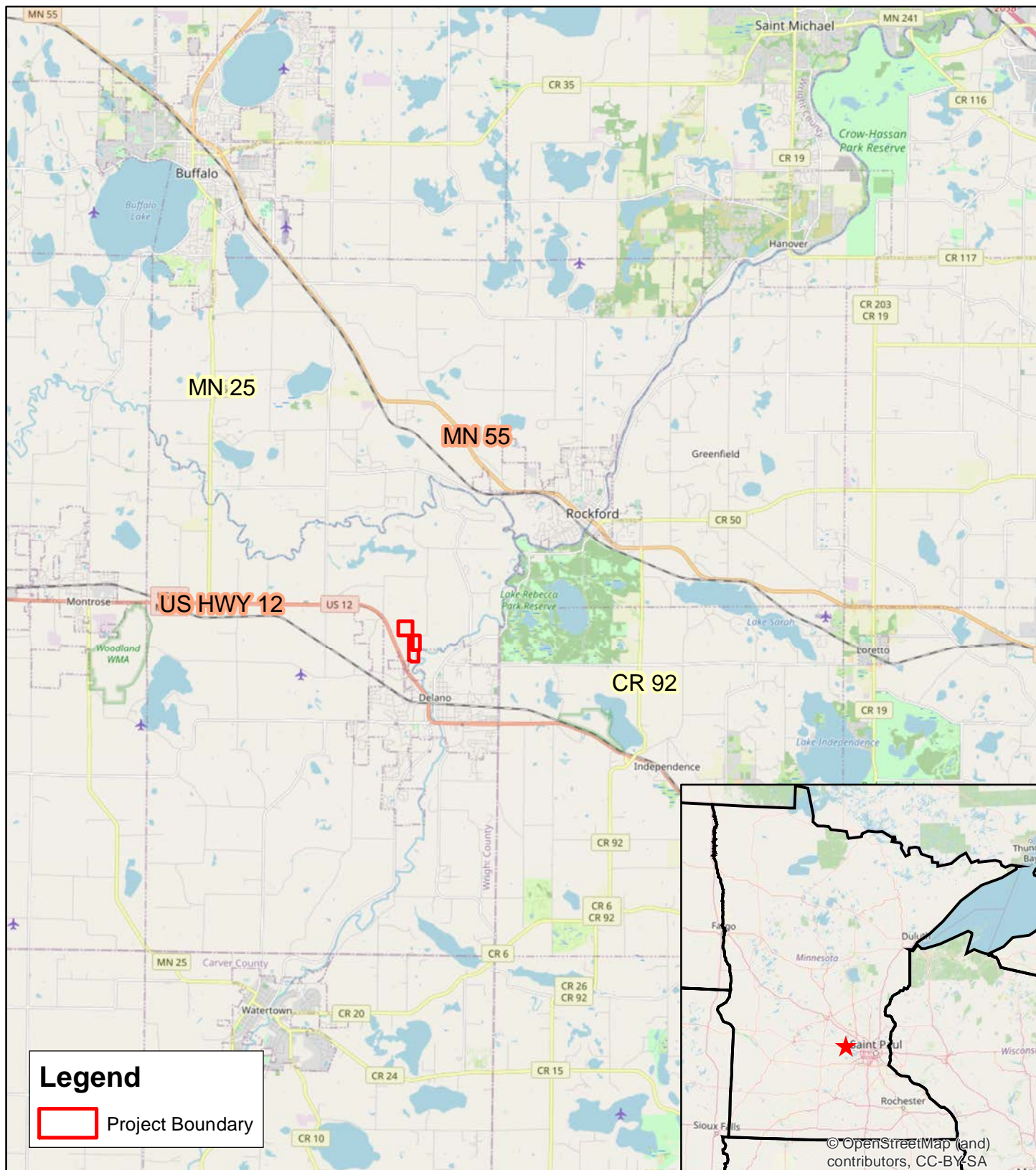


Figure 1A - Regional Location



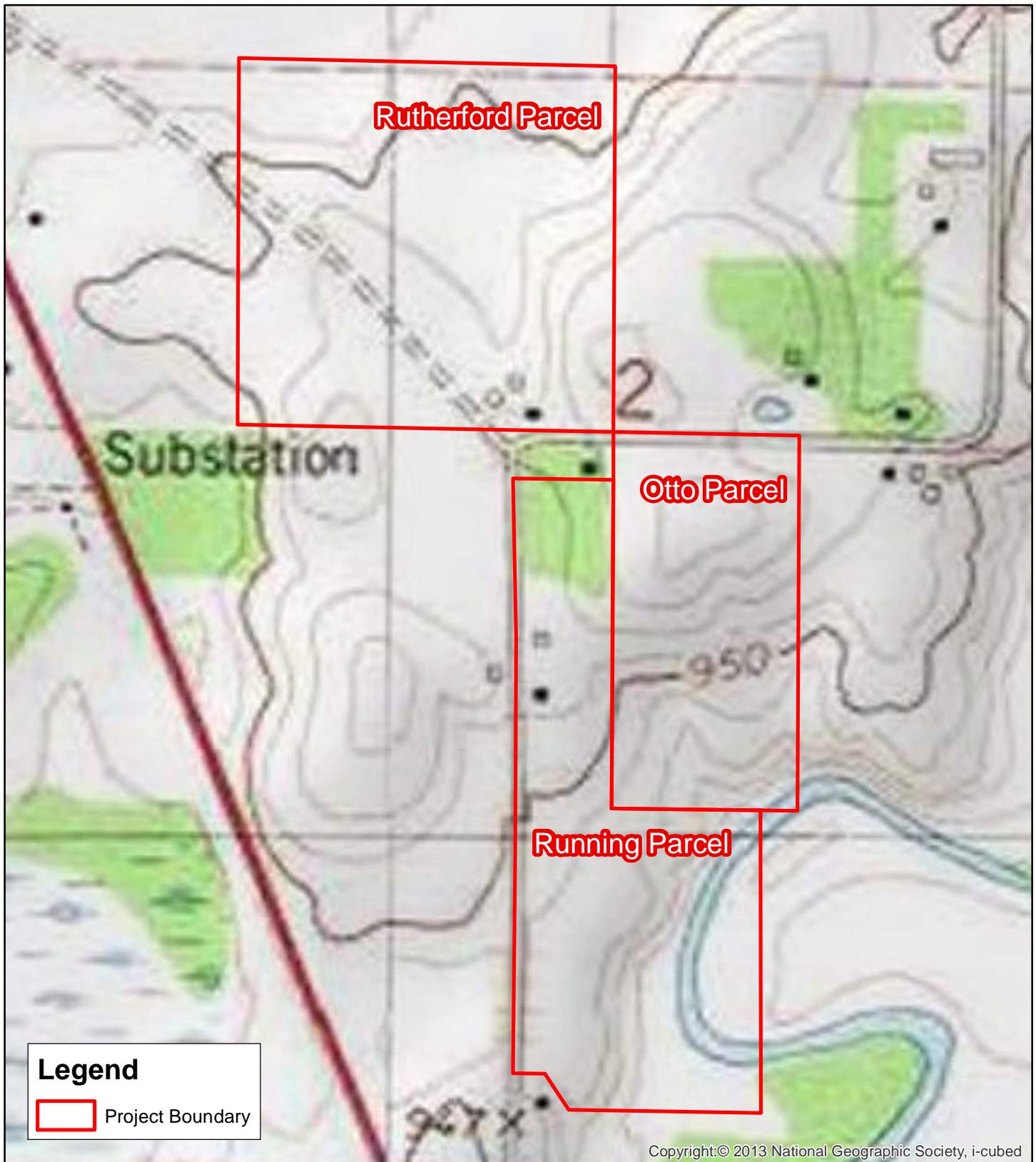


Figure 2 - USGS Topography

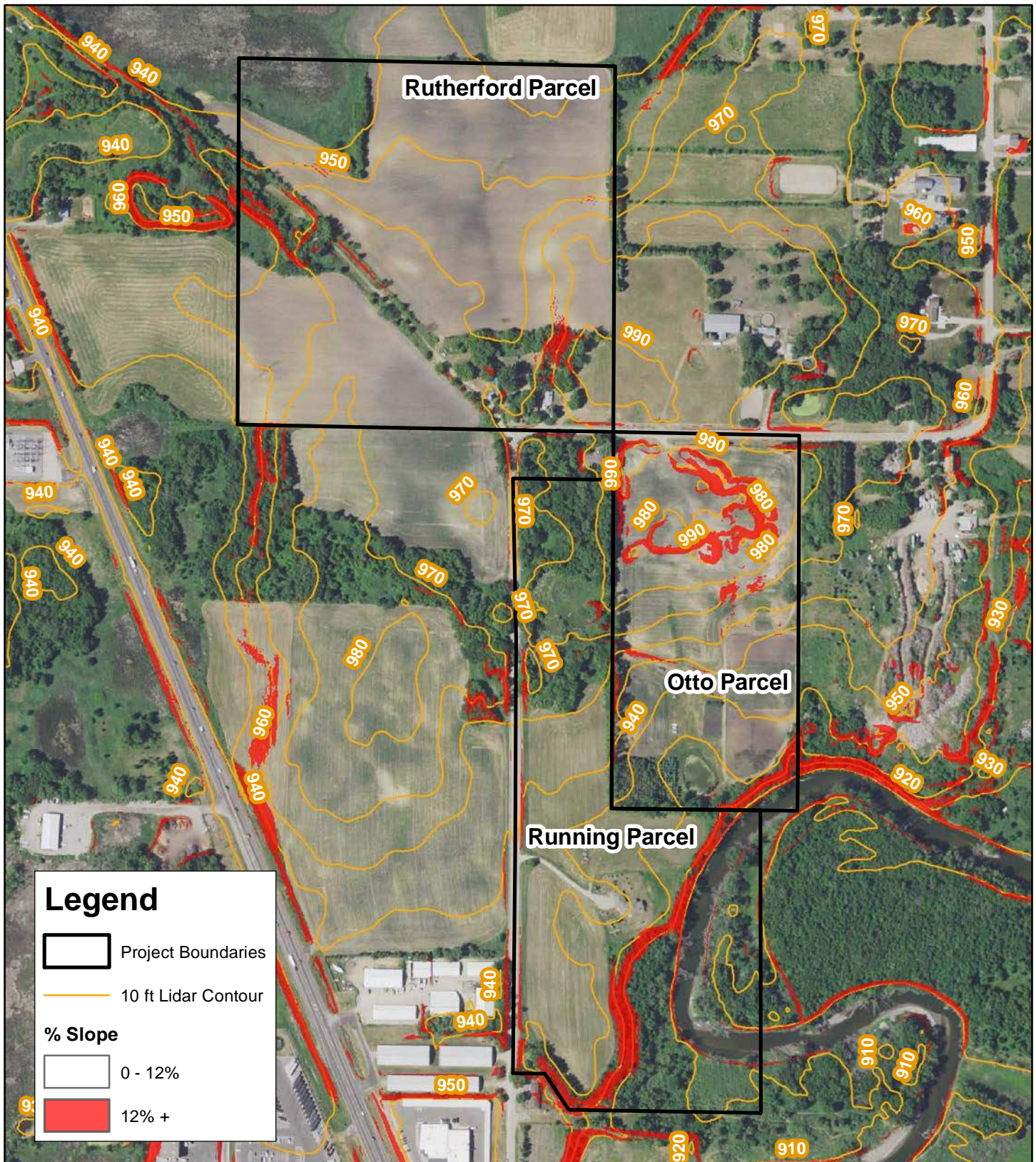


Figure 3 - Site Topography & Slopes

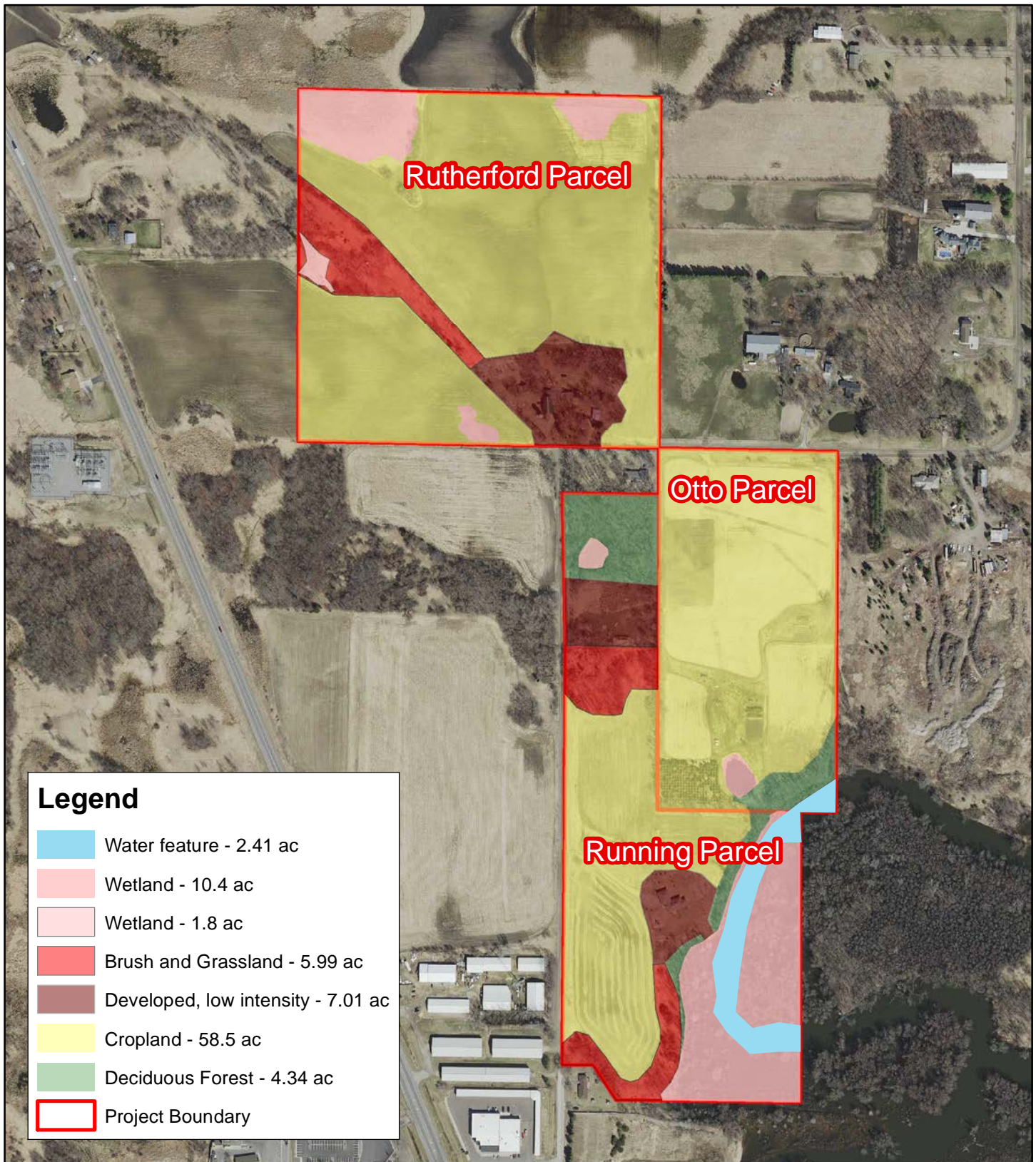


Figure 4 - Existing Land Cover Types

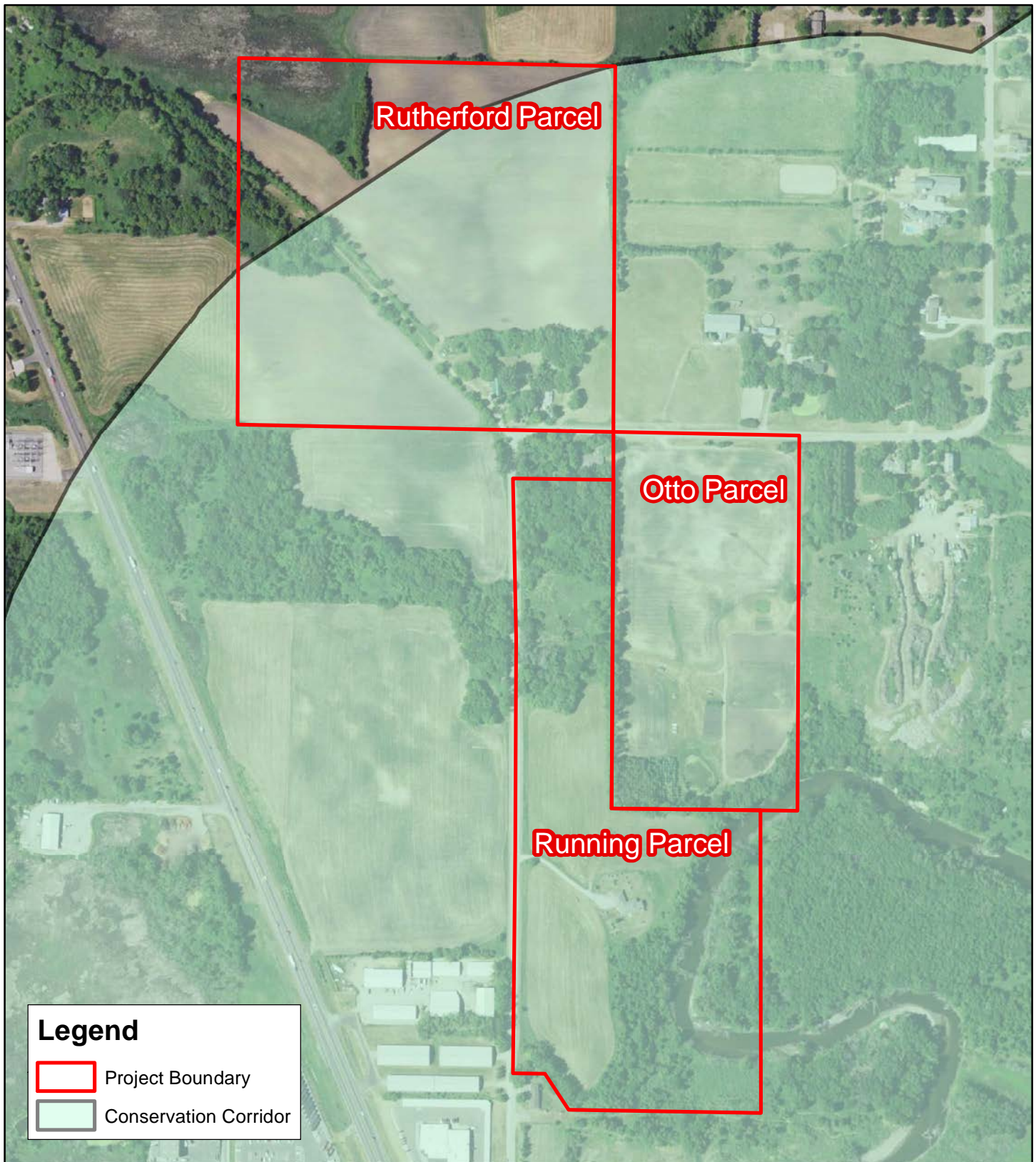


Figure 5 - Metro Conservation Corridor

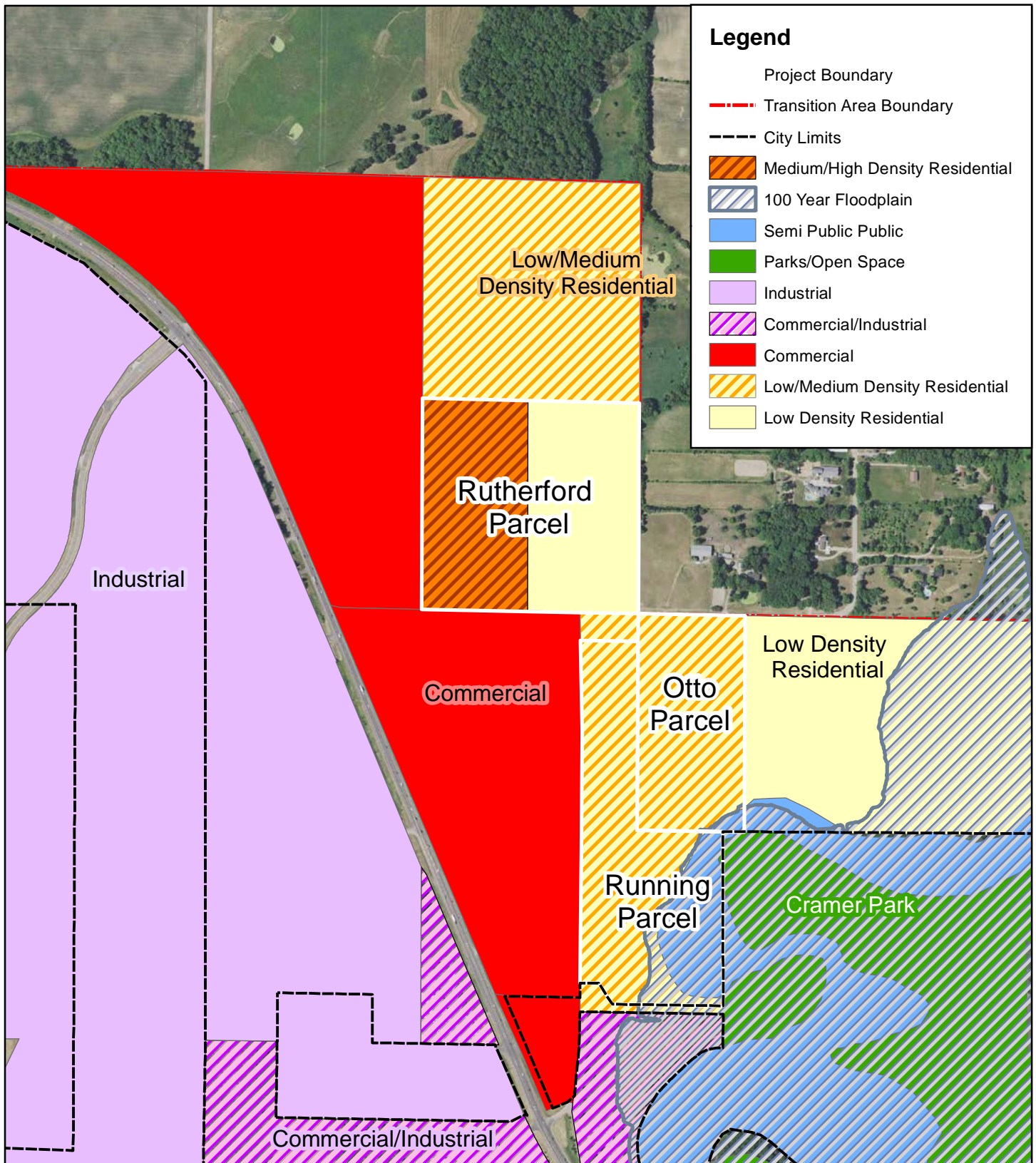


Figure 6 - Surrounding Future Land Use

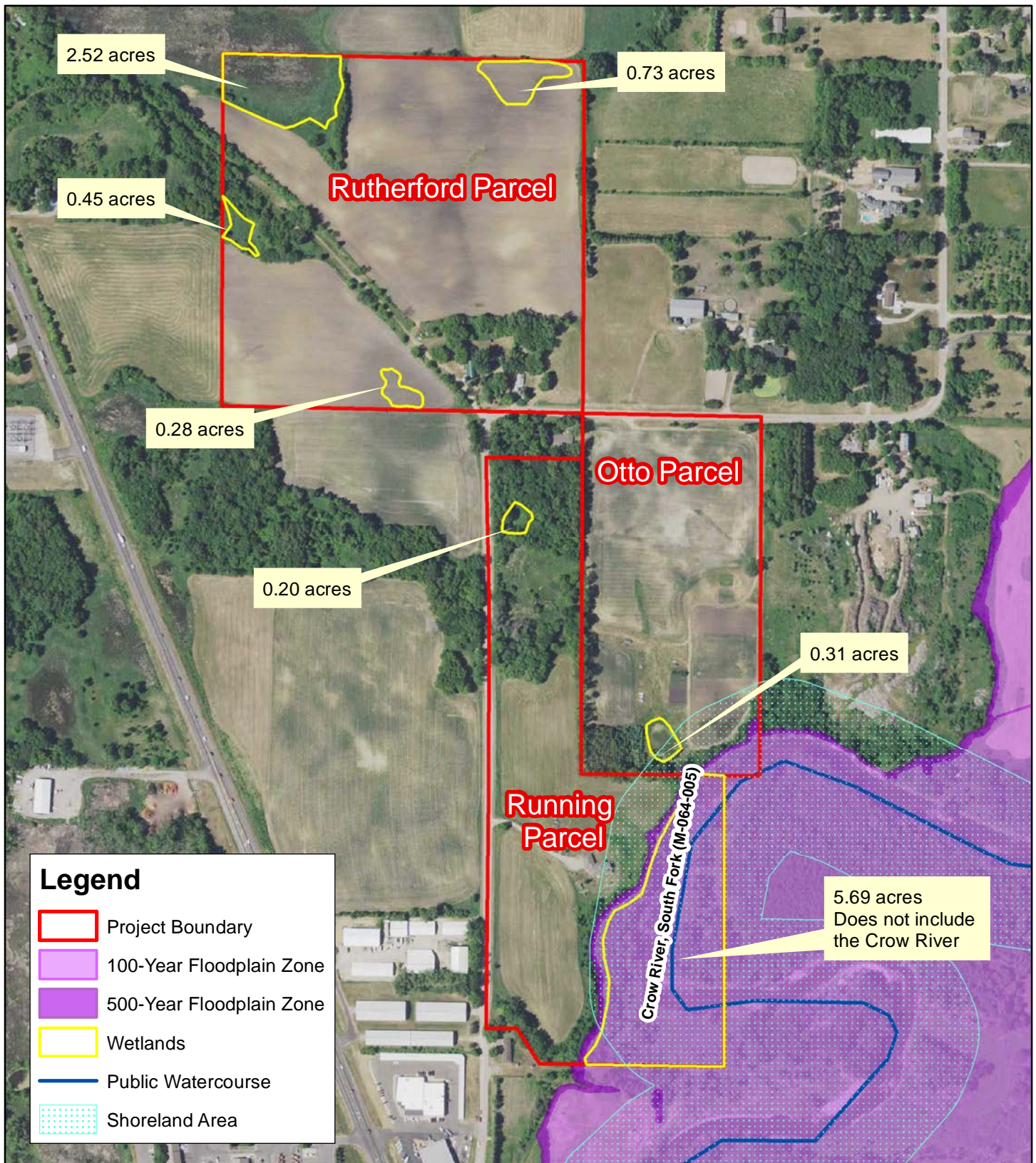


Figure 7 - Floodplain, Wetlands, Shoreland, & Public Waters

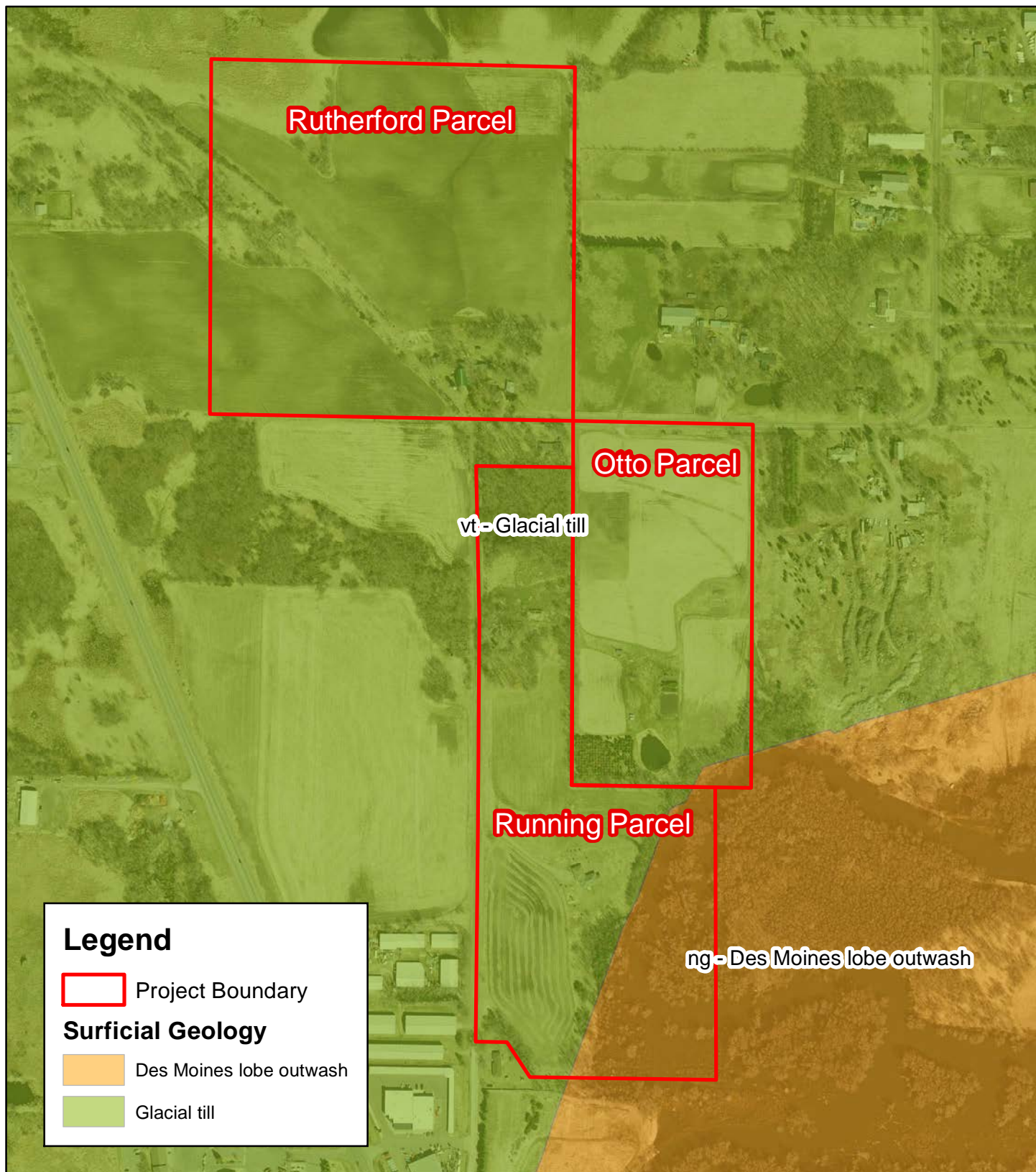


Figure 8 - Surficial Geology

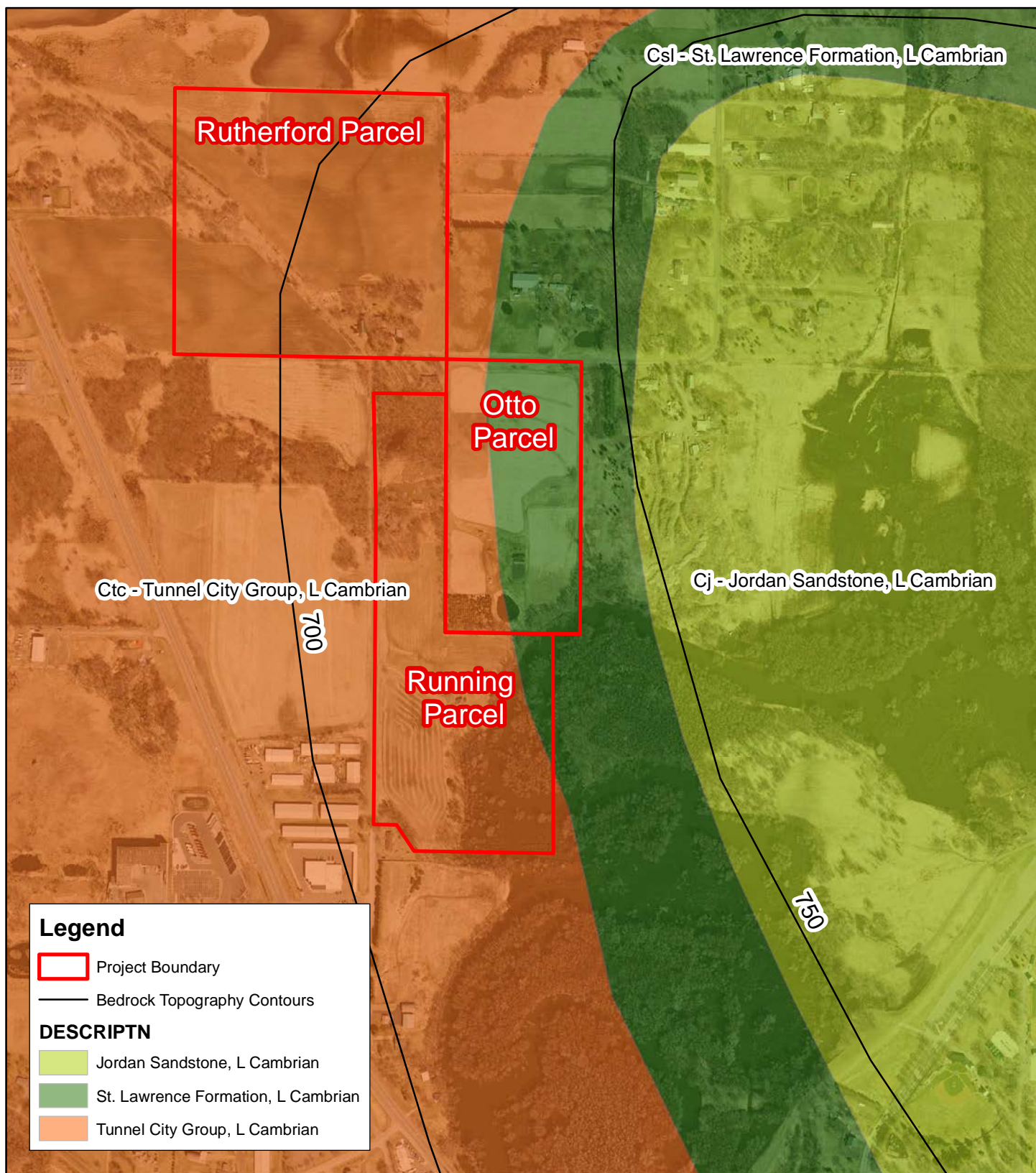


Figure 9 - Bedrock Geology

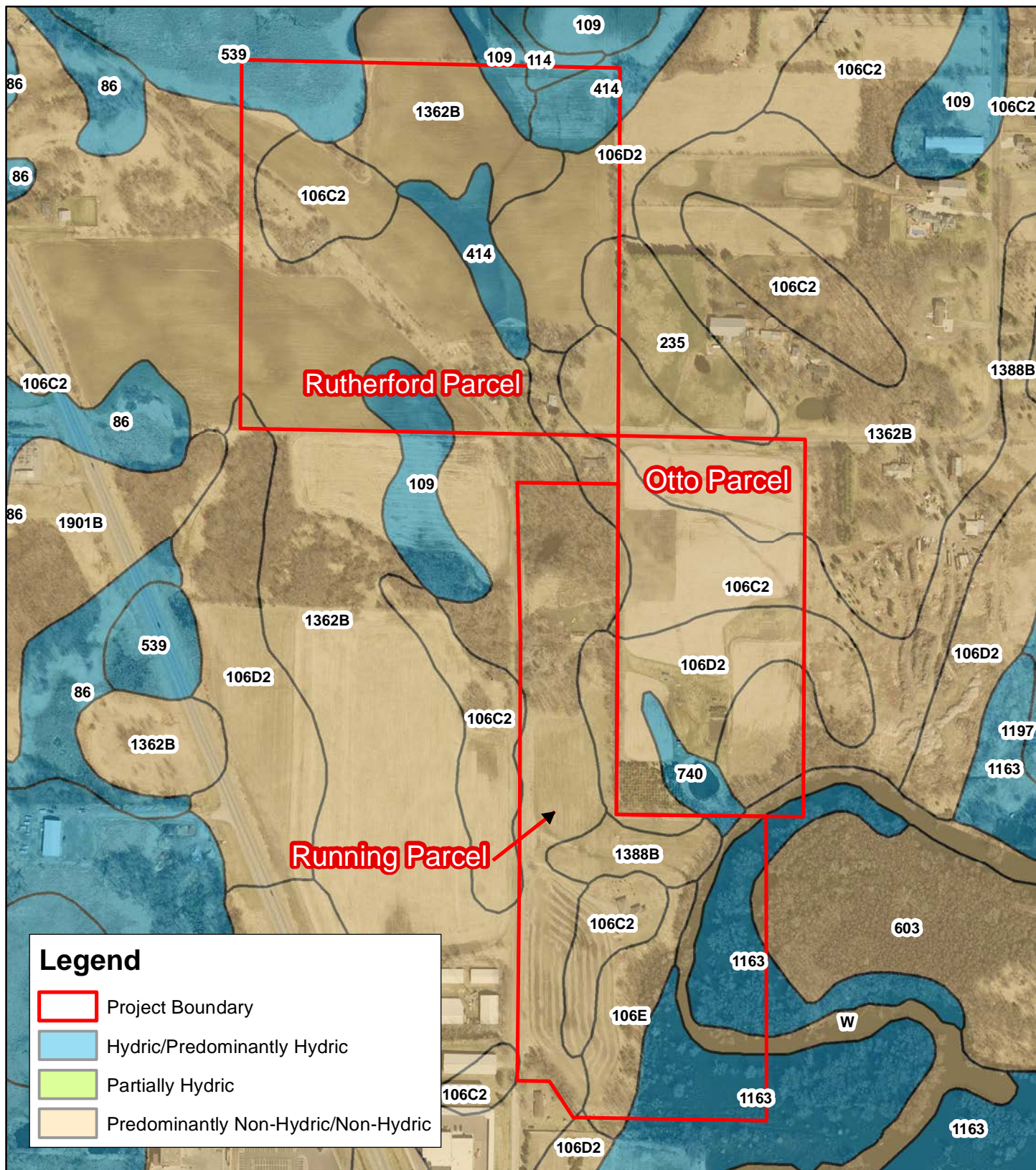


Figure 10 - Soil Survey

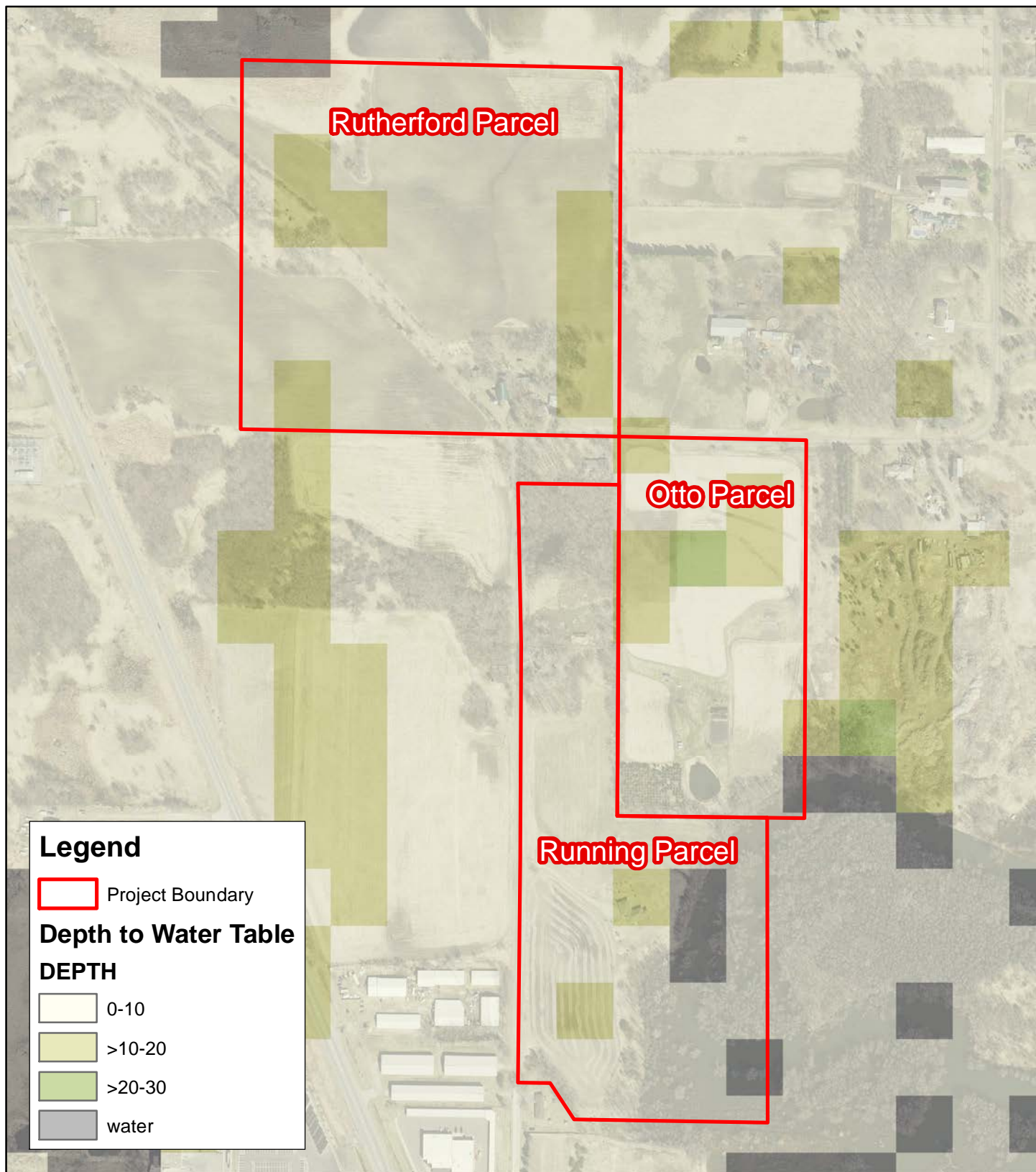


Figure 11 - Depth to Water Table

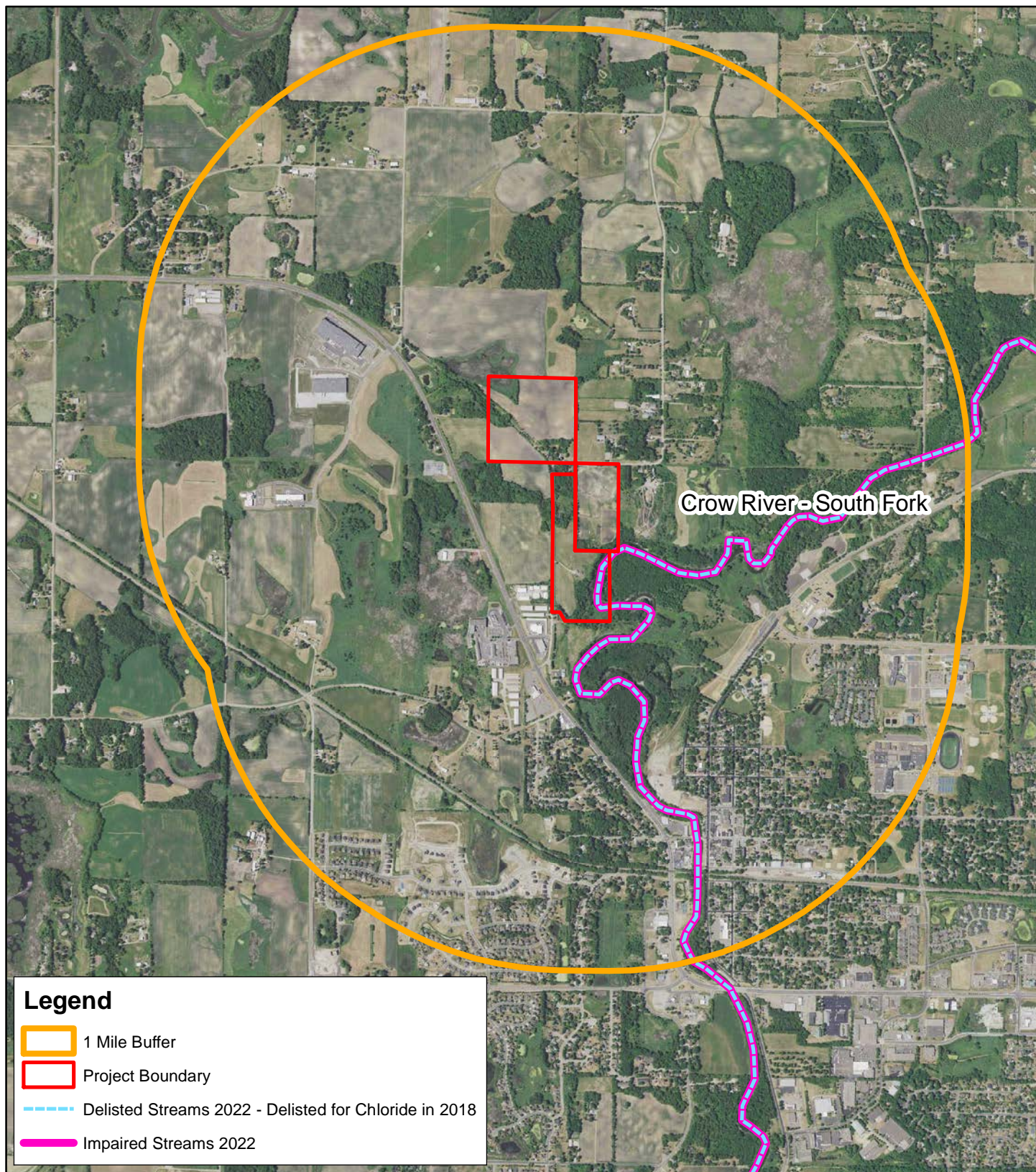


Figure 13 - Impaired Waters

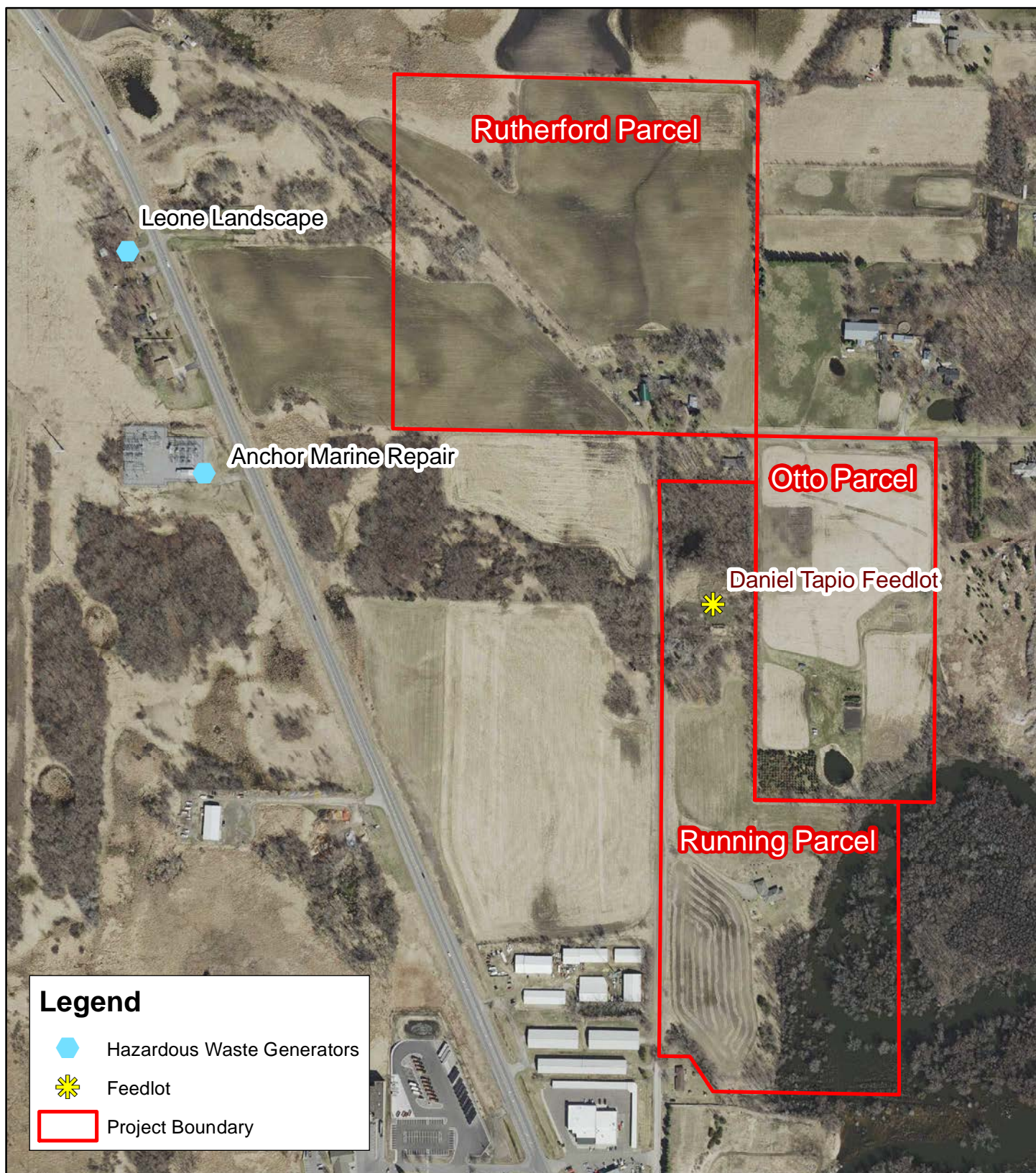


Figure 14 - Hazardous Waste Generators

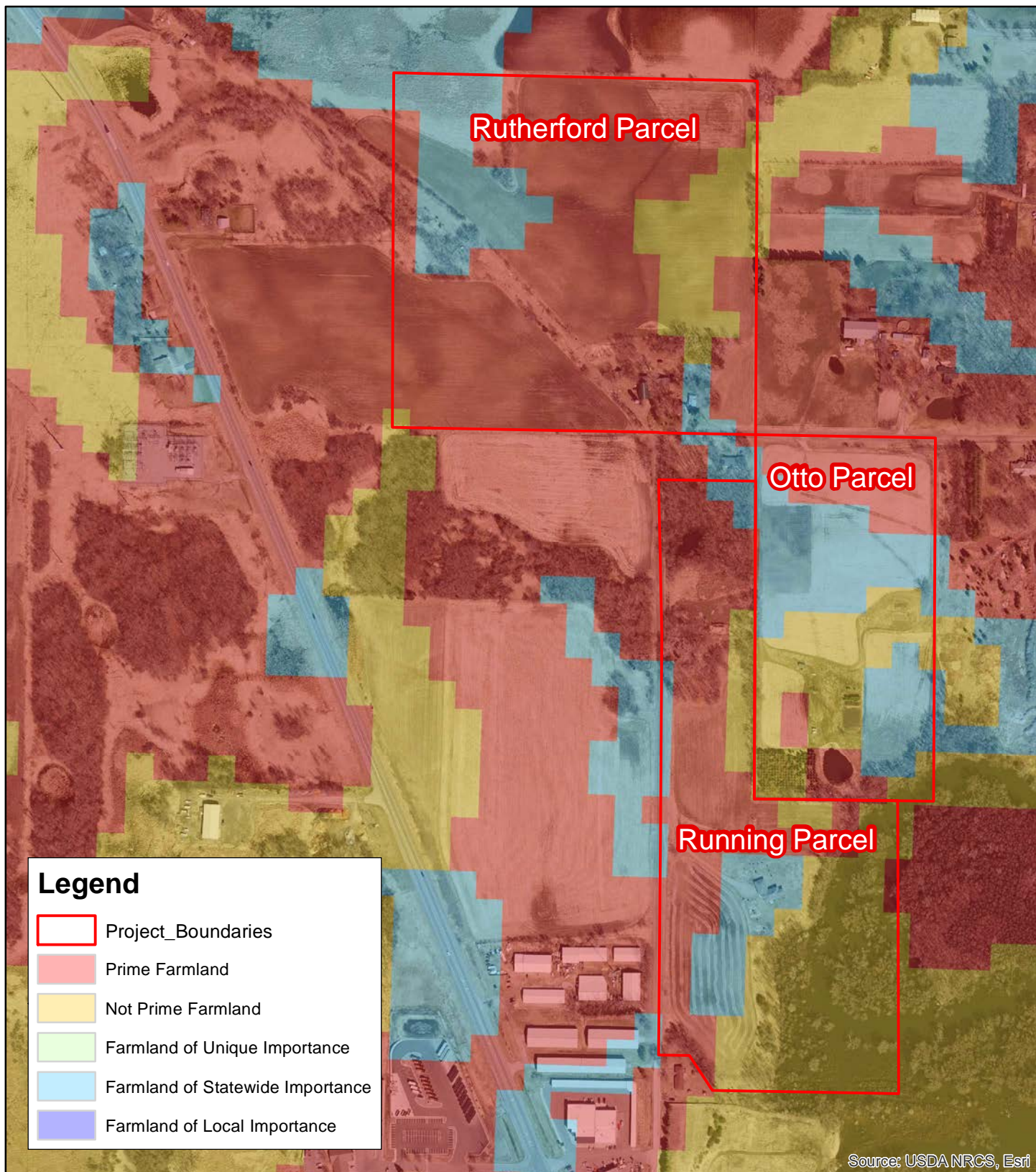


Figure 15 - Farmland Classification

Appendix A

Site Plans

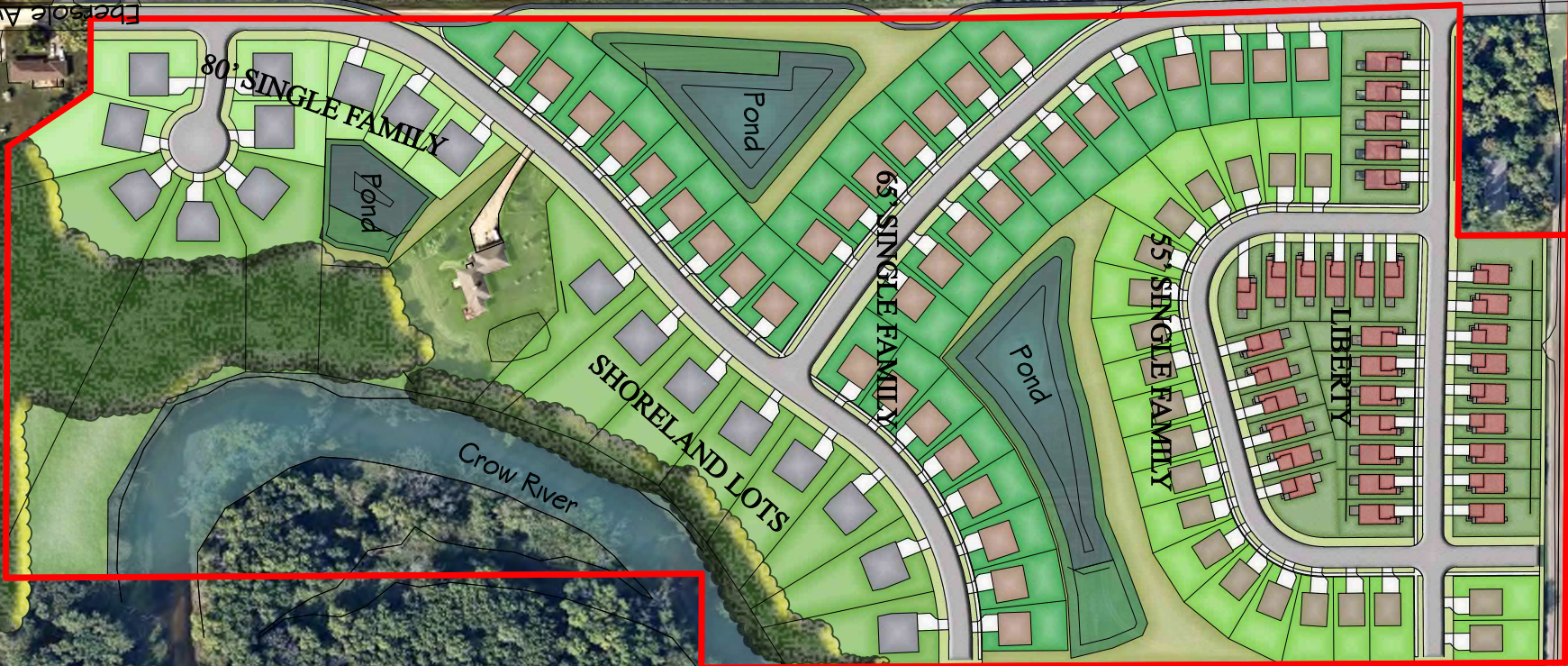
Ebersole Residential Subdivision EAW
Delano, MN

River Waters



SITE DATA:

GROSS AREA: 88 ACRES
PROPOSED UNITS: 285
SHORELAND LOTS: 12
80' WIDE LOTS: 7
65' WIDE LOTS: 56
55' WIDE LOTS: 21
45' LIBERTY LOTS: 87
ROW TOWNHOME UNITS: 102

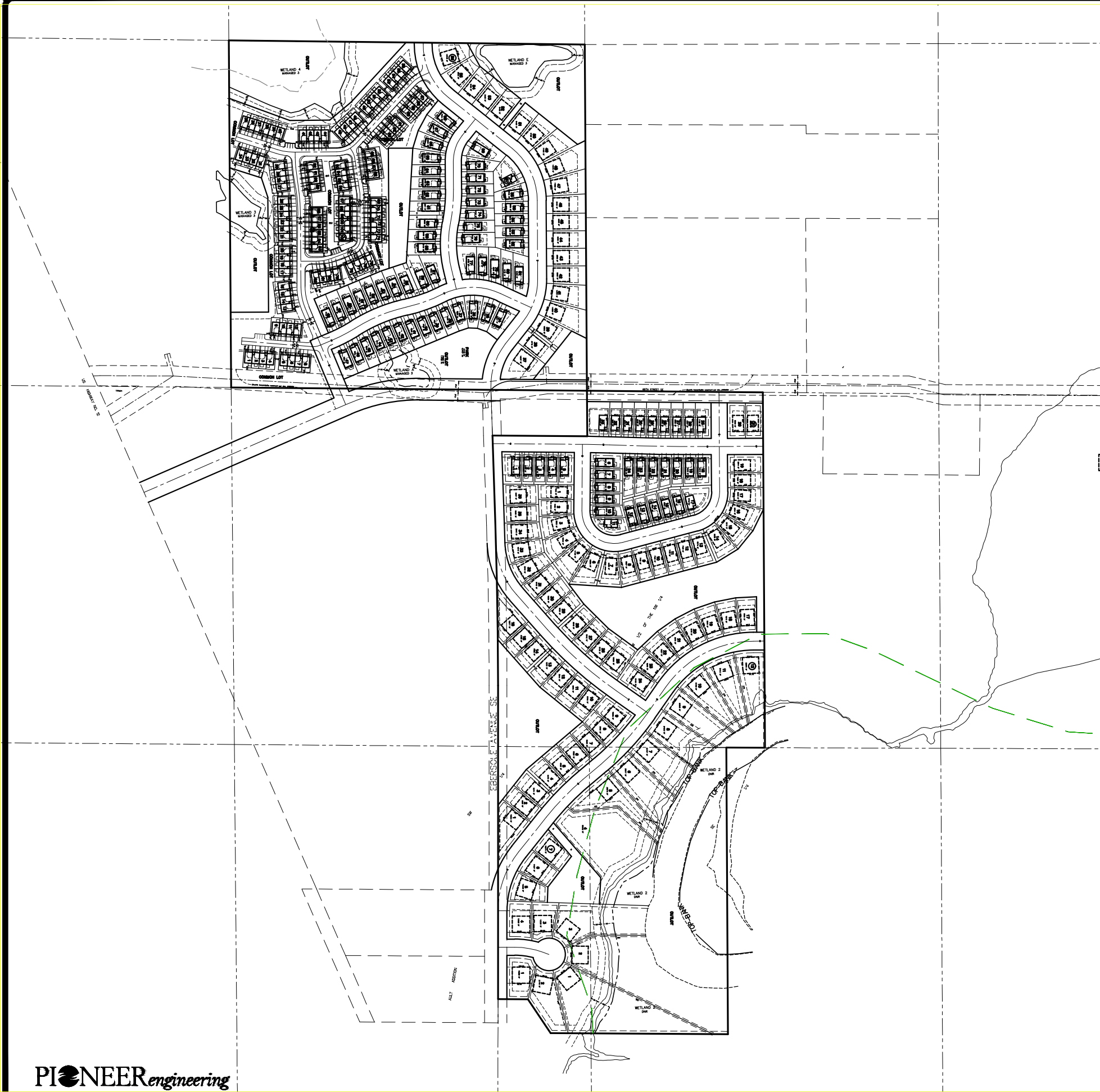


65th Street

Liberty Avenue

CAPSTONE
— HOMES —





SITE DATA:

GROSS AREA (BLUE OUTLINE): ±88 ACRES
FLOODPLAIN/FLOODWAY AREA: ±9 ACRES
WETLAND AREA (OUTSIDE FLOODPLAIN): ±4 ACRES
NET DEVELOPABLE AREA: ±75 ACRES

2040 LAND USE: LOW DENSITY, LOW/MEDIUM DENSITY, MEDIUM/HIGH DENSITY RESIDENTIAL
SEE PLAN FOR LAND USE DESIGNATIONS
PROPOSED ZONING: PUD

PROPOSED LOTS: 285
SHORELAND OVERLAY 80+:12 (12) (WITH RUNNING PROPERTY)
80' LOTS: 7 (7)
65' LOTS: 56 (56)
55' LOTS: 21 (21)
45' LOTS: 87 (87)
ROW TOWNHOMES:102 (100)
1571' ROW
2325' PRIVATE DRIVE



SHORELAND OVERLAY BULK STANDARDS: (300' FROM RIVER OHW)
LOT AREA: 15,000 SF
LOT WIDTH: 80'
OHWL: 50'
FRONT SETBACK: 30'
SIDE SETBACK: 20'



PROPOSED 80' STANDARDS:
LOT WIDTH: 80' X130'
FRONT SETBACK: 25'
REAR SETBACK: 30'
SIDE SETBACK: 7.5' (20' Corner)



PROPOSED 65' STANDARDS:
LOT WIDTH: 65' X130'
FRONT SETBACK: 25'
REAR SETBACK: 30'
SIDE SETBACK: 7.5' (20' Corner)



PROPOSED 55' STANDARDS:
LOT WIDTH: 55' X130'
FRONT SETBACK: 25'
REAR SETBACK: 30'
SIDE SETBACK: 7.5' (20' Corner)



PROPOSED 45' STANDARDS:
LOT WIDTH: 45' X120' (110' MIN)
FRONT SETBACK: 20' FRONT PORCH, 25' GARAGE
REAR SETBACK: 30'
SIDE SETBACK: 7.5' (20' Corner)



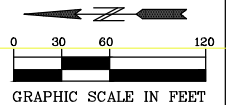
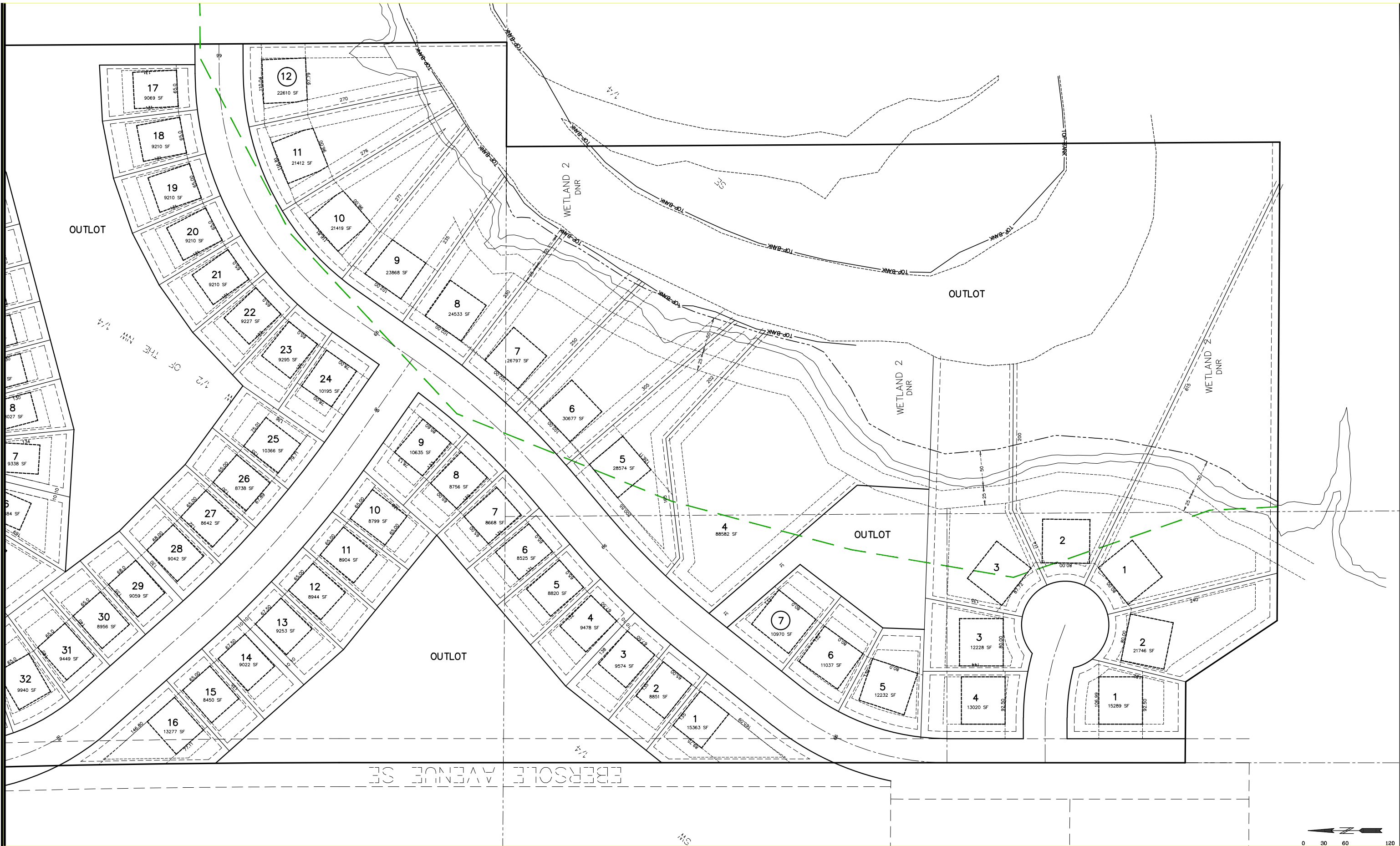
TOWNHOME UNITS
FRONT SETBACK: 20' FRONT PORCH, 25' GARAGE
REAR SETBACK: 25'
SETBACK BETWEEN BUILDINGS: 20'
SIDE SETBACK: 20' CORNER

WETLANDS

	AVG Buffer	Min Buffer	Buffer SB
Manage 1	40	25	25
Manage 2	25	16	25
Manage 3	16	16	25
DNR	50	30	25

Permitted Yard Encroachments. The following structural elements or equipment shall not be considered as encroachments on setback requirements subject to other conditions provided herein:

- 1) All Yards.
 - a) Flag poles, sidewalks, wheelchair ramps, name plate signs, trees, shrubs, plants, yard lights, mailboxes, floodlights, or other sources of light illuminating authorized illuminated signs, or light standards for illuminating yards for safety and security reasons, provided the direct source of light complies with Section 51.03, Subd. D.2 of this Ordinance. These uses may be permitted in any yard provided they are not located in any easement.
 - b) Flues, belt course, bay windows, leaders, sills, pilaster, eaves, gutters, awnings, open terraces, open canopies, chimneys, ornamental features, open fire escapes extending from the principal structure, provided they do not project more than two (2) feet into a required setback.
 - c) In rear yards, laundry drying equipment, recreational equipment (non-vehicular), trellises, open arbors, detached outdoor living rooms not to exceed five hundred (500) square feet provided they maintain a five (5) foot setback from the side and rear lot lines. No encroachment shall be permitted within existing drainage or utility easements.
 - d) Terraces, steps, uncovered porches, deck stoops, landings, or other similar features that do not extend above the entrance floor of the building may extend into the required front yard setback no more than five (5) feet.
 - e) Uncovered porches, decks, balconies, and/or similar features may extend into a required side yard abutting a street setback or required rear yard setback provided the structure does not extend more than ten (10) feet into the required setback and maintains not less than twenty (20) foot setback from the side lot line abutting the street or rear lot line.
 - f) In the case of a residential lot in an R-E, R-1, R-2, or R-3 District backing onto a railroad, a public park, trail, wetland or other such similar permanently reserved open space, the required rear yard setback for terraces, elevated decks, ground level uncovered porches, stoops, landings or similar features may extend into a required rear yard setback, to a distance not less than ten (10) feet from a rear lot line. No encroachment shall be permitted in existing or required drainage and utility easements.
 - g) Accessory buildings or equipment including: detached accessory buildings, air conditioners, accessory antennas, sport courts, swimming pools, and trash enclosures as regulated by Section 51.03, Subd. C.7 of this Ordinance.
 - h) Fencing and landscaping as regulated by Section 51.03, Subd. D.10 of this Ordinance.



PIONEERengineering
 CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS

2422 Enterprise Drive
 Mendota Heights, MN 55120

(651) 681-1914
 Fax: 681-9488
 www.pioneereng.com

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota

Name: Jennifer L. Thompson
 Reg. No.: 44763 Date: xx

Revisions: 5/3-13-2023
 1/1-30-2023
 2/2-15-2023
 3/2-17-2023
 4/3-8-2023

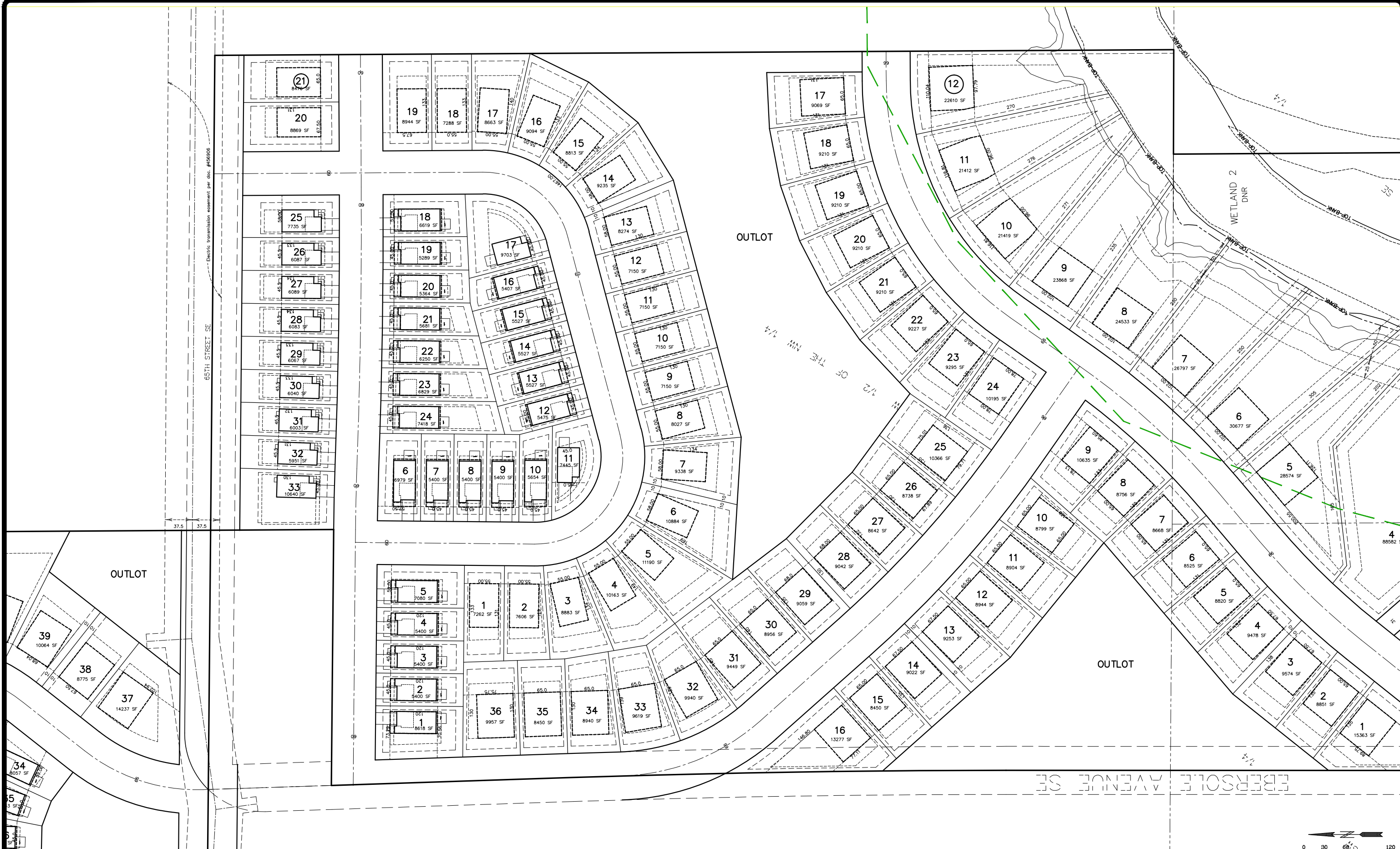
Date: 1-4-2023
 Designed: JLT
 Drawn: NJK

SITE PLAN

CAPSTONE

EBERSOLE AVENUE PROJECT
 DELANO, MINNESOTA

2 OF 5





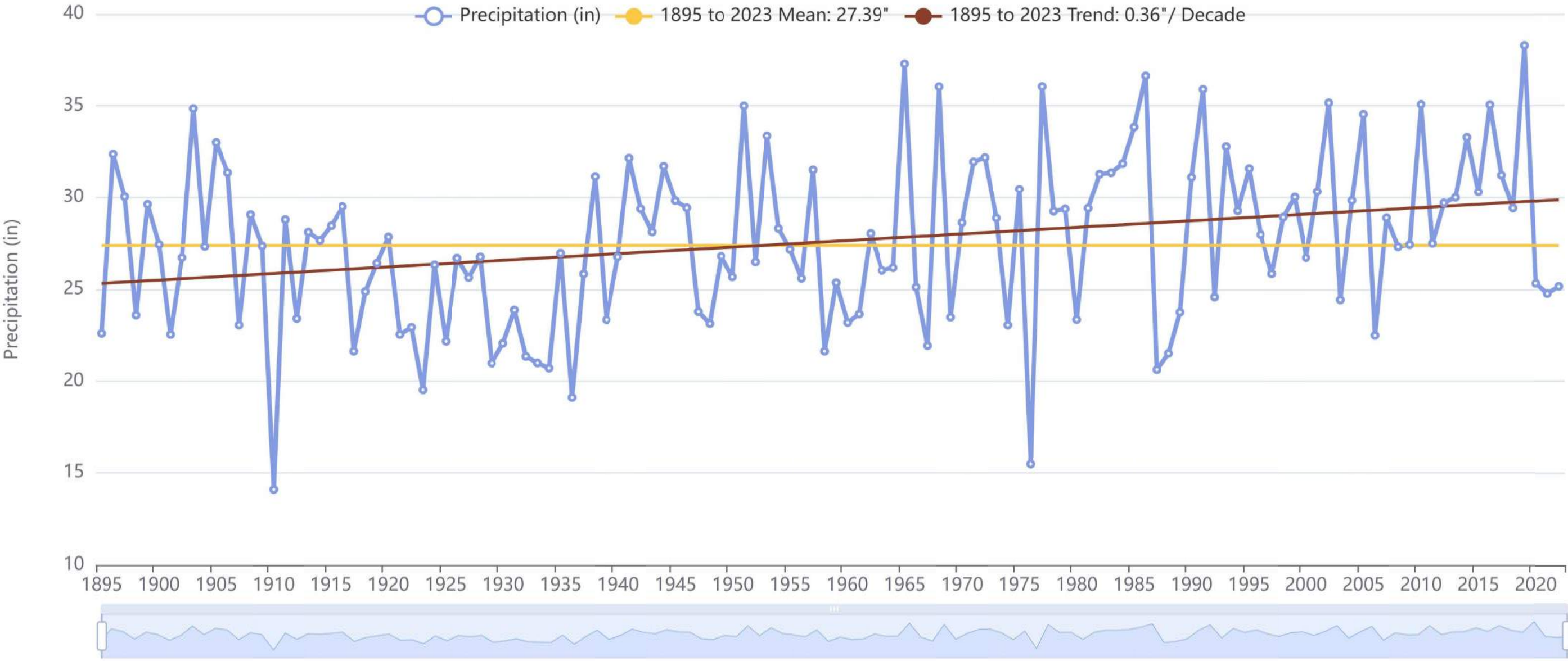


Appendix B
Minnesota Climate Explorer Charts

Ebersole Residential Subdivision EAW
Delano, MN

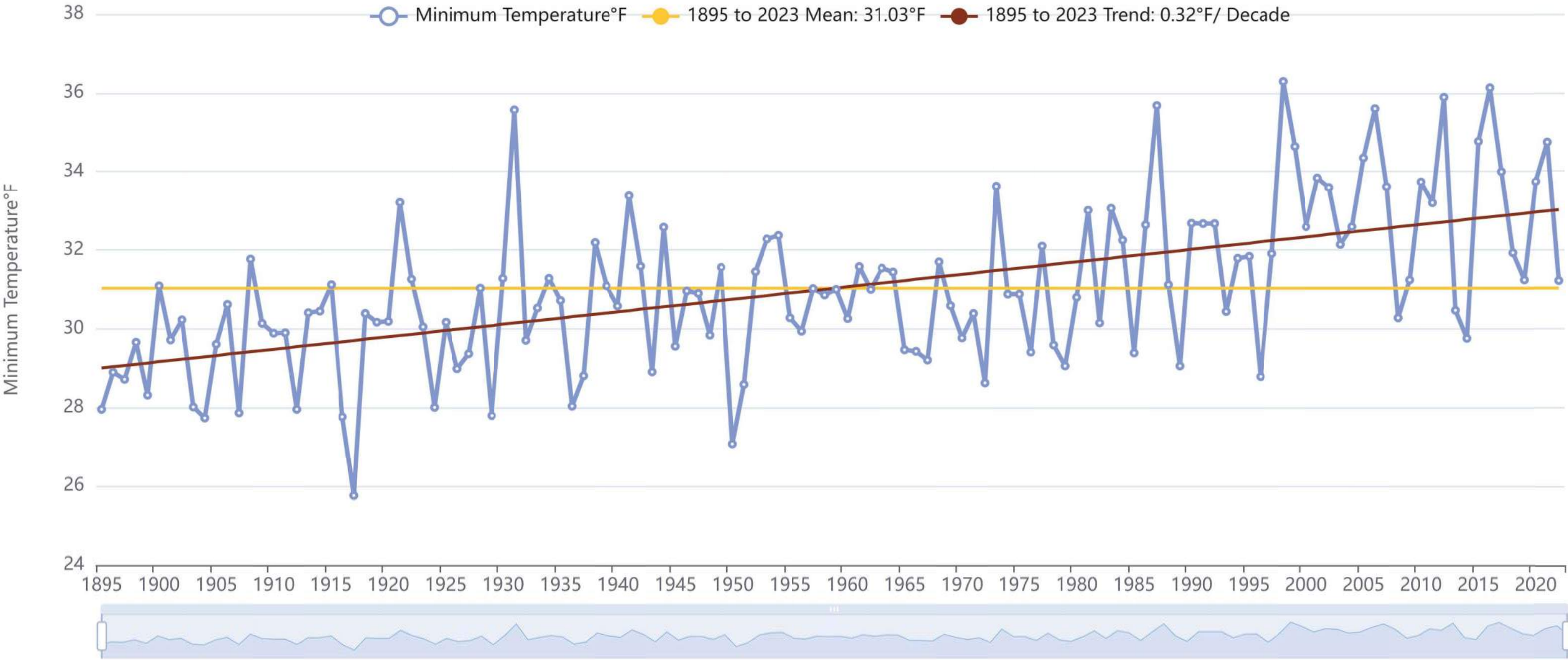
Precipitation For Selected Climate Divisions; January-December

All graphs generated by Minnesota Department of Natural Resources, using temperature and precipitation data from NOAA.



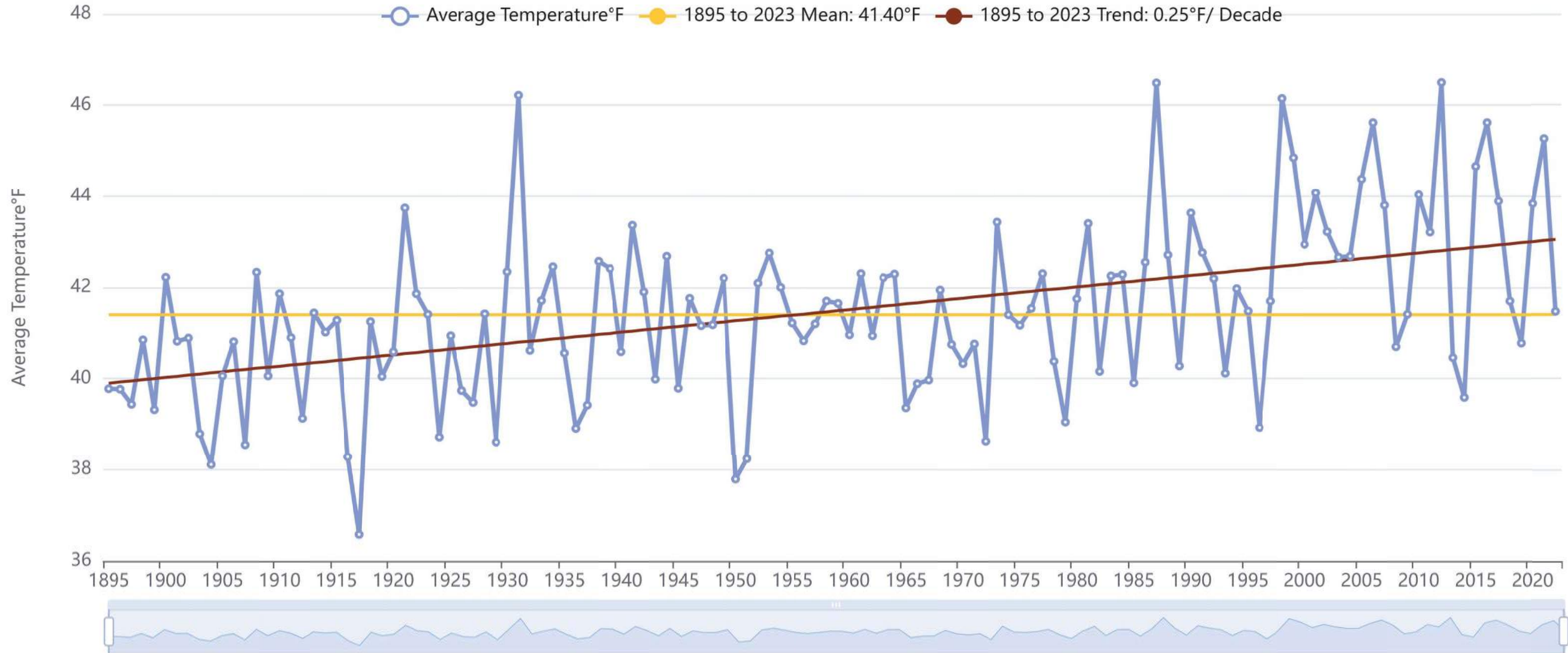
Minimum Temperature For Selected Climate Divisions; January-December

All graphs generated by Minnesota Department of Natural Resources, using temperature and precipitation data from NOAA.



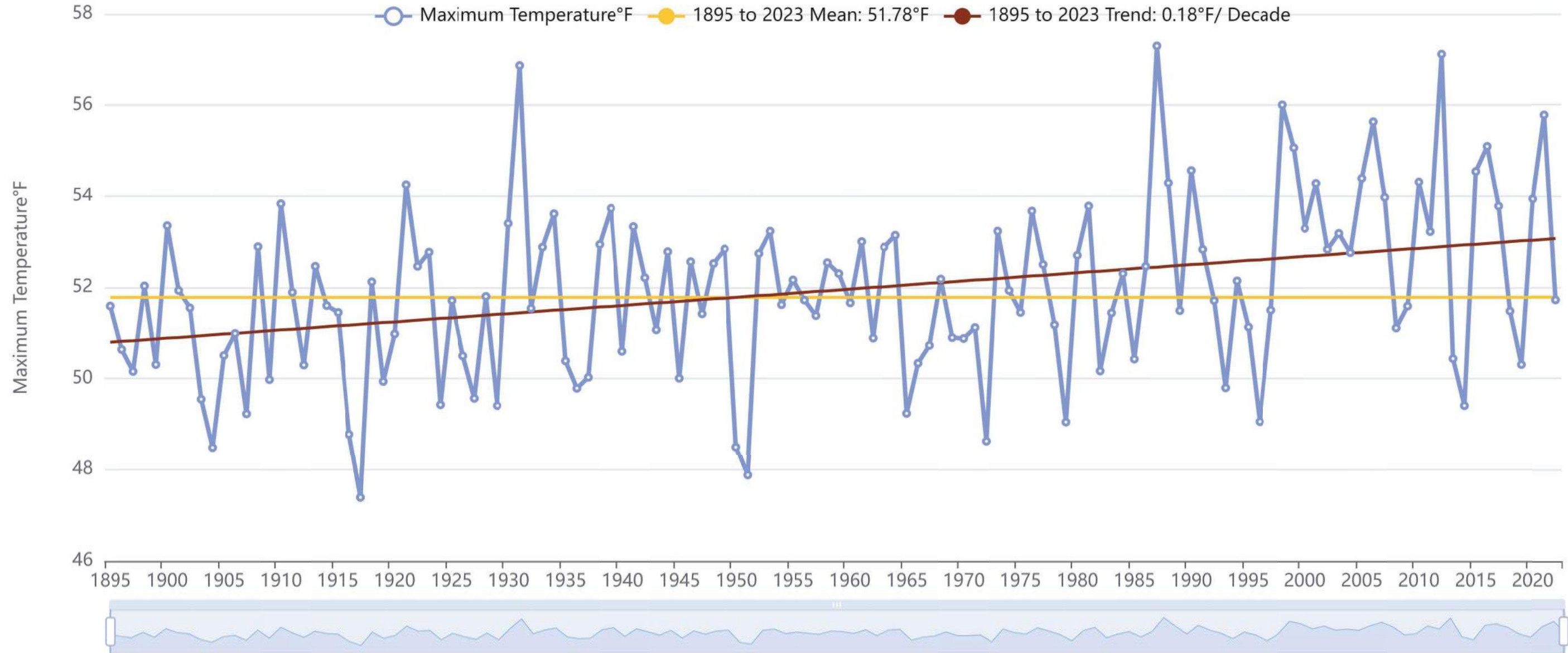
Average Temperature For Selected Climate Divisions; January-December

All graphs generated by Minnesota Department of Natural Resources, using temperature and precipitation data from NOAA.



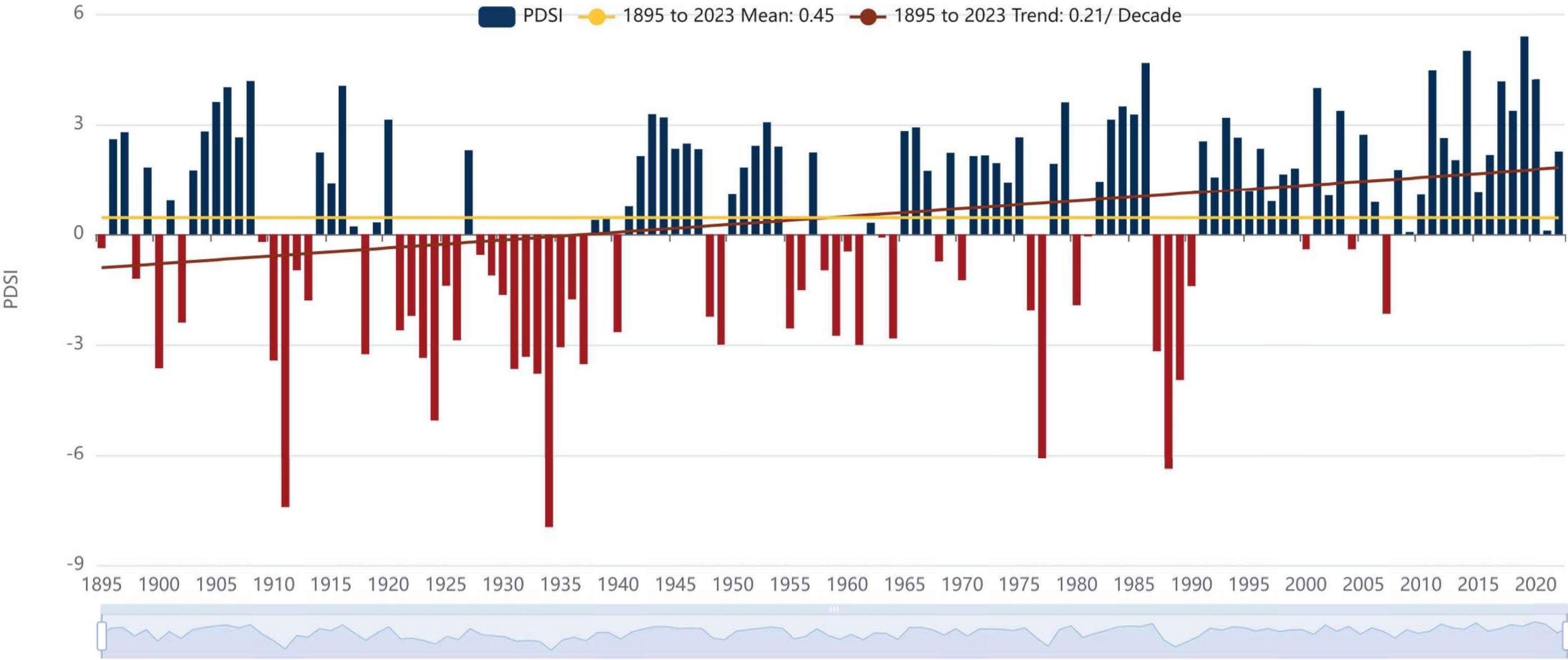
Maximum Temperature For Selected Climate Divisions; January-December

All graphs generated by Minnesota Department of Natural Resources, using temperature and precipitation data from NOAA.



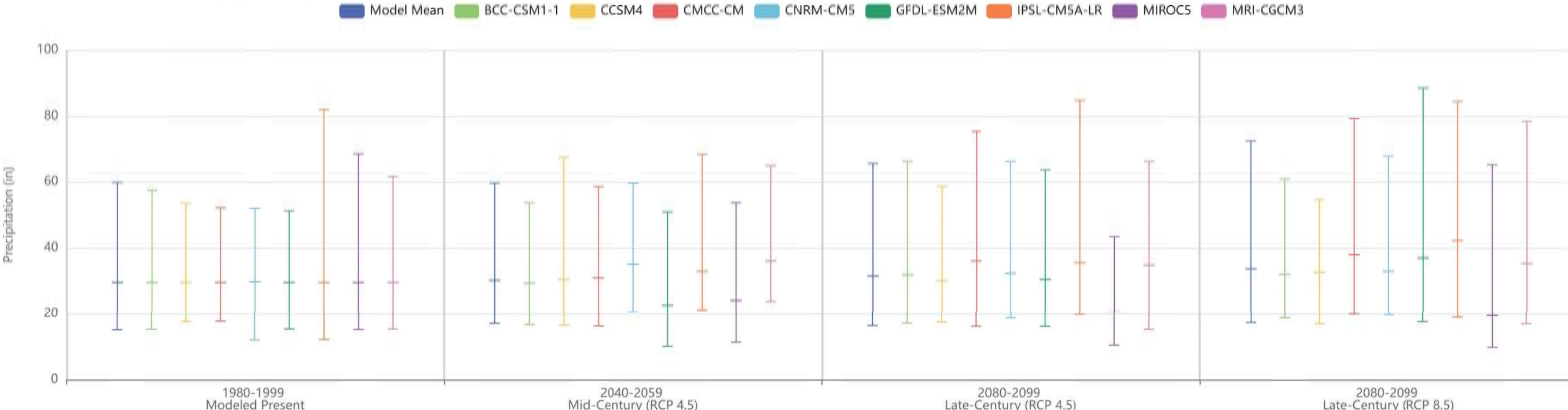
Palmer Drought Severity Index (PDSI) For Selected Climate Divisions; June

Graph generated by Minnesota Department of Natural Resources using data from PRISM via the Western Regional Climate Center.



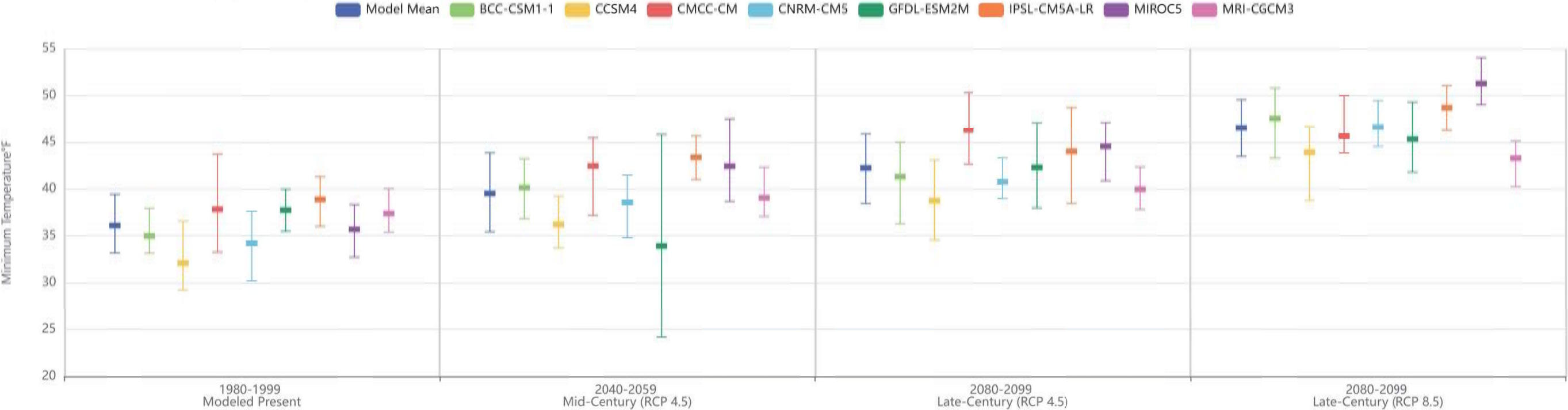
Recent and Projected Future Precipitation For Selected Climate Divisions; January-December

Graph generated by Minnesota Department of Natural Resources using data from University of Minnesota climate modeling. These values may differ from those published in national and global climate assessments



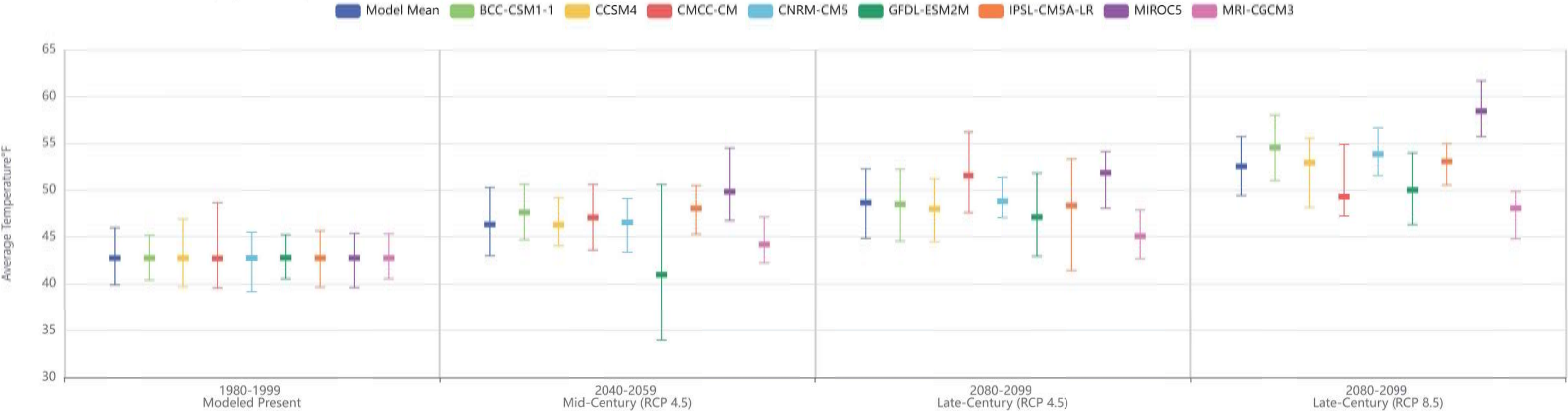
Recent and Projected Future Minimum Temperature For Selected Climate Divisions; January-December

Graph generated by Minnesota Department of Natural Resources using data from University of Minnesota climate modeling. These values may differ from those published in national and global climate assessments.



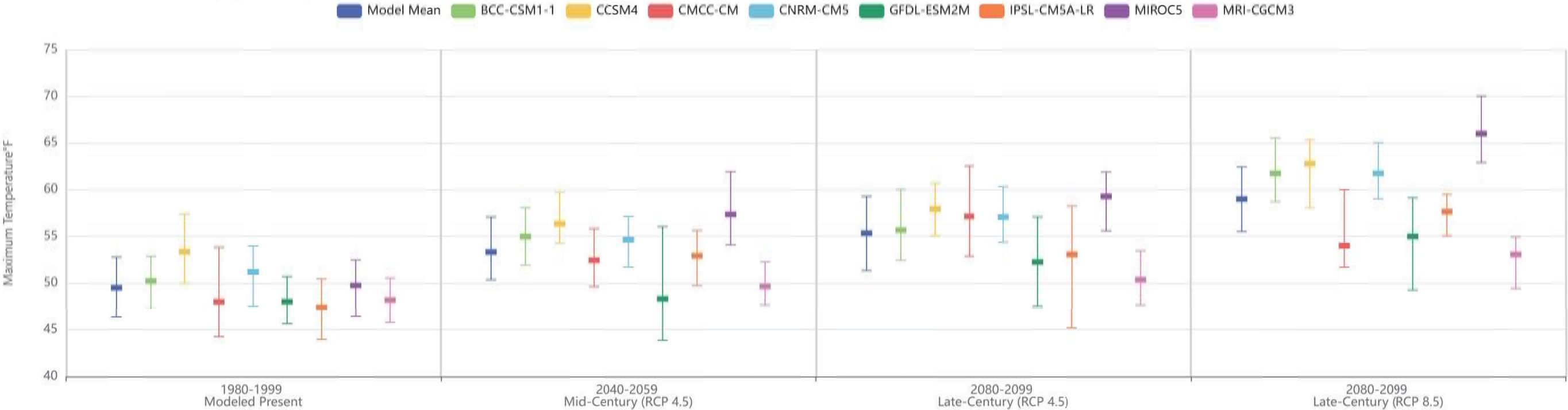
Recent and Projected Future Average Temperature For Selected Climate Divisions; January-December

Graph generated by Minnesota Department of Natural Resources using data from University of Minnesota climate modeling. These values may differ from those published in national and global climate assessments.



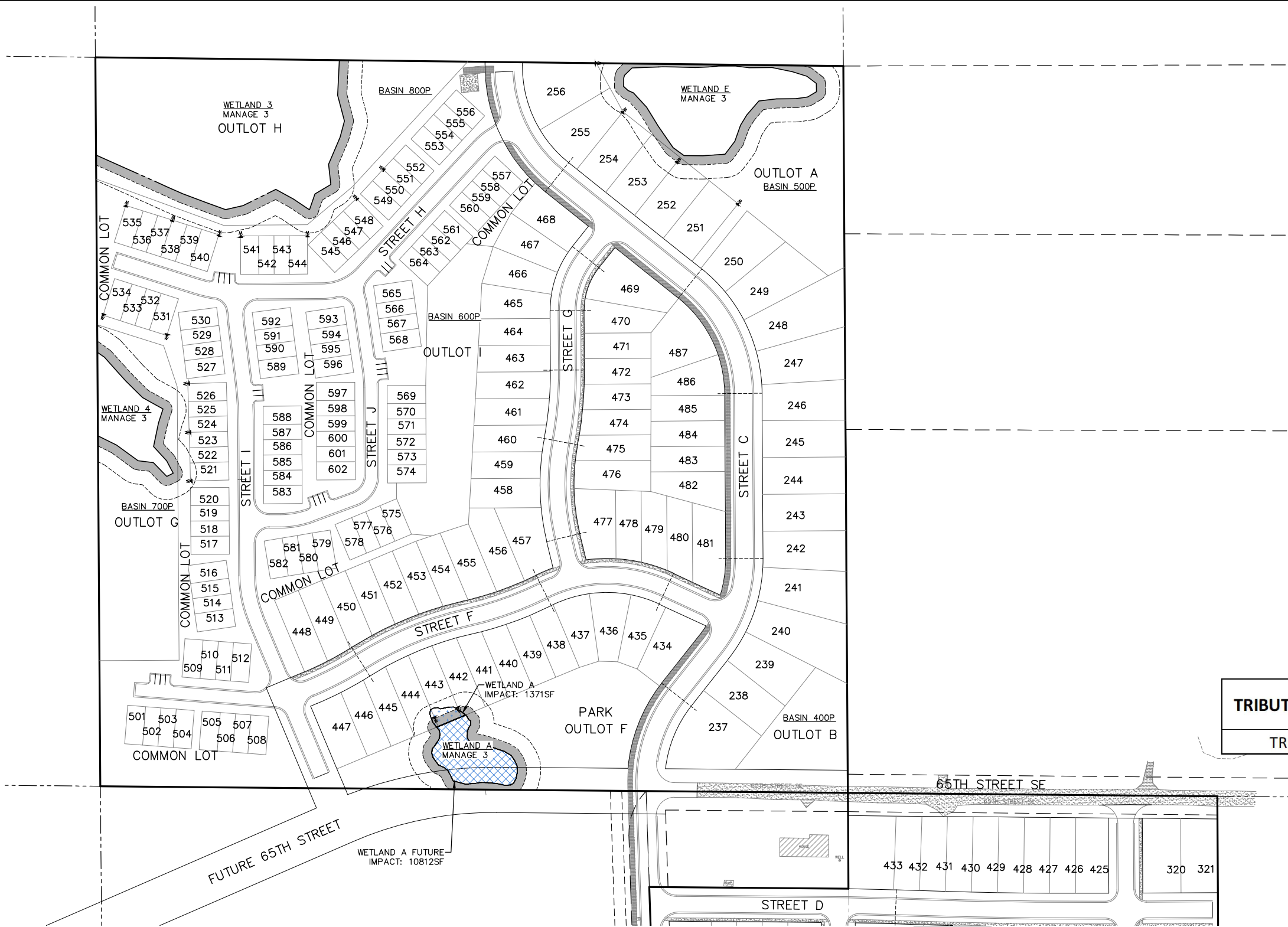
Recent and Projected Future Maximum Temperature For Selected Climate Divisions; January-December

Graph generated by Minnesota Department of Natural Resources using data from University of Minnesota climate modeling. These values may differ from those published in national and global climate assessments.



Appendix C
Preliminary Wetland Impact & Buffer Plan
and Wetland Delineation History

Ebersole Residential Subdivision EAW
Delano, MN



- PRELIMINARY WETLAND SUMMARY:**
TOTAL IMPACTED AREA: 20,532 SF (0.471 AC)
- WETLAND SETBACK LINE
 - WETLAND BUFFER LINE
 - WETLAND LINE
 - W WETLAND BUFFER SIGN: CITY TO FURNISH, DEVELOPER TO INSTALL
 - + + + + WETLAND IMPACT AREA
 - ▨ FUTURE WETLAND IMPACT AREA
 - >>>> TRIBUTARY IMPACT LENGTH

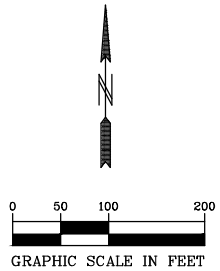
TRIBUTARY IMPACTS	IMPACT LENGTH (LF)
TRIBUTARY 2	178

WETLAND NAME	IMPACT AREA (SF)	IMPACT AREA (ACRES)	FUTURE IMPACT AREA (SF)	FUTURE IMPACT AREA (ACRES)
WETLAND 1	8787	0.202	-	-
WETLAND 01	10373	0.238	-	-
WETLAND A*	1372	0.031	10812	0.248
TOTAL	20532	0.471	10812	0.248

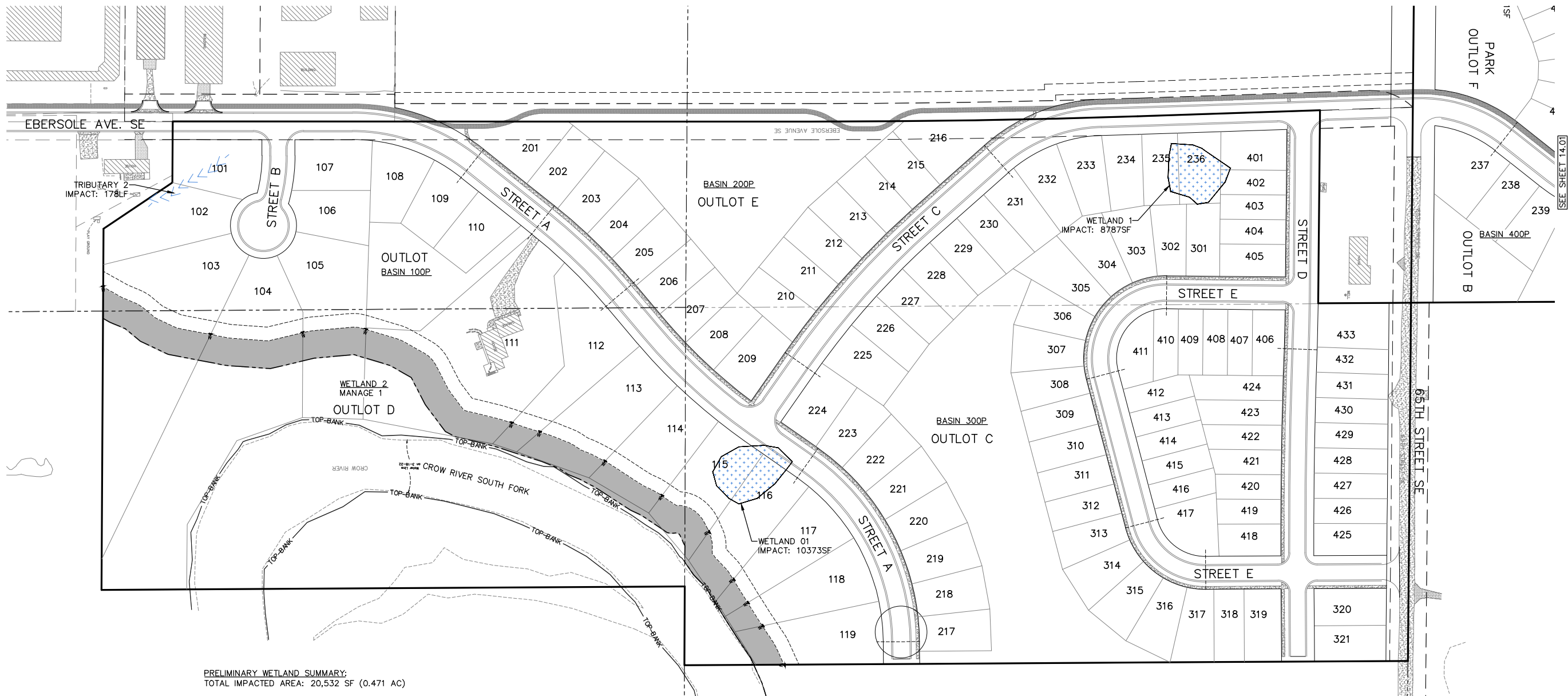
*Future wetland A Impacts to be done with Future 65th Street SE construction

BUFFER REQUIREMENT	MANAGE 1	MANAGE 2	MANAGE 3
AVERAGE BUFFER WIDTH (FT)	40*	25	16
MINIMUM BUFFER WIDTH (FT)	25	16	16
BUFFER SETBACK (FT)	25	25	25

*Within 300' of the Crow River requires a buffer of 50' ave; 30 min



BENCH MARK
TOP NUT OF HYDRANT
ON EAST SIDE OF
EBERSOLE AVE. SE.
275' NE OF EBERSOLE
AVE. SE & COUNTY
ROAD 12 INTERSECTION
ELEV=945.37 (NAVD88)
00-ENG-121278-SHEET-WETL



PRELIMINARY WETLAND SUMMARY:
TOTAL IMPACTED AREA: 20,532 SF (0.471 AC)

- WETLAND SETBACK LINE
- WETLAND BUFFER LINE
- WETLAND LINE
- W WETLAND BUFFER SIGN: CITY TO FURNISH, DEVELOPER TO INSTALL
- + + + + WETLAND IMPACT AREA
- ▨ FUTURE WETLAND IMPACT AREA
- >>>> TRIBUTARY IMPACT LENGTH

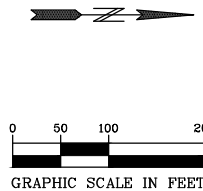
TRIBUTARY IMPACTS	IMPACT LENGTH (LF)
TRIBUTARY 2	178

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BENCH MARK
TOP NUT OF HYDRANT
ON EAST SIDE OF
EBERSOLE AVE. SE.
275' NE OF EBERSOLE
AVE. SE & COUNTY
ROAD 12 INTERSECTION
ELEV=945.37 (NAVD88)
00-ENG-121278-SHEET-WETL

Minnesota Wetland Conservation Act Notice of Decision

Local Government Unit: Wright SWCD	County: Wright
Applicant Name: Tom Bakritges – Capstone Homes	
Representative: Melissa Barrett, Kjolhaug Env. Services	
Project Name: Ebersole Ave Boundary/Type	LGU Project No. (if any):
Date Complete Application Received by LGU: 10-15-21	
Date of LGU Decision: 11-15-21	
Date this Notice was Sent: 11-15-21	

WCA Decision Type - check all that apply

<input checked="" type="checkbox"/> Wetland Boundary/Type	<input type="checkbox"/> Sequencing	<input type="checkbox"/> Replacement Plan	<input type="checkbox"/> Bank Plan (not credit purchase)
<input type="checkbox"/> No-Loss (8420.0415)	<input type="checkbox"/> Exemption (8420.0420)		
Part: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G <input type="checkbox"/> H		Subpart: <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9	

Replacement Plan Impacts (replacement plan decisions only)

Total WCA Wetland Impact Area:
Wetland Replacement Type: <input type="checkbox"/> Project Specific Credits:
<input type="checkbox"/> Bank Credits:
Bank Account Number(s):

Technical Evaluation Panel Findings and Recommendations (attach if any)

<input checked="" type="checkbox"/> Approve <input type="checkbox"/> Approve w/Conditions <input type="checkbox"/> Deny <input type="checkbox"/> No TEP Recommendation
Members of the TEP conducted a site visit with the LGU on 11-3-21 and agreed that the wetland boundary was accurately flagged in the field and described within the application.

LGU Decision

<input type="checkbox"/> Approved with Conditions (specify below) ¹ List Conditions:	<input checked="" type="checkbox"/> Approved ¹	<input type="checkbox"/> Denied
Decision-Maker for this Application: <input checked="" type="checkbox"/> Staff <input type="checkbox"/> Governing Board/Council <input type="checkbox"/> Other:		
Decision is valid for: <input checked="" type="checkbox"/> 5 years (default) <input type="checkbox"/> Other (specify):		

¹ *Wetland Replacement Plan approval is not valid until BWSR confirms the withdrawal of any required wetland bank credits. For project-specific replacement a financial assurance per MN Rule 8420.0522, Subp. 9 and evidence that all required forms have been recorded on the title of the property on which the replacement wetland is located must be provided to the LGU for the approval to be valid.*

LGU Findings – Attach document(s) and/or insert narrative providing the basis for the LGU decision¹.

<input checked="" type="checkbox"/> Attachment(s) (specify): Wetland Boundary/Figure <input checked="" type="checkbox"/> Summary: The LGU and TEP conducted a site visit on 11-3-21 to review the wetland boundary. The LGU and TEP agreed with the wetland boundary as it was flagged in the field and described within the application. The approved wetland boundary is attached to this NOD.
--

¹ Findings must consider any TEP recommendations.

Attached Project Documents

☒ Site Location Map ☒ Project Plan(s)/Descriptions/Reports (specify): **Wetland Boundary/Figure**

Appeals of LGU Decisions

If you wish to appeal this decision, you must provide a written request within 30 calendar days of the date you received the notice. All appeals must be submitted to the Board of Water and Soil Resources Executive Director along with a check payable to BWSR for \$500 *unless* the LGU has adopted a local appeal process as identified below. The check must be sent by mail and the written request to appeal can be submitted by mail or e-mail. The appeal should include a copy of this notice, name and contact information of appellant(s) and their representatives (if applicable), a statement clarifying the intent to appeal and supporting information as to why the decision is in error. Send to:

Appeals & Regulatory Compliance Coordinator
Minnesota Board of Water & Soils Resources
520 Lafayette Road North
St. Paul, MN 55155
travis.germundson@state.mn.us

Does the LGU have a local appeal process applicable to this decision?

☐ Yes¹ ☒ No

¹If yes, all appeals must first be considered via the local appeals process.

Local Appeals Submittal Requirements (LGU must describe how to appeal, submittal requirements, fees, etc. as applicable)

Notice Distribution (include name)

Required on all notices:

<input checked="" type="checkbox"/> SWCD & LGU TEP Member: Andrew Grean – andrew.grean@usda.gov	<input checked="" type="checkbox"/> BWSR TEP Member: Cade Steffenson – cade.steffenson@state.mn.us
<input checked="" type="checkbox"/> Wright County Delegated TEP Member: Jeremy Carlson - jeremy.carlson@co.wright.mn.us	
<input checked="" type="checkbox"/> DNR Representative: James Bedell – james.bedell@state.mn.us	
<input type="checkbox"/> Watershed District or Watershed Mgmt. Org.:	
<input checked="" type="checkbox"/> Applicant: Tom Bakritges, tbakritges@capstonehomes-mn.com	<input checked="" type="checkbox"/> Agent/Consultant: Melissa Barrett, melissa@kjolhaugenv.com

Optional or As Applicable:

<input checked="" type="checkbox"/> Corps of Engineers: usace_requests_mn_usace.army.mil
<input type="checkbox"/> BWSR Wetland Mitigation Coordinator (required for bank plan applications only):
<input checked="" type="checkbox"/> Members of the Public (notice only): Frank Svoboda - fjsvoboda@gmail.co , <input checked="" type="checkbox"/> Other: Scott Glup, USFWS – scott_glup@fws.gov Jeremy Donabauer, jeremydonabauer@hotmail.com

Signature:



Date: 11-15-21

This notice and accompanying application materials may be sent electronically or by mail. The LGU may opt to send a summary of the application to members of the public upon request per 8420.0255, Subp. 3.

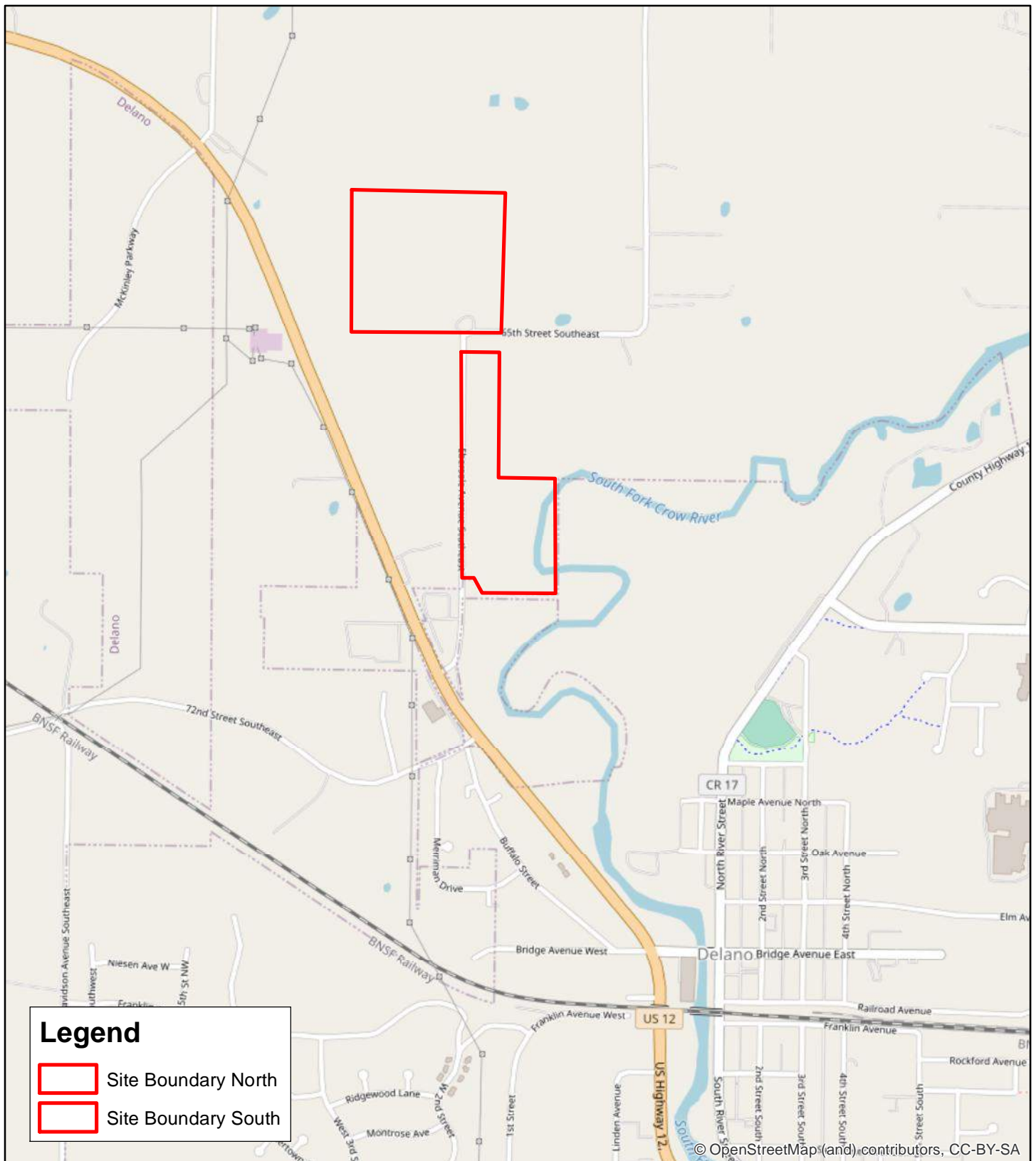
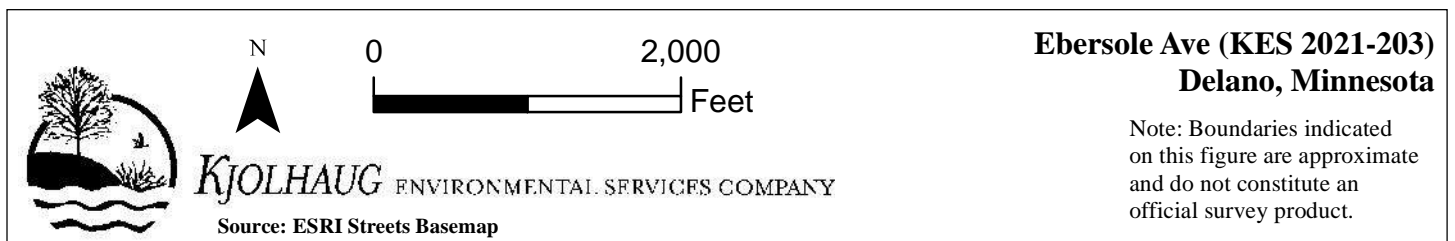


Figure 1 - Site Location



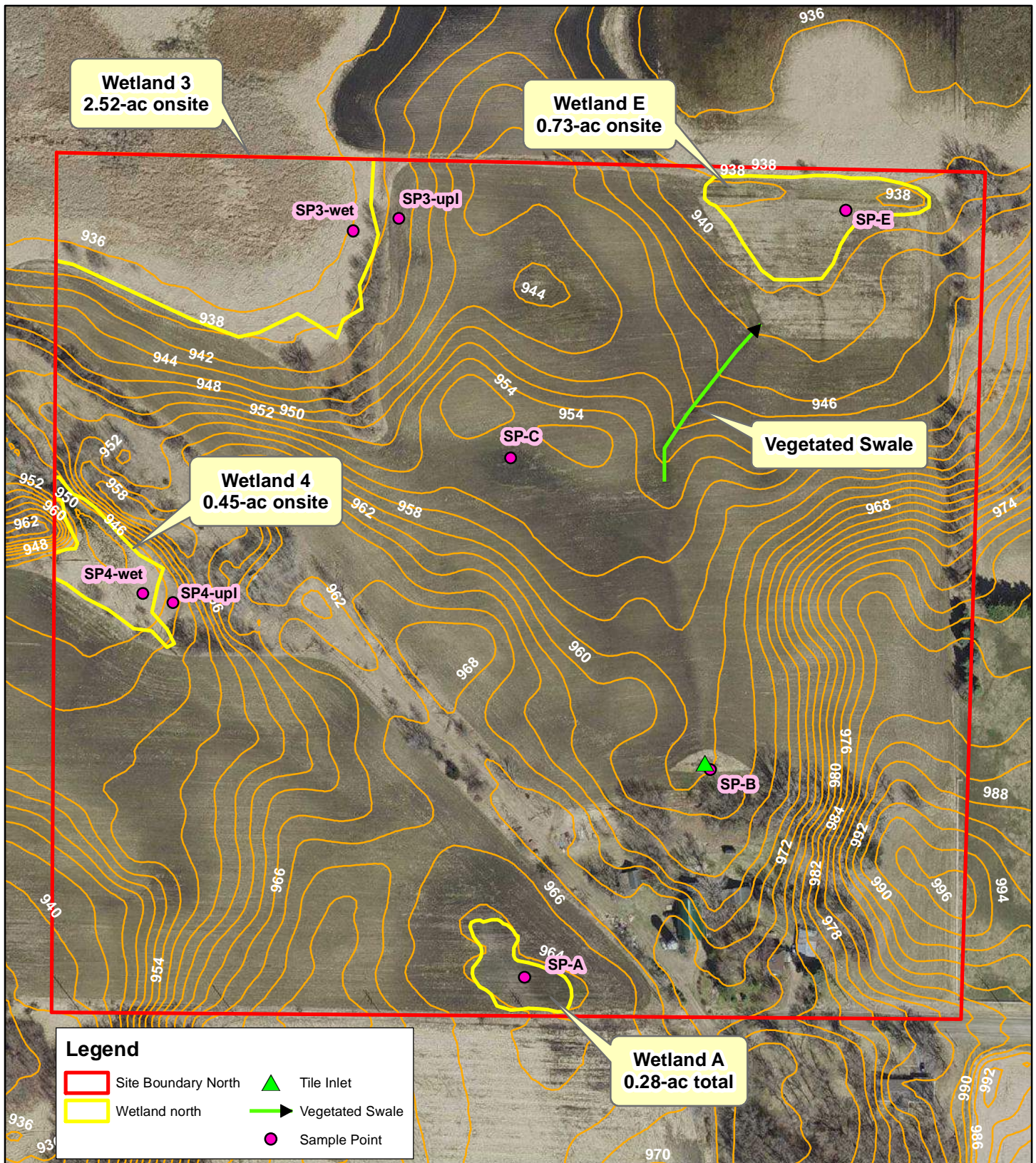


Figure 2 North - Existing Conditions (2020 Metro Photo)

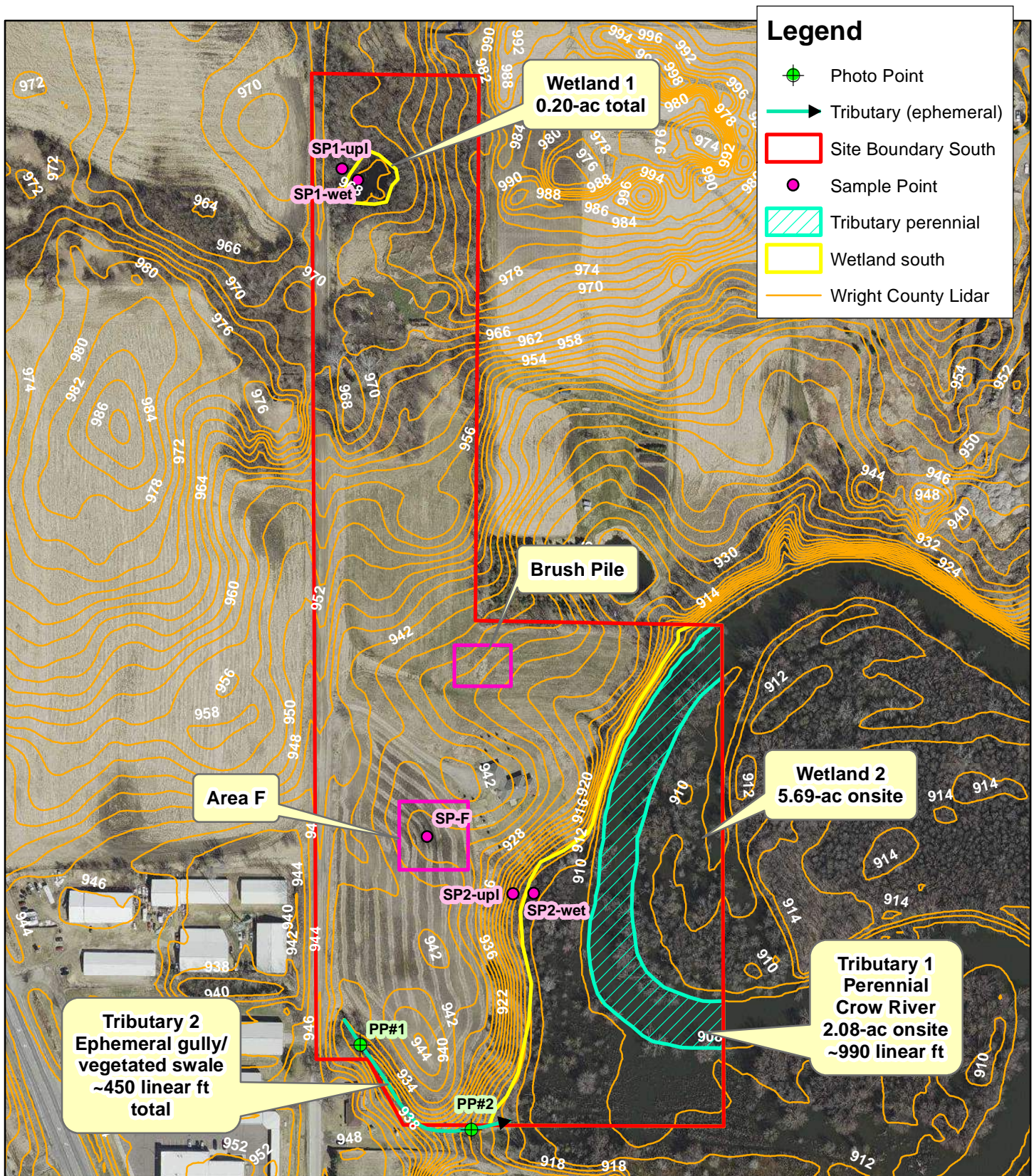


Figure 2 South - Existing Conditions (2020 Metro Photo)



DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL, MN 55101-1678

March 25, 2022

Regulatory File No. MVP-2021-02109-SSC

Capstone Homes
c/o Tom Bakritges
14015 Sunfish Lake Blvd NW #400
Ramsey, Minnesota 55303

Dear Mr. Bakritges:

This letter regards an approved jurisdictional determination for the Ebersole Ave site. The project site is in Section 2, Township 118 North, Range 25 West, Wright County, Minnesota. The review area for our jurisdictional determination is identified as Wetlands 1, A, and E on the enclosed figures, labeled MVP-2021-02109-SSC Page 1 of 3 through 3 of 3.

The review area consists of Wetlands 1, A, and E, which are not waters of the United States subject to Corps of Engineers (Corps) jurisdiction. Therefore, you are not required to obtain Department of the Army authorization to discharge dredged or fill material within this area. The rationale for this determination is provided in the enclosed Approved Jurisdictional Determination form. This determination is only valid for the review area described.

If you object to this approved jurisdictional determination, you may request an administrative appeal under Corps regulations at 33 CFR 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this determination, you must submit a completed RFA form to the Mississippi Valley Division Office at the address shown on the form.

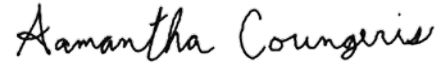
In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR 331.5, and that it has been received by the Division Office within 60 days of the date of the enclosed NAP. It is not necessary to submit an RFA form to the division office if you do not object to the determination in this letter.

This approved jurisdictional determination may be relied upon for five years from the date of this letter. However, the Corps reserves the right to review and revise the boundary in response to changing site conditions, information that was not considered during our initial review, or off-site activities that could indirectly alter the extent of wetlands and other resources on-site. This determination may be renewed at the end of the five year period provided you submit a written request and our staff are able to verify that the limits established during the original determination are still accurate.

Regulatory Branch (File No. MVP-2021-02109-SSC)

If you have any questions, please contact me in our St. Paul office at (651) 290-5268 or Samantha.S.Coungeris@usace.army.mil. In any correspondence or inquiries, please refer to the Regulatory file number shown above.

Sincerely,

A handwritten signature in black ink that reads "Samantha Coungeris". The script is cursive and fluid.

Samantha Coungeris
Project Manager

Enclosures

cc:

Melissa Barrett, KES

Andrew Grean, Wright SWCD

Cade Steffenson, BWSR

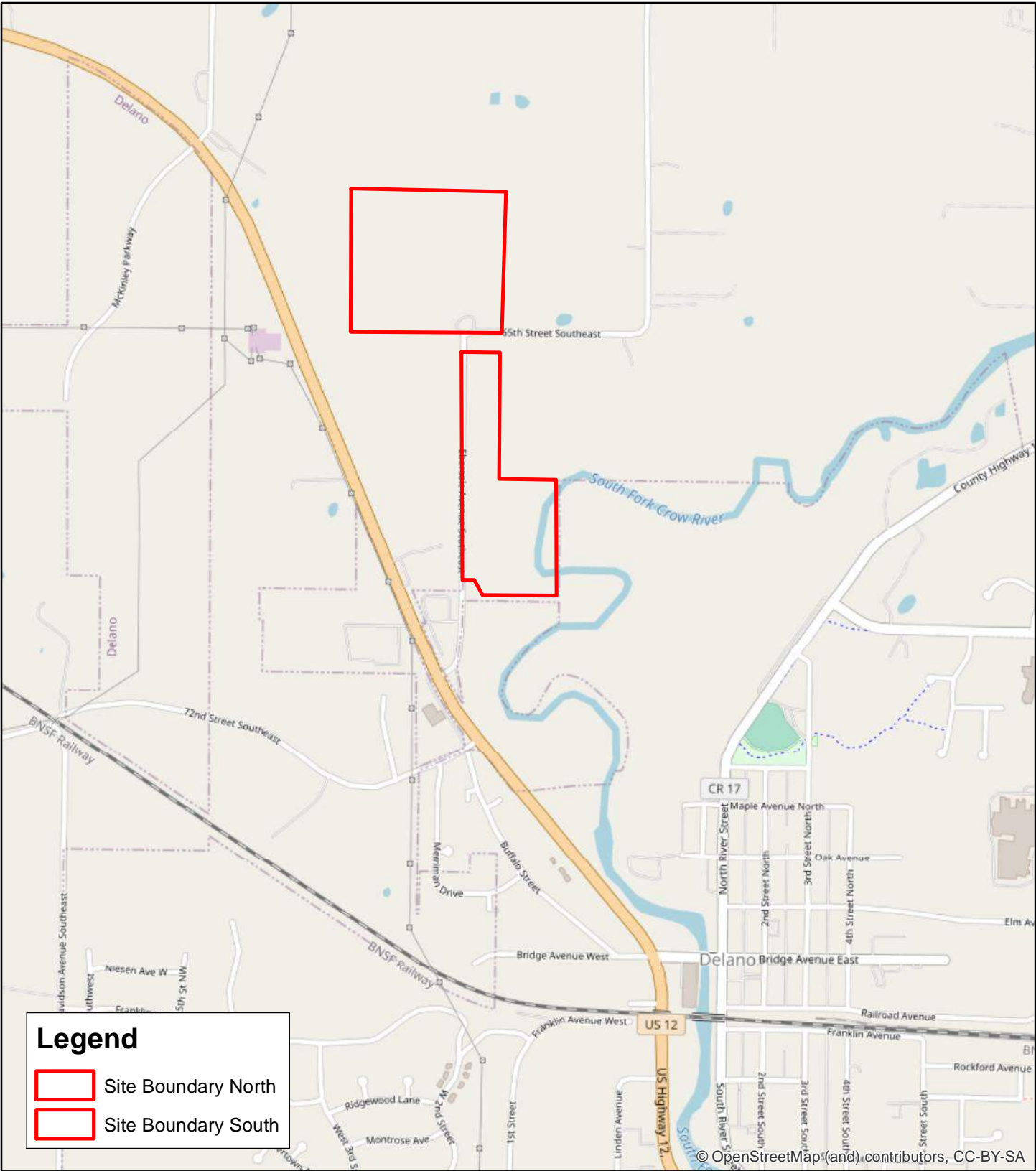
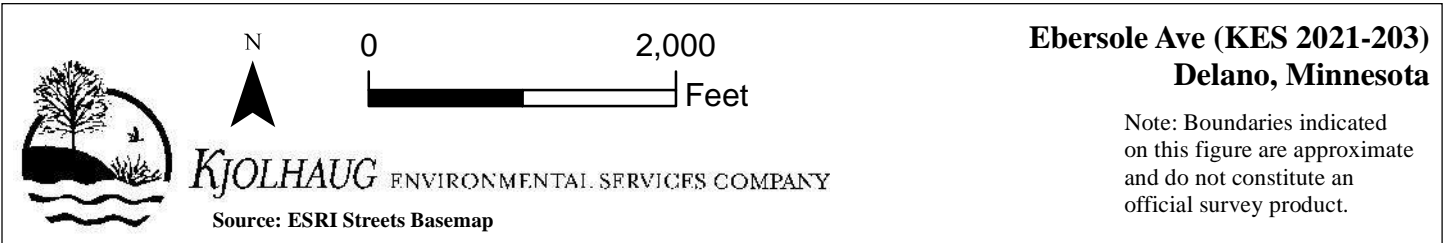


Figure 1 - Site Location



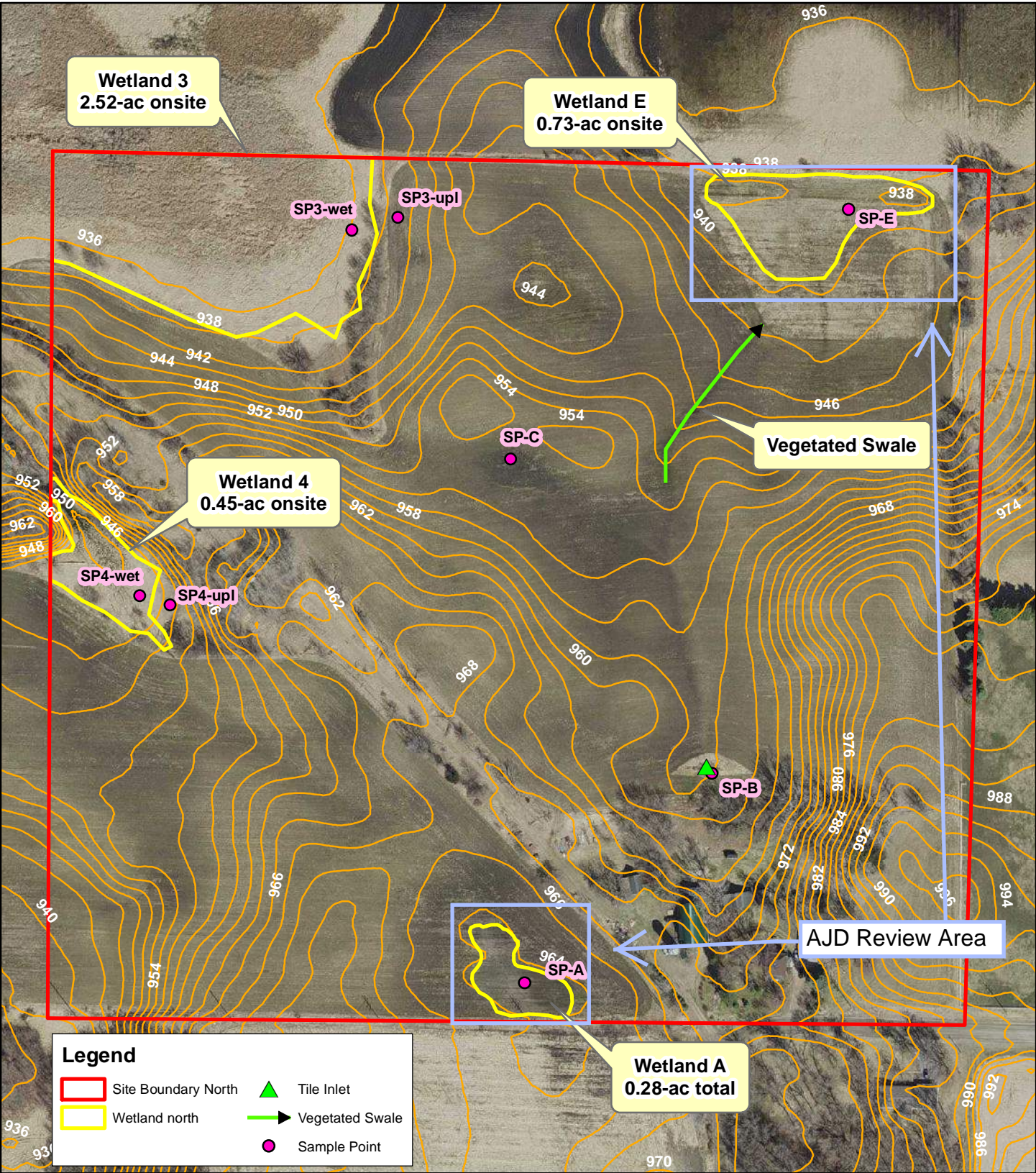



Figure 2 North - Existing Conditions (2020 Metro Photo)



KJOLHAUG ENVIRONMENTAL SERVICES COMPANY
Source: MNGEO Spatial Commons

0 500 Feet

Ebersole Ave South (KES 2021-203)
Delano, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

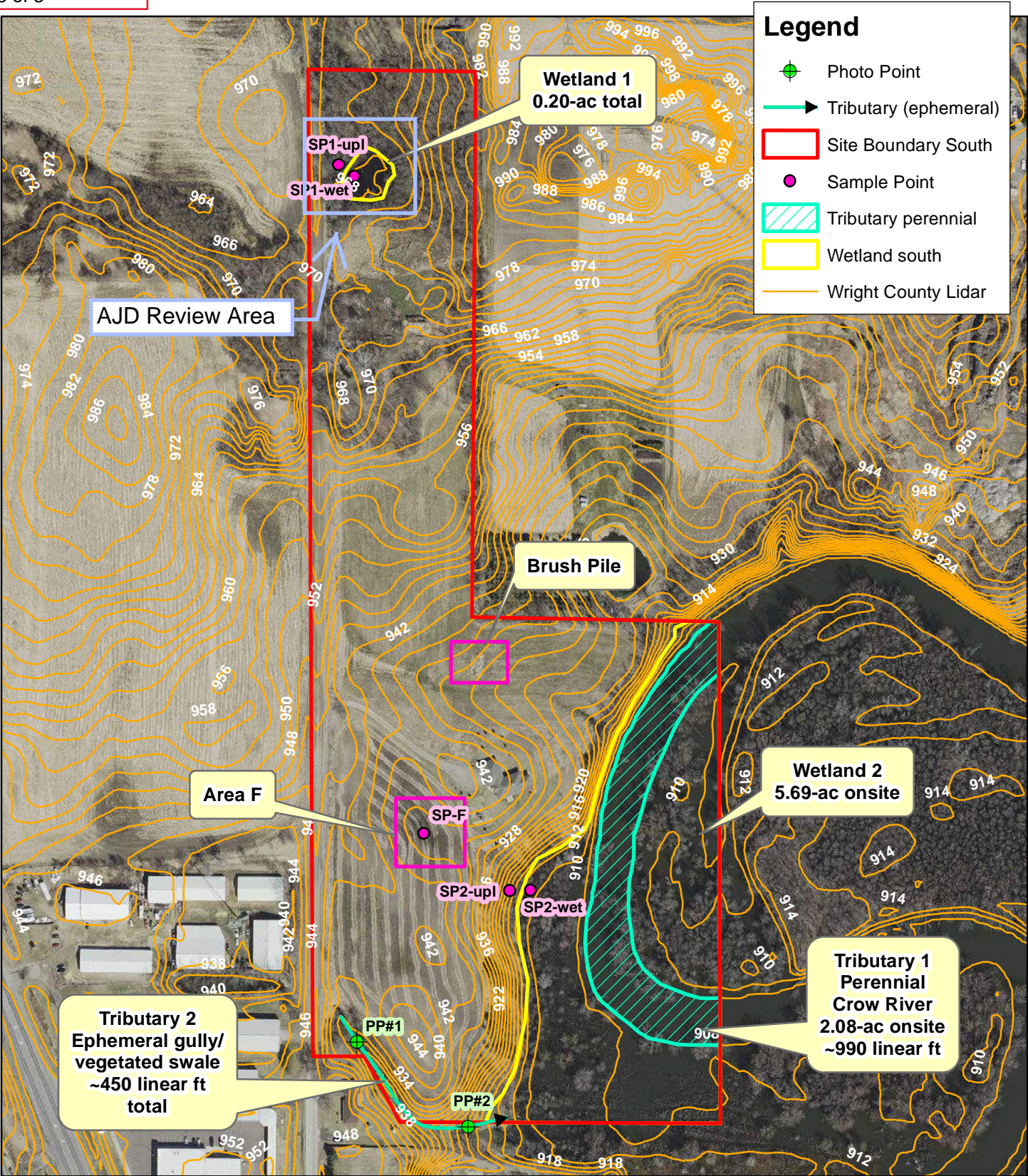





Figure 2 South - Existing Conditions (2020 Metro Photo)



N



0 500 Feet



KJOLHAUG ENVIRONMENTAL SERVICES COMPANY
Source: MNGEO Spatial Commons

Ebersole Ave South (KES 2021-203)
Delano, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): March 25, 2022

B. ST PAUL, MN DISTRICT OFFICE, FILE NAME, AND NUMBER: MVP-2021-02109-SSC, Ebersole Ave site

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Minnesota County/parish/borough: Wright City: Delano

Center coordinates of site (lat/long in degree decimal format): Lat. 45.056378° N, Long. -93.798432° W.

Universal Transverse Mercator: Zone 15

Name of nearest waterbody: South Fork Crow River

Name of watershed or Hydrologic Unit Code (HUC): Upper Mississippi Region; HUC 07010204, 07010205

☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☒ Office (Desk) Determination. Date: March 2, 2022

☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There are no “navigable waters of the U.S.” within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area.

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There are no “waters of the U.S.” within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area.

1. Waters of the U.S.: N/A

2. Non-regulated waters/wetlands (check if applicable):¹

- ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: **This AJD is limited to the boundaries of Wetlands 1, A, and E. Based on the wetland delineation report submitted by the requestor, aerial imagery, and LiDAR contours, we have determined that the wetlands are isolated with boundaries that transition to uplands.**

Wetlands 1, A, and E are surrounded by upland as shown on figures submitted in the wetland delineation report. Wetland E appears to extend offsite into a larger wetland basin. This basin is also surrounded by upland. Review of aerial imagery does not show a surface water connection to a water of the U.S. (WoUS). This is supported by the National Wetland Inventory (NWI) and National Hydrography Dataset (NHD). Additionally, no inlet/outlets were noted by the wetland delineator during the onsite review.

Wetlands 1, A, and E do not support links to interstate or foreign commerce; are not known to be used by interstate or foreign travelers for recreation or other purposes; do not produce fish or shellfish that could be taken and sold in interstate or foreign commerce; and are not known to be used for industrial purposes by industries in interstate commerce. The wetlands do not have an ecological connection to a WoUS. Furthermore, the areas are hydrologically isolated with no surface water connections to a WoUS. Therefore, the Corps has determined that Wetlands 1, A, and E are not regulated by the Corps under Section 404 of the Clean Water Act.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs: N/A

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY): N/A

¹ Supporting documentation is presented in Section III.F.

C. SIGNIFICANT NEXUS DETERMINATION: N/A

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY): N/A

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY): N/A

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
- ☒ Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
- ☐ Other (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource: .
- ☒ Wetlands: Wetland 1: 0.20 acre; Wetland A: 0.28 acre; Wetland E: 0.73 acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource: .
- ☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Ebersole Ave - Wetland Delineation Report dated October 11, 2021
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
- ☒ Office concurs with data sheets/delineation report.
- ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps:
- ☐ Corps navigable waters' study:
- ☒ U.S. Geological Survey Hydrologic Atlas:
- ☒ USGS NHD data.
- ☐ USGS 8 and 12 digit HUC maps.
- ☐ U.S. Geological Survey map(s). Cite scale & quad name:
- ☐ USDA Natural Resources Conservation Service Soil Survey. Citation:
- ☒ National wetlands inventory map(s). Cite name: NWI
- ☐ State/Local wetland inventory map(s):
- ☐ FEMA/FIRM maps:
- ☐ 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): Google Earth 1991-2021
- or ☐ Other (Name & Date):
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Applicable/supporting case law:
- ☐ Applicable/supporting scientific literature:
- ☐ Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD:

**NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND
REQUEST FOR APPEAL**

Applicant: Capstone Homes, c/o Tom Bakritges	File No.: MVP-2021-02109-SSC	Date: March 25, 2022
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://usace.army.mil/inet/functions/cw/cecwo/reg> or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Samantha Coungeris
Regulatory Project Manager
U.S. Army Corps of Engineers, St. Paul District
180 5th Street East, Suite 700
St. Paul, MN 55101
651-290-5268

If you only have questions regarding the appeal process you may also contact the Division Engineer through:

Administrative Appeals Review Officer
Mississippi Valley Division
P.O. Box 80 (1400 Walnut Street)
Vicksburg, MS 39181-0080
601-634-5820 FAX: 601-634-5816

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.

Date:

Telephone number:

Minnesota Wetland Conservation Act Notice of Decision

Local Government Unit: City of Delano	County: Wright
Applicant Name: Matt Barker, Capstone Homes	Applicant Representative: Lucas Mueller (Kjolhaug)
Project Name: Otto Property – Capstone Homes (Delano)	LGU Project No. (if any):
Date Complete Application Received by LGU: 6/17/2022	
Date of LGU Decision: 7/21/2022	
Date this Notice was Sent: 7/21/2022	

WCA Decision Type - check all that apply

<input checked="" type="checkbox"/> Wetland Boundary/Type	<input type="checkbox"/> Sequencing	<input type="checkbox"/> Replacement Plan	<input type="checkbox"/> Bank Plan (not credit purchase)
<input type="checkbox"/> No-Loss (8420.0415)	<input type="checkbox"/> Exemption (8420.0420)		
Part: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G <input type="checkbox"/> H		Subpart: <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9	

Replacement Plan Impacts (replacement plan decisions only)

Total WCA Wetland Impact Area: Click here to enter text.
Wetland Replacement Type: <input type="checkbox"/> Project Specific Credits: <input type="checkbox"/> Bank Credits:
Bank Account Number(s):

Technical Evaluation Panel Findings and Recommendations (attach if any)

<input checked="" type="checkbox"/> Approve <input type="checkbox"/> Approve w/Conditions <input type="checkbox"/> Deny <input type="checkbox"/> No TEP Recommendation
--

LGU Decision

<input type="checkbox"/> Approved with Conditions (specify below) ¹ List Conditions:	<input checked="" type="checkbox"/> Approved ¹ <input type="checkbox"/> Denied
Decision-Maker for this Application: <input checked="" type="checkbox"/> Staff <input type="checkbox"/> Governing Board/Council <input type="checkbox"/> Other:	
Decision is valid for: <input checked="" type="checkbox"/> 5 years (default) <input type="checkbox"/> Other (specify):	

¹ Wetland Replacement Plan approval is not valid until BWSR confirms the withdrawal of any required wetland bank credits. For project-specific replacement a financial assurance per MN Rule 8420.0522, Subp. 9 and evidence that all required forms have been recorded on the title of the property on which the replacement wetland is located must be provided to the LGU for the approval to be valid.

LGU Findings – Attach document(s) and/or insert narrative providing the basis for the LGU decision¹.

<input type="checkbox"/> Attachment(s) (specify):	<input checked="" type="checkbox"/> Summary: The City of Delano approves the Application for Wetland Boundary/Type as documented in the Wetland Delineation Report and Addendum. The 19.72 acre property was field delineated April 26, 2022 and a Level 1 offsite delineation was completed for the farmed areas of the property (Figure 1). One wetland (0.31 acres, Type 5/PUBG) was identified on the southern end of the property (Figure 2). The South Fork of the Crow River crosses the southeast corner of the property, and the top of the bank was mapped during the field visit (Figure 2). Four additional investigative sample points were taken in other low areas in the project area, however none of them met wetland criteria. A field visit was conducted with members of the TEP on 7/19/22 with Andrew Grean (Wright SWCD), Kathryn Keller-Miller (Stantec – City of Delano WCA representative), and Lucas Mueller (representing applicant) present. The TEP reviewed the delineation, agreed with the mapped wetland boundaries and had no additional comments.
---	--

¹ Findings must consider any TEP recommendations.

Attached Project Documents

<input checked="" type="checkbox"/> Site Location Map <input checked="" type="checkbox"/> Project Plan(s)/Descriptions/Reports (specify): Figure 2 – Delineated Wetlands Map
--

Appeals of LGU Decisions

If you wish to appeal this decision, you must provide a written request within 30 calendar days of the date you received the notice. All appeals must be submitted to the Board of Water and Soil Resources Executive Director along with a check payable to BWSR for \$500 *unless* the LGU has adopted a local appeal process as identified below. The check must be sent by mail and the written request to appeal can be submitted by mail or e-mail. The appeal should include a copy of this notice, name and contact information of appellant(s) and their representatives (if applicable), a statement clarifying the intent to appeal and supporting information as to why the decision is in error. Send to:

Appeals & Regulatory Compliance Coordinator
Minnesota Board of Water & Soils Resources
520 Lafayette Road North
St. Paul, MN 55155
travis.germundson@state.mn.us

Does the LGU have a local appeal process applicable to this decision?

☐ Yes¹ ☒ No

¹If yes, all appeals must first be considered via the local appeals process.

Local Appeals Submittal Requirements (LGU must describe how to appeal, submittal requirements, fees, etc. as applicable)

--

Notice Distribution (include name)

Required on all notices:

<input checked="" type="checkbox"/> SWCD TEP Member: Wright SWCD (Andrew Grean) – Andrew.grean@mn.nacdn.net <input checked="" type="checkbox"/> BWSR TEP Member: Cade Steffenson – cade.steffenson@state.mn.us
<input checked="" type="checkbox"/> LGU TEP Member (if different than LGU contact): City of Delano (Shawn Louwagie) - slouwagie@delano.mn.us
<input checked="" type="checkbox"/> DNR Representative: James Bedell – james.bedell@state.mn.us & Melissa Collins - Melissa.Collins@state.mn.us
<input type="checkbox"/> Watershed District or Watershed Mgmt. Org.:
<input checked="" type="checkbox"/> Applicant: Matt Barker – mbarker@capstonehomes-mn.com <input checked="" type="checkbox"/> Agent/Consultant: Lucas Mueller (Kjolhaug) – lucas@kjolhaugenv.com

Optional or As Applicable:

<input checked="" type="checkbox"/> Corps of Engineers:	USACE_requests_mn@usace.army.mil
<input type="checkbox"/> BWSR Wetland Mitigation Coordinator (required for bank plan applications only):	
<input type="checkbox"/> Members of the Public (notice only):	<input type="checkbox"/> Other:

Signature:		Date:	7/21/2022
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This notice and accompanying application materials may be sent electronically or by mail. The LGU may opt to send a summary of the application to members of the public upon request per 8420.0255, Subp. 3.



Figure 1 - Site Location



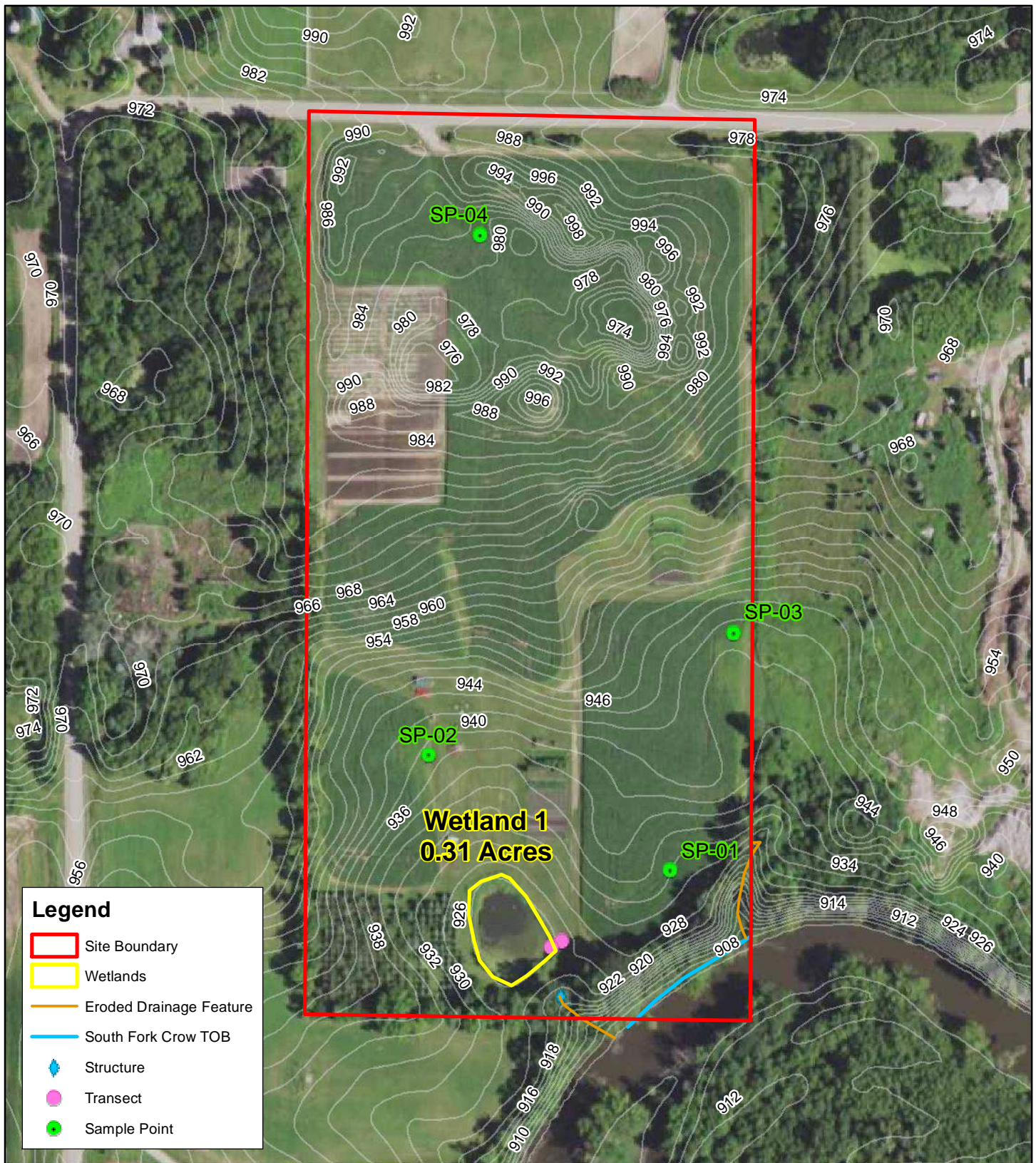


Figure 2 - Existing Conditions



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, ST. PAUL DISTRICT
180 FIFTH STREET EAST, SUITE 700
ST. PAUL, MN 55101-1678

July 22, 2022

Regulatory File No. MVP-2022-01084-JST

Capstone Homes
c/o Matt Barker
14015 Sunfish Lake Blvd Suite 400
Ramsey, MN 55303

Dear Matt Barker:

We are responding to your request, submitted by Lucas Mueller of Kjolhaug Environmental on your behalf, for Corps of Engineers (Corps) concurrence with the delineation of aquatic resources completed on the Capstone Homes- Otto Property located in Delano, MN. The project site is in Section 2, Township 118 North, Range 25 West, Wright County, Minnesota.

We have reviewed the delineation report dated May 25, 2022 and concur that Figure 2 (Existing Conditions) depicts a reasonable approximation of the location and boundaries of aquatic resources on the property. This delineation can be used for planning and will generally be sufficient for Corps permitting purposes. However, this "reasonable approximation" concurrence may not fulfill state or local delineation requirements. It may be necessary to review this determination in response to changing site conditions or new information.

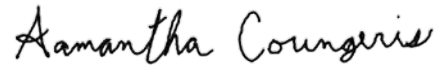
Additional Information regarding Jurisdiction and Permitting:

No jurisdictional determination was prepared for this project, nor is one required to support a permit application. If you submit a permit application, we will assist you in identifying aquatic resources that are not subject to Corps regulation to exclude those resources from the permit evaluation. A permit application should include this delineation, any subsequent revisions, and any state or local delineation approvals. You are advised that a permit or exemption from a state or local agency does not satisfy the requirement to obtain a Corps permit where one is needed.

Please note that the Corps has issued Nationwide General Permits and Regional General Permits that provide authorization for many minor activities. Many of those general permits require a pre-construction notification and Corps verification prior to starting work. However, several general permits also have "self-certifying" provisions that eliminate the need to provide notice to the Corps, provided the permittee complies with the terms and conditions of the general permit. Current general permit terms and conditions can be found at: <https://www.mvp.usace.army.mil/Missions/Regulatory/Permitting-Process-Procedures/>.

If you have any questions, please contact me at (651) 290-5268 or Joseph Toth in our St. Paul office Joseph.Toth@usace.army.mil. In any correspondence or inquiries, please refer to the Regulatory file number shown above.

Sincerely,

A handwritten signature in black ink that reads "Samantha Coungeris". The script is cursive and fluid.

Samantha Coungeris
Project Manager

cc:
Cade Steffenson, BWSR
Tony Kaster, City of Delano
Lucas Mueller, Kjolhaug Environmental

Appendix D
Environmental Site Assessment Report Summaries
(full reports available upon request)

Ebersole Residential Subdivision EAW
Delano, MN

PHASE I ENVIRONMENTAL SITE ASSESSMENT

4450 65th St SE (the Rutherford Property), 4545 65th St SE
(the Otto Property), and 6800 Ebersole Ave SE (the
Running Property)
Delano, Minnesota 55328

Project # 9896-00

Prepared for:

Capstone Homes
14015 Sunfish Lake Boulevard, STE 400
Ramsey, Minnesota 55303

April 5, 2022



3890 PHEASANT RIDGE DRIVE NE, SUITE 100
BLAINE, MN 55449

TEL 763.489.7900
FAX 763.489.7959

CARLSONMCCAIN.COM

ENGINEERING \ LAND SURVEYING \ ENVIRONMENTAL

CONCLUSIONS

At the request of Mr. Matt Barker with Capstone Homes, Carlson McCain, Inc. (Carlson McCain) has performed a Phase I Environmental Site Assessment (ESA) in general conformance with the scope and limitations of American Society for Testing and Materials (ASTM) Standard Practice E1527-13 for the Property located at 4450 65th St SE (the Rutherford Property), 4545 65th St SE (the Otto Property), and 6800 Ebersole Ave SE (the Running Property) in the City of Delano, Minnesota. Any exceptions to, or deletions from this practice are described in Section 8.0 of this report.

This Assessment has revealed no evidence of "recognized environmental conditions" (RECs) in connection with the Property except for the following:

- The placement of unregulated fill material on the northwest corner of the Rutherford Property is a REC since the source of fill material is unknown and it is possible it could contain contamination.
- The placement of fill soil to restore a former sand/gravel mining operation on the Otto Property is a REC since the source of material is unknown and it is possible it could contain contamination.

Historical recognized environmental conditions (HRECs) are defined by ASTM as a past release of any hazardous substances or petroleum products that has occurred in connection with the Property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the Property to any required controls.

- The Tapio feedlot and associated pollution and violations are considered an HREC since they were resolved to the satisfaction of the regulatory agency (MPCA).

Controlled recognized environmental condition (CRECs) are defined by ASTM as a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.

- There were no CRECs identified during the course of this assessment.

Although not considered RECs for the Property, the following environmental concerns were also identified:

- Several areas of surficial debris were identified on the Otto and Rutherford Properties including items such as appliances, wire, concrete, metal cans/drums, scrap metal, and miscellaneous garbage. These items are not necessarily a REC, but should be cleaned up prior to redevelopment of the site.

- The site reconnaissance did identify numerous buildings on the Property that may contain asbestos, and other regulated wastes. Therefore, an Asbestos and Regulated Waste Assessment should be completed prior to any building demolition, in accordance with MPCA guidance document w-sw4-07.

PROJECT SUMMARY TABLE

Report Section		Opinion
3.0	USER PROVIDED INFORMATION	No RECs identified during review of the user provided information.
4.2.2	STANDARD ENVIRONMENTAL RECORD SOURCES FOR THE SUBJECT PROPERTY	The Tapio feedlot and associated violations are considered an HREC since they were resolved to the satisfaction of the regulatory agency (MPCA). See File Review section for more detail.
4.2.3	STANDARD ENVIRONMENTAL RECORD SOURCES FOR SURROUNDING SITES	No RECs were identified during a review of database listings for surrounding sites.
4.3	FILE REVIEW	The Tapio feedlot and associated pollution and violations are considered an HREC since they were resolved to the satisfaction of the regulatory agency (MPCA). The presence of of a former sand/gravel mining operation on the Otto Property is a REC since the source of fill material used to restore the site is unknown. Therefore, it is possible this fill material could contain contamination; however preliminary investigation completed by Carlson McCain indicates this is unlikely.
5.1	HISTORICAL USE INFORMATION ON THE SUBJECT PROPERTY	No RECs were identified during a review of historical use information for the Property.
5.2	HISTORICAL USE INFORMATION ON ADJACENT PROPERTIES	There were no RECs identified during the review of historical use information for adjacent Properties.
6.0	SITE RECONNAISSANCE	Several areas of surficial dumping were identified on the Otto and Rutherford Property including items such as appliances, wire, concrete, metal cans/drums, scrap metal, and

Report Section		Opinion
		miscellaneous garbage. These items are considered RECs due to the possibility of resulting contamination to have impacted the subsurface.
7.0	INTERVIEWS	The dumping of fill material on the northwest corner of Ms. Rutherford's Property and the presence of fill material on the Otto Property are RECs due to the unknown origin of the material and its potential to contain contamination.
9.0	DATA GAPS	Carlson McCain considers the evaluation of the presence of RECs, CRECs, and HRECs to be complete, based on the lack of identified changes in land use during the periods affected by any data gaps. Therefore, we do not recommend additional investigation relative to the resolution of those data gaps, as we do not believe it would affect our ability to form an opinion regarding RECs associated with the Property.

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1.0 INTRODUCTION

At the request of Mr. Matt Barker with Capstone Homes, Carlson McCain has prepared this Phase I ESA for the Property located at 4450 65th St SE (the Rutherford Property), 4545 65th St SE (the Otto Property), and 6800 Ebersole Ave SE (the Running Property) in Delano, Minnesota (referred to as the "Property" or "Site", hereafter). This report was prepared in general accordance with the scope of work and limitations of ASTM Standard Practice E1527-21, the U.S. Environmental Protection Agency (EPA) Standards and Practices for All Appropriate Inquiries (AAI) (40 CFR Part 312). This report summarizes the findings of the ESA, including historical uses of the Property and is designed to provide an assessment concerning environmental conditions (limited to those issues identified in the report) as they exist at the Property.

1.1 Purpose and Objectives

The purpose of the Phase I ESA was to provide information about the general environmental; character of the Property and to satisfy one requirement to qualify for the "innocent landowner, contiguous property owner or bona fide prospective purchaser" limitations on Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) liability, in accordance with 42 USC §9601(35) (B), if the need should arise. That requirement includes conducting all appropriate inquiries into the previous ownership and uses of the property consistent with good commercial and customary practice as defined at 42 U.S.C. §9601(35)(B). This Phase I ESA has been conducted following guidelines established by the ASTM "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process," Standard E 1527-21.

The objectives of this Phase I ESA were to provide a review of a broad base of historical sources, government records and regional information; observe physical conditions at the Property and adjacent properties; provide an evaluation of potential sources and receptors of contaminants (if present); conduct interviews with knowledgeable persons; and to evaluate user-provided information. Specifically, this Assessment attempted to identify RECs, as defined in CERCLA Section 101(14) §312.1(c). The term REC as defined by ASTM means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not considered RECs.

1.2 Significant Assumptions

This report provides a summary of past and present environmental concerns; however, this ESA is limited by the availability of information that was reasonably ascertainable and practically reviewable at the time of the Assessment. It is possible that contamination from unreported or unauthorized disposal, for which there was no obvious indications, exists on the Property.

1.3 Limitations Conditions

This Assessment has been completed in accordance with the generally accepted methodologies referred to in the ASTM Standard Practice E 1527-21 for conducting a Phase I ESA.

April 5, 2022

- For the purposes of this Phase I ESA, certain information was relied upon that was provided by the User, defined by ASTM as "the party seeking to use Practice E 1527-21 to complete an ESA of the Property," which is assumed to be accurate. Information provided by the User is summarized in Section 3.0 of this report.
- Evaluating the compliance (i.e. compliance audit) of past, current or future owners with applicable Local, State or Federal laws and regulations was not included in our scope of services.
- Compounds or materials, other than those noted in this report for which there was no obvious indication, may be present on the Property.
- Information gathered for the purposes of this Phase I ESA was used without extraordinary verification.
- Snow cover limited our ability to thoroughly inspect the ground surface.

1.4 Special Terms and Conditions

No special terms or conditions were agreed to as part of this Phase I ESA.

1.5 User Reliance

This report may be distributed and relied upon by Capstone Homes and their successors and/or assigns. Reliance on the information and conclusions in this report by any other entity is not authorized without the written consent of Carlson McCain.

2.0 SITE DESCRIPTION

2.1 Site Location and Legal Description

The Property is located at 4450 65th St SE (the Rutherford Property), 4545 65th St SE (the Otto Property), and 6800 Ebersole Ave SE (the Running Property) in Delano, Wright County, Minnesota and is located Southeast of the intersection of Ebersole Avenue Southeast and 65th Street Southeast within a mostly agricultural area of Delano, Minnesota. The Property is approximately 88.31 acres in size and includes 3 parcels (208200022401, 208200024401, and 208200024200); it is located in the center of Section 2, Township 118 North, Range 25 West on the United States Geological Survey (USGS) Delano 7.5-minute topographic quadrangle. The Site location is depicted on Figure 1 and general locations of Site features observed during the site reconnaissance are provided on Figure 2 (Site Features Map) in Appendix A. The Site location is also depicted on a map generated by EnviroSite (Appendix B). The table below provides further information regarding the Property:

Address:	4450 65th St SE (the Rutherford Property), 4545 65th St SE (the Otto Property), and 6800 Ebersole Ave SE (the Running Property), Delano, Wright County, Minnesota 55328
Assessor's Parcel Number (APN):	208200022401, 208200024401, and 208200024200
Site Zoning Classification:	Agricultural
Number of Buildings:	Two residences, one barn, one detached garage, one silo, two abandoned houses, and five sheds/outbuildings.
Construction Details:	The Running residence is a single story home with walkout basement and attached garage. The Rutherford residence is a two-story home with a basement. The barn has a walkout basement (former cattle milking/feeding) and the abandoned homes and sheds/outbuildings are slab on grade one to two stories.
Land Acreage (Ac):	88.31 acres
Date of Construction:	Rutherford buildings built pre-1937. Running residence built in 2009.
Current Owner/Current Use:	Gail Rutherford, Marilyn Running, and James & Karen Otto
Historical Property Uses:	Agricultural (livestock and cultivated land).
Surrounding Property Characteristics:	Agricultural, limited residential and commercial, and undeveloped wetland and woodlands.

Assumed Groundwater Flow Direction and Depth:	Flow is assumed to be to the East/Southeast, 0-30 feet below ground surface (bgs)
--	--

2.2 Descriptions of Structures, Roads and Other Improvements on the Property

The Property is currently developed with several buildings, but a majority of the Property consists of agricultural fields. Site features are depicted on the Site Features Map. Access to the Property is from Ebersole Avenue Southeast to the south/west or 65th Street Southeast to the north/east.

2.2.1 Drinking Water Supply

According to the Property owners, the Property is not currently connected to the municipal water supply. Water supply wells were identified on the Running and Rutherford Properties.

2.2.2 Sewer Services

According to the Property owners, the Property is not connected to the municipal sewer system. Septic systems were observed on the Running and Rutherford Properties.

2.2.3 HVAC System

According to the Property owners, the Property is heated by natural gas fired forced air furnaces. No heating oil tanks were observed during the site reconnaissance.

2.3 Current Uses of the Nearby Properties

Direction	Current Use(s)
North	Cultivated agricultural land and residential.
South	Cultivated agricultural land and residential.
East	Tree maintenance, cultivated agricultural land and residential.
West	Storage facility, cultivated agricultural land and residential.

3.0 USER PROVIDED INFORMATION

To meet the requirement of ASTM E 1527-21, the User is required to provide specific information as it pertains to the Property. The following section provides a brief discussion of User provided information. The User Questionnaire was completed by Mr. Matt Barker with Capstone Homes. Supporting documents are included in Appendix C.

User Provided Information	REC?	Comments
Owner, Property Manager and Occupant Information	No	Gail Rutherford, Marilyn Running, and James & Karen Otto are the current owners of the Property.
Title Records and Environmental Liens Search	No	Not aware of environmental liens or AULs on the Property.
Activity and Use Limitations (AULs)	No	Other than shoreland restrictions (associated with the Crow River), Mr. Barker is not aware of any AULs in place at the Property or filed or recorded in a registry under federal, tribal, state or local law, including engineering controls, land use restrictions, or institutional controls.
Specialized Knowledge of the User	No	Reported no specialized knowledge or experience related to the Property.
Valuation Reduction for Environmental Issues	No	Not aware of the purchase price of the Property being discounted due to contamination.
Commonly Known or Reasonably Ascertainable Information	No	Aware of the past use of the Property as agricultural land and sand mining. Unaware of any chemicals, spills, chemical releases or environmental cleanups present or once present.
The degree of obviousness of the presence or likely presence of contamination at the Property, and the ability to detect the contamination by appropriate investigation.	No	Not aware of any obvious indicators that point to the presence or likely presence of releases at the Property.
Reason for Performing Phase I	No	This Phase I ESA was performed to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner or bona fide prospective purchaser limitations on CERCLA liability for a property transaction.

4.0 RECORDS REVIEW

The purpose of the records review was to obtain and review records that may assist in identifying RECs in connection with the Property. Some of the records reviewed pertain to the Property as well as to properties within an additional ASTM specified search distance. These records were reviewed in an effort to evaluate the potential for migrating hazardous substances or petroleum products to impact the Property. Unless otherwise stated, the approximate minimum search distances used were specified in ASTM Standard E 1527-21.

4.1 Physical Setting Source(s)

4.1.1 Regional Geologic and Hydrogeologic Setting

The following information has been summarized from geologic information provided in the University of Minnesota Geological Survey Wright County Atlas Series, Surficial Geology, compiled by Gary Meyer, 2012. Surficial geology at the Property is classified as loamy till. Loamy till is defined as chiefly loam-texture, unsorted sediment with scattered pebbles, cobbles and boulders. Lenses of stratified sediment are uncommon in most areas.

The following information has been summarized from geologic information provided in the University of Minnesota Geological Survey Wright County Atlas Series, Bedrock Geology, compiled by John Mossler, 2012 and the USGS Delano 7.5 minute topographic quadrangle. Bedrock beneath the Property is categorized as Tunnel City Group, formerly the Franconia Formation and is divided into two formations: the upper Mazomanie Formation and the lower Lone Rock Formation. The uppermost formation is dominantly white to yellowish-gray, fine to medium grained, cross-stratified, generally friable, quartz sandstone. The Lone Rock Formation is described as pale yellowish-green, very fine to fine-grained, glauconitic, feldspathic sandstone with thin, greenish-gray shale partings.

It is presumed that regional groundwater flow is to the East/Southeast towards the South Fork of the Crow River in this area, and is based on the assumption that groundwater flow closely parallels ground surface topography and/or follows natural drainage. This does not take into account any historic cut and fill activity, shallow bedrock or unobserved artificial conditions. The anticipated depth to groundwater, based on the Quaternary Hydrogeology Water-Table System Map in the County Atlas Series for Wright County, is 0-30 feet below grade.

4.1.2 Site Topography

Information about the Site topography has been obtained and summarized from the USGS maps and observations made during the site reconnaissance. The approximate elevation of the Property varies from 910 to 1,000 feet national geodetic vertical datum (NGVD). The topography of the Property itself consists of rolling hills. In general it slopes from the center down towards the South Fork of the Crow River, as well as down towards the wetland located in the northwest corner of the Rutherford Property.

4.2 Standard Environmental Record Sources

At the request of Historical Information Gatherers, Inc., (HIG), Envirosearch was contacted to conduct a limited search of accessible State and Federal database files to determine if properties within the vicinity of the Property have had a release or threatened release of a hazardous substance, pollutant

April 5, 2022

or contaminant. A copy of the database report is included in Appendix B. A summary of the databases accessed, the search distances used and an explanation of each acronym and its corresponding database are outlined in the Envirosearch report and provided in the table below. In addition, Carlson McCain accessed Minnesota Department of Agriculture's (MDA) What's in My Neighborhood (WIMN) online database and MDA County Spill List for Wright County for information on agricultural related release sites at the Property and within one-half mile from the Property. A copy of the Wright County Spill List is included in Appendix B.

The following tables provide a summary of information provided in the Envirosearch Report for the Property, as well as for sites located adjacent to or in an expected hydraulic up-gradient direction that are likely to lead to contamination of the Property. According to the database report, there are three listings for the Property. The listings for the Property are detailed in Table 4.2.2 and the nearby sites that were identified within the specified search radii for the databases searched that were determined to be located adjacent to, in an expected hydraulically up-gradient direction from the Property or likely to lead to contamination of the Property are detailed in Table 4.2.3. As part of the search activities, Envirosearch also identified unplotable sites, which are defined as sites not mapped due to poor or inadequate address information. There were three unplotable sites identified; however none of these sites appear to be near the Property. There were no listings identified during a review of the MDA WIMN database or Washington County Spill List.

4.2.1 Regulatory Report Summary

Database	Search Radius	Target Property	Within 0.12mi	0.12mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
DEBRIS EPA SWRCY	0.5	0	1	0	0	0	1
EPA LUST	0.5	0	1	0	0	0	1
EPA UST	0.25	0	1	0	0	0	1
FRS	0	1	0	0	0	0	1
MANIFEST EPA	0.25	0	1	0	0	0	1
RCRA_NONGEN	0.25	0	3	0	0	0	3
RCRA_VSQQ	0.25	0	0	1	0	0	1
AG_LICENSES - MN	0.25	1	1	2	0	0	4
AGVIC - MN	0.5	1	0	0	1	0	2
AST - MN	0.25	0	1	1	0	0	2
HIST LUST - MN	0.5	0	1	0	0	0	1

Database	Search Radius	Target Property	Within 0.12mi	0.12mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
HIST SPILLS - MN	0.125	0	2	0	0	0	2
HIST TANK SITES - MN	0.25	0	1	0	0	0	1
HIST WIMN - MN	0.5	2	2	0	4	0	8
HWG - MN	0.25	0	2	3	0	0	5
LUST - MN	0.5	0	1	0	0	0	1
MANIFEST - MN	0.25	0	1	1	0	0	2
MDA LIC - MN	0.25	1	1	2	0	0	4
MPCA BROWNFIELDS - MN	0.5	0	0	0	1	0	1
MPCA REMEDICATION - MN	0.5	0	0	1	0	0	1
MPCA SITE ASSESSMENT - MN	0.5	0	0	1	0	0	1
SHWS - MN	1	0	0	1	1	0	2
SPILLS - MN	0.125	0	2	0	0	0	2
SWF/LF - MN	0.5	0	1	1	0	0	2
T 2 - MN	0.25	0	1	0	0	0	1
UST - MN	0.25	0	1	1	0	0	2
WIMN - MN	0.5	2	3	3	8	0	16

4.2.2 Standard Environmental Record Sources for the Subject Property

Subject Property Regulatory Database Listings	
Database	Comments
FEEDLOT	Listed as a feedlot with one violation and two enforcements
FRSMN	Listed as an animal feeding operation and cottage food producer
WIMN	Listed as a feedlot
Opinion: The Tapio feedlot and associated violations are considered an HREC since they were resolved to the satisfaction of the regulatory agency (MPCA). See File Review section for more detail.	

4.2.3 Standard Environmental Record Sources for Surrounding Sites

The following table(s) are a summary of select sites located in close proximity with an elevated risk for impacting the Property within the specified search radii for the databases searched that were determined to be located adjacent to, in an expected hydraulically up-gradient direction from the Property or likely to lead to contamination of the Property. There were numerous other surrounding sites in the database report that were reviewed and the details for those sites can be found in the database report included in Appendix B.

Facility Name:	Tree Top Clearing
Address:	4683 65 ST SE 4683 65TH ST SE, Delano DELANO, MN, 55328
Distance (feet) & Direction:	513 feet East
Hydrologic Position to the Property:	Side/down-gradient
Databases Listed:	PCASPILLS
Comments: Fire in shop reported 3-2-2008, possible oil and chemicals involved. MPCA involvement listed, site closure: "Response/Action Completed" listed (no date).	
Opinion: This site is not considered a REC due to the presumed minimal impacts and the considerable distance away, in a hydraulically side/down-gradient position from the Property.	

Facility Name:	Organix Solutions/Randy's Sanitation
Address:	4351 HIGHWAY 12 SE 4351 US HWY 12 SE 4351 Highway 12, Delano Franklin Township DELANO, MN,

Distance (feet) & Direction:	575 feet South/Southwest
Hydrologic Position to the Property:	Up/side-gradient
Databases Listed:	LUST, UST, AST, HWG, FRS, WIMN
<p>Comments: One 10,000-gallon UST containing diesel and four ASTs ranging from 250-gallons to 500-gallons containing gasoline, used oil, motor oil, and "other petroleum" are listed as active. Listed as a very small quantity generator of hazardous waste including: spent halogenated solvents, spent non-halogenated solvents, and ignitable waste, (parts washer solvents), One violation listed 10/28/2005, compliance listed as 3/2/2006, no enforcements listed. Petroleum Leak ID# 18695 listed as reported on 2/9/2012 and closed on 8/2/2012. Contaminated soils remaining are listed, offsite/groundwater/soil vapor contamination are not listed. Diesel tank dispenser line broke, causing release. Listed as an active solid waste facility.</p>	
<p>Opinion: This site is not considered a REC due to the considerable distance away and lack of documented groundwater impacts.</p>	

Facility Name:	LEONE LANDSCAPE AULT MARINE INC D&M STORAGE
Address:	4306 HIGHWAY 12 SE, DELANO Franklin Township Delano, MN,
Distance (feet) & Direction:	942 feet South/Southwest
Hydrologic Position to the Property:	Up/side-gradient
Databases Listed:	FRS, WIMN, HWG
<p>Comments: Listed as a hazardous waste generator of ignitable waste. No violations or enforcements listed.</p>	
<p>Opinion: This site is not considered a REC since hazardous waste generators without any violations or enforcements are typically considered a de minimis condition.</p>	

It should be noted that this is a limited file search and does not include a complete review of all records and reports. However, the database report does contain a comprehensive listing of most sites that are known to be or are suspected to have environmental concerns. For this Phase I ESA, the database file search appeared to provide sufficient and current information on potential or reported environmental impacts at or near the Property. A detailed map and description of the facilities identified in the State and Federal databases are included in Appendix B.

*Links to description of codes can be found in the References Section 11.0 and described in the database report. Waste codes of F001, F002, D039 and D040 are associated with chlorinated solvents.

4.2.4 Institutional Controls

The MPCA maintains an on-line dataset of Institutional Controls (ICs) in Minnesota. IC's are restrictions, conditions, or controls intended to protect the integrity of a response action and help minimize the potential for exposure to contamination. This dataset was accessed on February 28, 2022; there were no IC's associated with the Property or the adjacent properties.

4.3 File Review

The following local files were reviewed as part of this Phase I ESA and can be found in Appendix D.

Building Records:

- No RECs identified

Limited Phase II Investigation Report - Otto Property:

- Carlson McCain was onsite during a geotechnical investigation completed by Haugo Geotechnical Services (Haugo) to provide oversight and conduct field screening/sampling activities.
- Twelve test pits and eight soil borings were completed by Haugo. Nine soil and one groundwater samples were collected and analyzed for volatile organic compounds (VOCs), diesel range organics (DRO), gasoline range organics (GRO), Resource Conservation and Recovery Act (RCRA) metals, and/or polynuclear aromatic hydrocarbons (PAHs).
- Other than a low-level, naturally-occurring concentration of barium, there were no impacts identified in the groundwater
- Low level DRO and PAH impacts were identified in the soil samples; however, all detections fell below their respective screening limits.
- No further investigation was required; however, a Development Response Action Plan was recommended to ensure the impacted soil (and any additional environmental concerns uncovered during development) were properly managed in the future.

Daniel Tapio Farm Case File:

- Mr. Tapio operated a buffalo farm near the former residence on the Running Property for over 20 years.
- Mr. Tapio allowed manure and animal remains to accumulate within the enclosure up to depths of four feet.
- The Feedlot Program of the MPCA issued an administrative penalty order in 2003 and in 2004 issued a 90-day jail sentence if the manure was not cleaned up.

April 5, 2022

- Two surface water runoff samples were collected. Sample A was collected from the drainage ditch upstream of the Tapio farm, and Sample B was collected from the drainage ditch receiving runoff from the Tapio feedlot. The results exhibited elevated concentrations of total chloride, total ammonia, Kjeldahl nitrogen, nitrogen as nitrate plus nitrite, biological oxygen demand (BOD), and fecal coliform in the runoff coming from the feedlot.

Substance Analyzed	Sample A	Sample B	Units
Suspended Solids	10	22	mg/L
Ph	7.8	8.1	
Total Chloride	56	190	mg/L
Total Phosphorus			
Total Ammonia	0.08	1.39	mg/L
Total Kjeldahl Nitrogen	1.50	30.6	mg/L
Total NO ₂₋₃	2.3	25	mg/L
BOD 5-day	6.1	78	mg/L
Fecal Coliform	<4	340,000	/100 ml

- The site was inspected August 8, 2005 by the MPCA and the Wright County Feedlot Officer. They found that 99% of the manure had been removed. The only remaining manure was a "very minimal, residual amount that was unreachable under the fences."
- Based on this inspection the MPCA closed the case file on December 6, 2006.

Opinion: The Tapio feedlot and associated pollution and violations are considered an HREC since they were resolved to the satisfaction of the regulatory agency (MPCA). The presence of a former sand/gravel mining operation on the Otto Property is a REC since the source of fill material used to restore the site is unknown. Therefore, it is possible this fill material could contain contamination; however preliminary investigation completed by Carlson McCain indicates this is unlikely.

5.0 HISTORICAL USE INFORMATION

As part of the historical data review, Carlson McCain reviewed available aerial photographs, topographic maps, and city directories with coverage of the Property and surrounding properties for the years listed below. Copies of the references are included in Appendices E through H. The results of this review are included in the following tables.

5.1 Historical Use Information on the Subject Property

Historical Source	Years Reviewed
Aerial Photographs (A)	1937 - 2019
Topographic Maps (T)	1958 - 2016
City Directories (C)	2007 - 2018
Fire Insurance Maps (F)	No coverage available

Historical Use Summary on the Subject Property			
Dates	RECs?	Uses	Source(s)
1937	No	A farmstead is visible on the SE corner of the Rutherford Property and the NW corner of the Running Property. A road is visible cutting from the NW to the SE across the Rutherford Property. The northern portion of the Running and Otto Properties are covered in trees. The Crow River meanders through the SE corner of the Running Property. The remainder of the Property consists of cultivated agricultural land.	A
1940 - 2003	No	The wooded northern portion of the Otto Property is slowly converted to farmland, except for a small grove of trees. A field road is first visible leading to these trees in 1979.	A, T
2008	No	A sand/gravel mining operation is visible on the Northern portion of the Otto Property.	A
2015	No	The sand/gravel mine footprint has expanded. The farmstead on the Running Property has been removed and a new house is visible in its current location.	A
2019	No	The sand/gravel mine is no longer visible.	A, T
2007-2018	No	Residential listings only for the Property	C

Opinion: No RECs were identified during a review of historical use information for the Property.

5.2 Historical Use Information on Adjacent Properties

Historical Use Information on Adjacent Properties			
Dates	RECs?	Uses	Source(s)
1937 - 1979		Ebersole avenue and 65th Street are visible along the Property boundary. Highway 12 is visible west of the Property. The Crow River is visible southeast of the Property. The Property is surrounded by cultivated agricultural land and scattered farmsteads.	A
1953		A substation is visible to the west of the Property.	A, T
1963		A salvage yard is visible south of the Property.	A
1982 - 1997		Commercial development is visible southwest of the Property.	A
2003 - 2019		Tree Top Services is located east of the Otto Property.	A, C
2007 - 2018		Excavator contractor listed south of the Running Property	C

Opinion: There were no RECs identified during the review of historical use information for adjacent Properties.

6.0 SITE RECONNAISSANCE

Using a systematic approach, a site reconnaissance of the Property was conducted on March 10, 2021 by Mr. Danny Margarit of Carlson McCain. The purpose of the site reconnaissance was to observe conditions at and surrounding the Property, and to document evidence of potential environmental liabilities. The reconnaissance also attempted to confirm the locations of sites listed in the database report (including "orphan" sites with inadequate address information), sites depicted on aerial photos, and sites shown on historical maps. Photographs taken during the site reconnaissance are included in Appendix I.

The Property is located in a mainly agricultural area. The Property is currently developed with two houses, one barn, and numerous sheds/garages. At the time of the site reconnaissance, the buildings were occupied. The Property is surrounded by agricultural properties and limited residences. 65th Street Southeast, runs between the Otto and Rutherford Property and then turns south along the western boundary of the Running Property (where it turns into Ebersole Avenue Southeast). The South Fork of the Crow River is located to the southwest of the Property and intersects the Otto and Running Properties.

Property Details	REC?	Comments
Hazardous Substances and Petroleum Products	No	None identified
Underground Storage Tanks	No	None identified
Aboveground Storage Tanks	No	None identified
Solid Waste	Yes	Several areas of surficial dumping were identified on the Otto and Rutherford Property including items such as appliances, wire, concrete, metal cans/drums, scrap metal, and miscellaneous garbage.
Sewage Discharge and Disposal	No	Sanitary discharges on the Property are directed into septic systems. No wastewater is disposed on the Property.
Surface Water Drainage	No	Storm water is removed from the Property primarily by ground infiltration and nearby drainage ditches.
Wells and Cisterns	No	No RECs due to the wells currently located on the Property; however, in the event of redevelopment, the wells should be properly abandoned.

Property Details	REC?	Comments
Wastewater	No	Domestic wastewater generated at the Property is disposed by means of the septic systems. No industrial process waste water is currently discharged at the Property.
Septic Systems	No	Two septic systems were identified; however, no repair or other commercial/industrial activities take place on the Properties that would cause an impact to the subsurface via the septic systems.
Evidence of Releases	No	No spills, stains or other indications of a surficial release were observed on the Property.
Pits, Ponds, or Lagoons	No	None identified
Stressed Vegetation	No	None identified
Additional Site Observations	No	None identified
Polychlorinated Biphenyls (PCBs)	No	Two transformers and other electrical equipment that could contain PCBs were observed throughout the Property. However, there was no evidence of leaks from this equipment and both transformers were certified "Non-PCB" oil.
Strong, Pungent or Noxious Odors	No	None identified
Pools of Liquid	No	None identified
Drains, Sumps and Clarifiers	No	None identified
Flammable Liquid Waste Traps	No	None identified
Additional Potential Environmental Hazards	No	None identified

7.0 INTERVIEWS

Carlson McCain staff interviewed individuals associated with the Site property, as well as, local government officials regarding pertinent information to Site conditions. Where appropriate, information from these interviews was incorporated into the body of the report. Otherwise, the interviews resulted in the following information:

Interviews	
Name: Ms. Gail Rutherford	
Relationship to Property:	Owner of Rutherford Property
<p>Comments: Ms. Rutherford stated that she has owned the Property for approximately 36 years since she bought it from the Hamilton family. Neither the Rutherfords nor the Hamiltons farmed the fields themselves, they both rented them out. No pesticides or fertilizer were ever mixed and/or stored on-site to Ms. Rutherford's knowledge. She stated all the outbuildings were full of storage (antiques and other items they sold to the public). She stated that there was never any repair or other business ran out of the Property, other than the sale of the merchandise stored in the outbuildings.</p> <p>Ms. Rutherford stated the Property was heated by natural gas, and was connected to a well and septic system. Ms. Rutherford mentioned the previous owner worked for the county and believed he had dumped some asphalt and concrete on the hill behind her house. Ms. Rutherford also mentioned there had been fill material dumped on the northwest corner of her Property by an operator who mistakenly thought they had permission. She stated that she was unaware of any spills, tanks, or other environmental concerns on hers or the adjacent Properties.</p>	
Name: Ms. Marilyn Running	
Relationship to Property:	Owner of the Running Property
<p>Comments: Ms. Running stated that she had purchased the Property at auction in 2008 and built her current house in 2009. The previous owner (the Shrode family) had a residence and buffalo livestock buildings on the north end of the Property. This house was condemned by the county and the Shrodes were forced to vacate. Ms. Running cleaned up the former house and donated it to the Delano Fire Department to use for a practice fire. An Asbestos and Regulated Waste Assessment was performed and any asbestos and regulated materials were removed from the premises before the practice burn. The previous owners utilized their fields as pasture for their buffalo, and Ms. Running's fields are currently rented out to a local farmer. No pesticides or fertilizer are currently mixed and/or stored onsite and had not previously been mixed and/or stored on-site to Ms. Running's knowledge.</p> <p>Ms. Running stated that there were two wells on the Property, one on the northwest side of her house and one up on the north end of the Property where the former residence was located. Her septic system is located on the northeast side of her house. Ms. Rutherford stated that her house is heated by natural gas. She stated that she was unaware of any spills, tanks, or other environmental concerns on hers or the adjacent Properties.</p>	

Name: James Otto	
Relationship to Property:	Owner of the Otto Property
<p>Comments: Mr. Otto stated he acquired the Property approximately 20 years ago as payment for a construction job. He stated that there has never been any permanent structures constructed on it, he has rented it out for farming the entire time. Mr. Otto stated that the parcel has also been mined for sand/gravel. After the mining was complete, off-site fill was brought in to restore it to grade. He mentioned that debris may have been mixed in with the fill soil as he has encountered wire, concrete, and other demolition debris at the surface in the areas where fill was dumped, most notably, the southeastern portion of the former pit.</p>	
Name: Bob Van Lith	
Relationship to Property: Delano Fire Chief	Fire Department
<p>Comments: Fire Department records were reviewed and there were no records of any tanks, spills, releases, fires, or other environmental concerns on the Property. Mr. Van Lith confirmed that there was a fire at the adjacent property to the east (4683 65th Street Southeast - Tree Top Clearing) which resulted in a limited runoff of oil; however, the spill moved the opposite direction from the Property and thus did not impact it.</p>	
Name: Sheryl Daniels	
Relationship to Property: Wright County	Building Department
<p>Comments: Building Department records were reviewed (Section 4.3) and can be found in Appendix D. No RECs were identified.</p>	
<p>Opinion: The dumping of fill material on the northwest corner of Ms. Rutherford's Property and the presence of fill material on the Otto Property are RECs due to the unknown origin of the material and its potential to contain contamination.</p>	

8.0 LIMITING CONDITIONS/DEVIATIONS

Other than the presence of snow cover which limited the ability to observe the ground surface, no limiting conditions, deletions or deviations of the ASTM Standard 1527-21 were applied to this report.

9.0 DATA GAPS

ASTM Standard Designation E 1527-21 requires the Environmental Professional to comment on significant data gaps that affect their ability to identify RECS. A data gap is a lack of or inability to obtain information required by ASTM despite good faith efforts by the Environmental Professional to gather such information. A data gap raises reasonable concern if it is considered to be significant. ASTM defines Data Failure as occurring when all of the standard and reasonably ascertainable and likely to be useful historical sources have been reviewed but historical research objectives were not met. Data failures are not uncommon when attempting to identify the use of a Site at five year intervals back to the first use or 1940, whichever is earlier. ASTM requires the Environmental Professional to comment on the significance of data failures and whether the data failure affects our ability to identify RECs. A data failure by itself is not inherently significant; it only becomes significant if it raises reasonable concerns.

Historical information was reviewed back to 1937. Data gaps greater than five years exist from prior to 1937, from 1940 to 1953, from 1996 to 1970, from 1970 to 1979, from 1985 to 1991, from 1991 to 1997, and from 1997 to 2003. The interviews, historical maps, city directories, aerial photographs and previous environmental reports provide generally good corroborating information that allows an understanding of historical Property use.

Carlson McCain considers the evaluation of the presence of RECs, CRECs, and HRECs to be complete, based on the lack of identified changes in land use during the periods affected by any data gaps. Therefore, we do not recommend additional investigation relative to the resolution of those data gaps, as we do not believe it would affect our ability to form an opinion regarding RECs associated with the Property.

10.0 ADDITIONAL SERVICES

No additional services were conducted with this report.

11.0 REFERENCES

For the purposes of this Phase I ESA, records were reviewed that were obtained from the following sources:

- Envirosearch Radius Report, February 23, 2022.
- Historic Information Gatherers, Inc. (HIG) historic city directory abstract, topographic maps and aerial photographs.
- Minnesota Department of Health, Minnesota Well Index.
- United States Geological Survey, Delano Quadrangle Minnesota 7.5 Minute Series Topographic Map.
- <https://www.pca.state.mn.us/sites/default/files/w-hw2-00.pdf>
- Buonicore, A.J. Methodology for Identifying the Area of Concern Around a Property Potentially Impacted by Vapor Migration from Nearby Contaminated Sources. Paper No. 2011-A-301. Proceedings Air & Waste Management Association, 104th Annual Meeting, Orlando Florida, June 20-24, 2011.
- MPCA Institutional Control Database accessed through <https://gisdata.mn.gov/dataset/env-institutional-controls>
- University of Minnesota, Minnesota Geological Survey, Bedrock Geology, County Atlas Series, Atlas C-30, Part A, Plate 2, Wright County, compiled by V.W. Chandler and Julia Steenberg, 2013.
- University of Minnesota, Minnesota Geological Survey, Surficial Geology, County Atlas Series, Atlas C-30, Part A, Plate 3, Wright County, compiled by Howard Hobbs, 2013.
- University of Minnesota, Minnesota Geological Survey, Depth to Bedrock, County Atlas Series, Atlas C-30, Part A, Plate 6, Wright County, compiled by Julia Steenberg, 2013.

April 5, 2022

12.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

Carlson McCain has completed this Phase I ESA for the exclusive use of Capstone Homes and their agents for the Property located at 4450 65th St SE (the Rutherford Property), 4545 65th St SE (the Otto Property), and 6800 Ebersole Ave SE (the Running Property) in Delano, Minnesota. The services performed by Carlson McCain for this Project have been conducted in a manner consistent with the level of skill and care ordinarily exercised by other members of the profession currently practicing in this area. No other warranty, expressed or implied, is made. With some exceptions, this Phase I is valid for at least 180 days prior to the acquisition of the Property or (for transactions not involving an acquisition) the date of the intended transaction.

This Phase I ESA report was prepared by:



Danny Margarit, PhD
Environmental Scientist

Reviewed by:



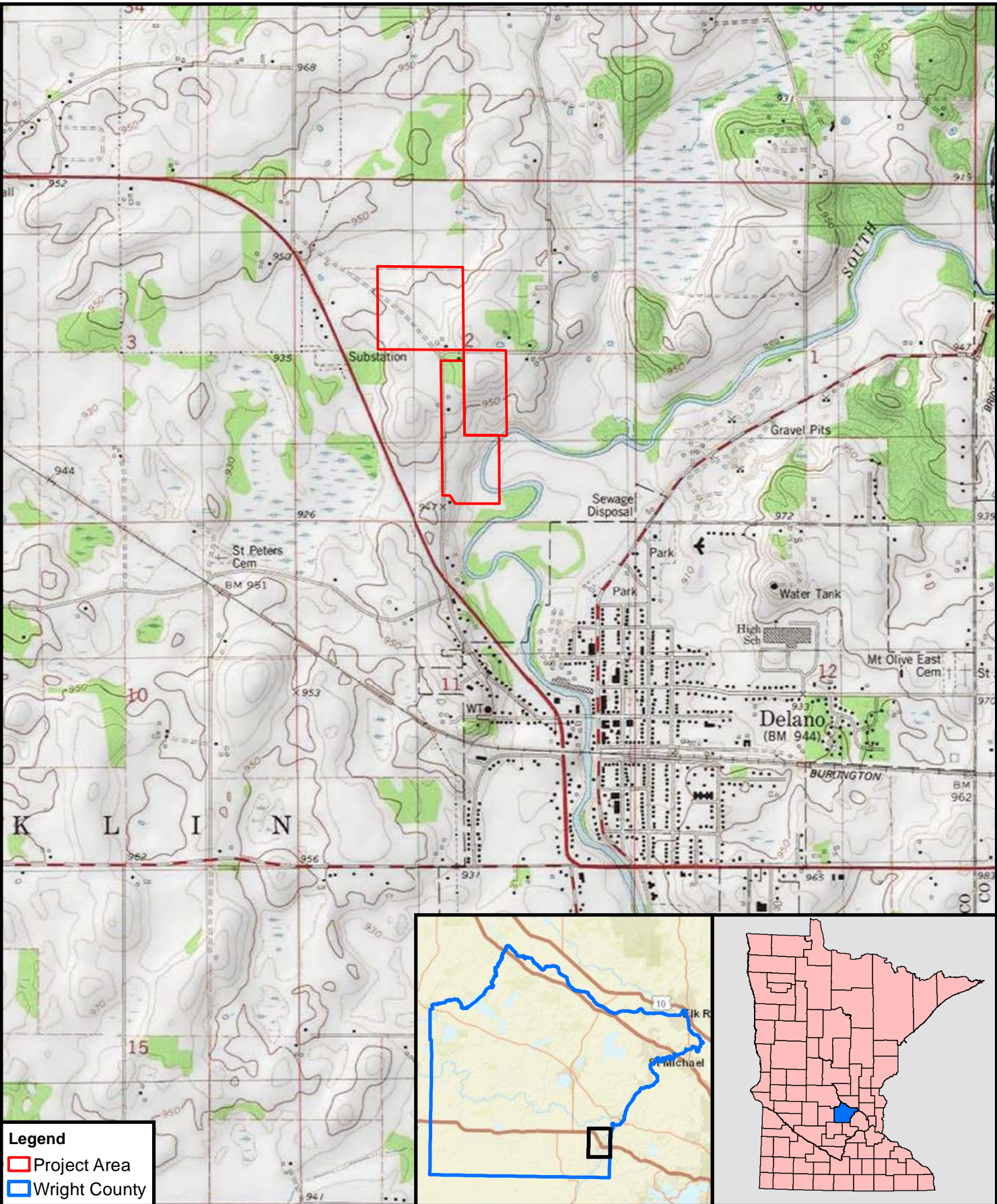
John Lichter
P.E.

13.0 QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONAL

We declare that, to the best of our professional knowledge and belief, we meet the definition of "environmental professional" as defined in §312.10 of 40 CFR §312: and 12.13.2 and we have the specific qualifications based on education, training, and experience to assess a property of the nature, history and setting of the Property (resumes included in Appendix J). We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Appendix A:

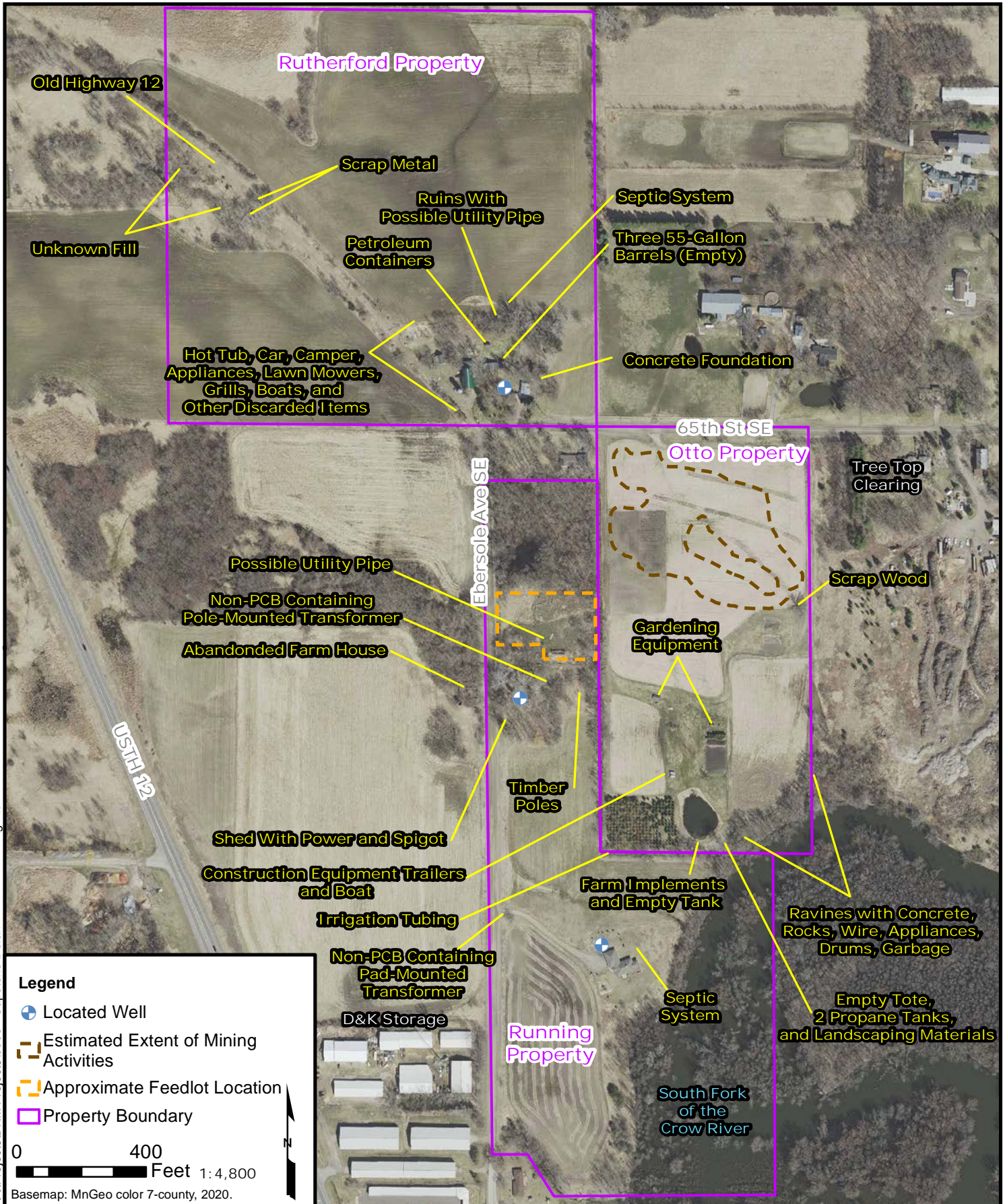
Figures



- Legend**
- Project Area
 - Wright County



Figure 1
Site Location Map
Capstone Homes
Delano, Minnesota



Phase I ESA
Capstone Homes
Delano, Minnesota

Figure 2
Site Features Map

Appendix B:

Database Report

Attachment is omitted to conserve space in the EAW and is available upon request.

Appendix C:

User Questionnaire

Attachment is omitted to conserve space in the EAW and is available upon request.

Appendix D:

Local File Review



Site boundaries shown in red are approximate

65th St SE
delano, MN



1970

HIG Project # 2060706

Client Project # 9896-00

Approximate Scale 1: 6,000 (1"=500')

www.historicalinfo.com





Site boundaries shown in red are approximate

65th St SE
delano, MN



1963

HIG Project # 2060706

Client Project # 9896-00

Approximate Scale 1: 6,000 (1"=500')

www.historicalinfo.com





Site boundaries shown in red are approximate

65th St SE
delano, MN



1957

HIG Project # 2060706

Client Project # 9896-00

Approximate Scale 1: 6,000 (1"=500')

www.historicalinfo.com





Site boundaries shown in red are approximate

65th St SE
delano, MN



1953

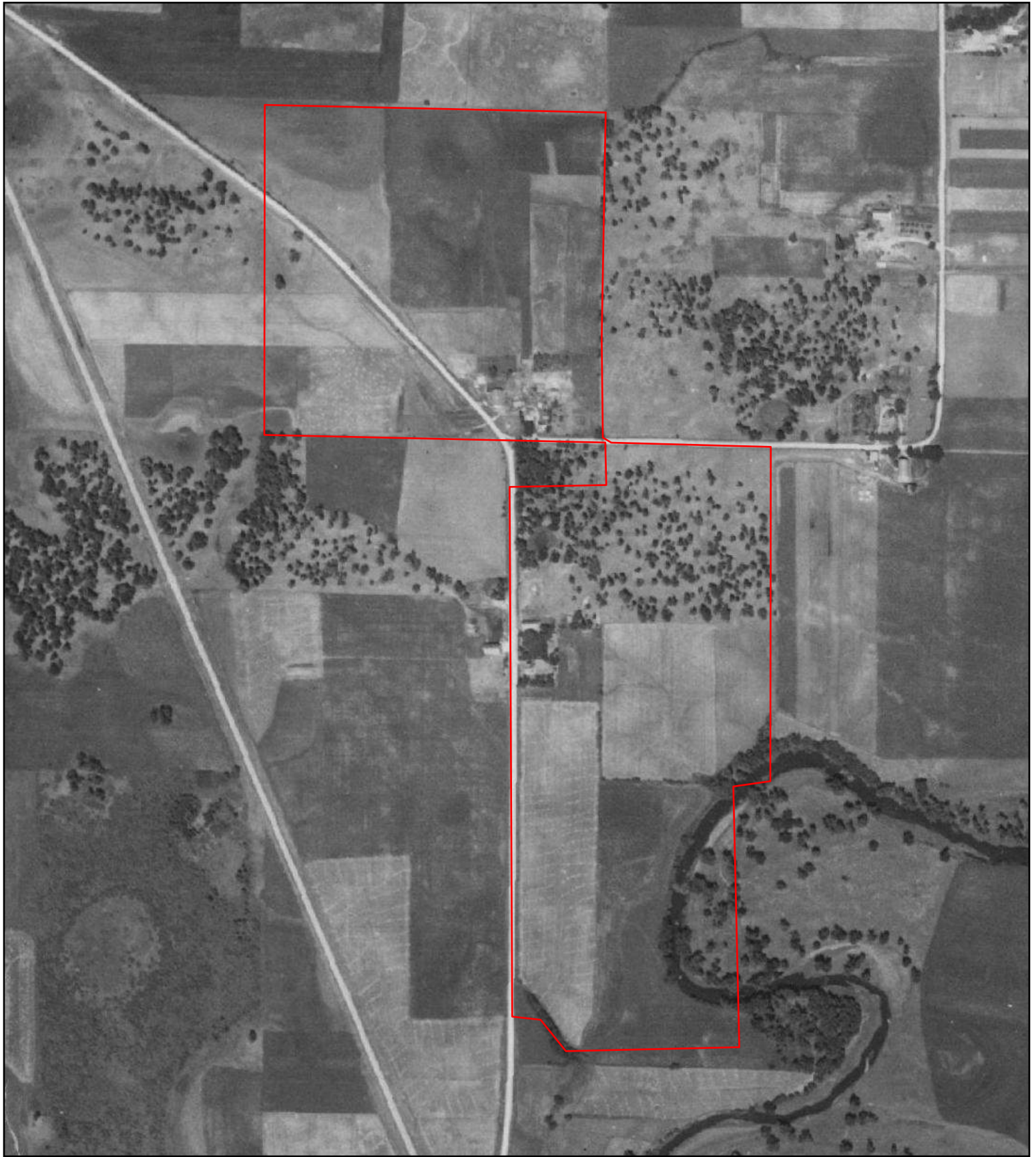
HIG Project # 2060706

Client Project # 9896-00

Approximate Scale 1: 6,000 (1"=500')

www.historicalinfo.com





Site boundaries shown in red are approximate

65th St SE
delano, MN



1940

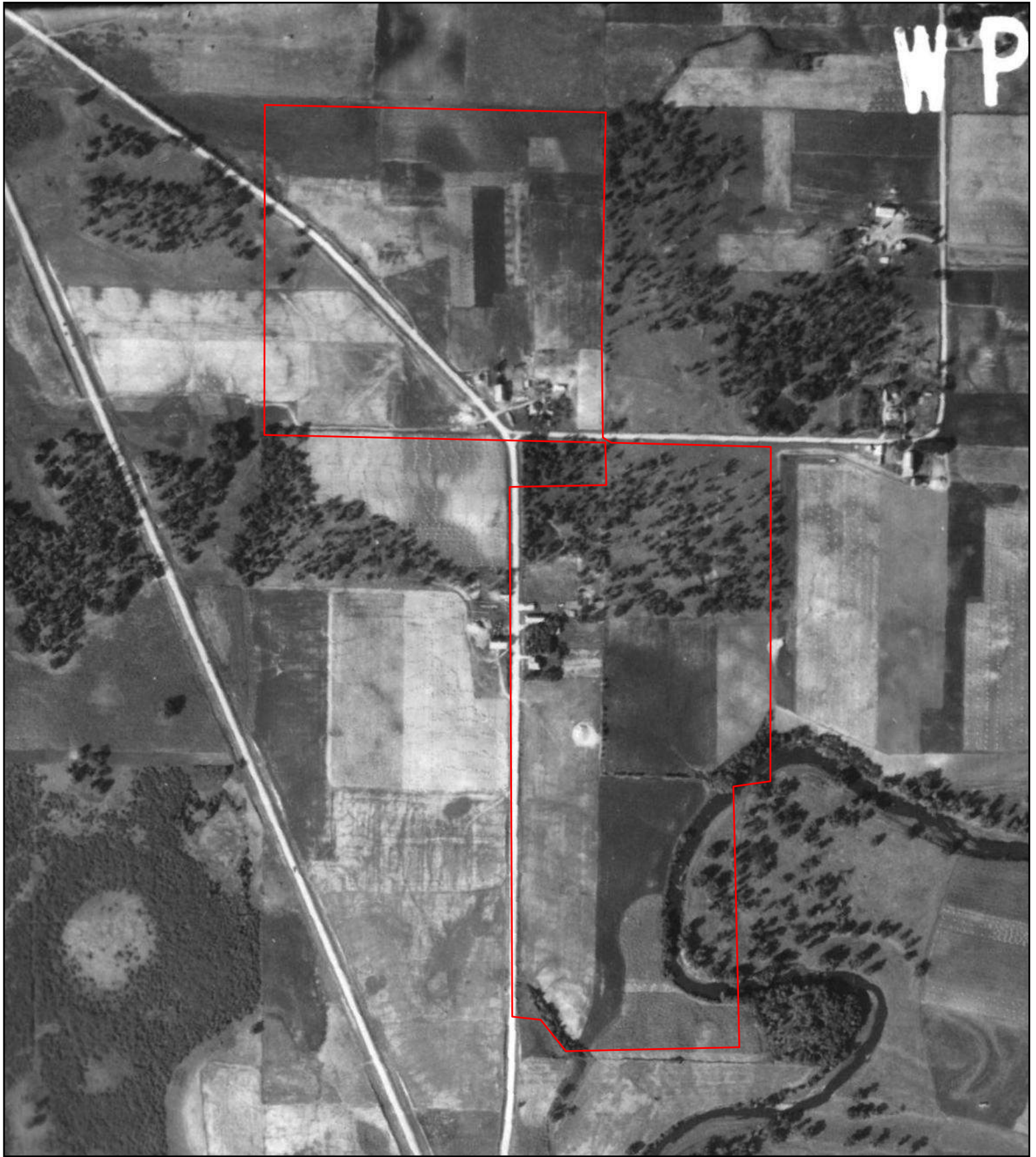
HIG Project # 2060706

Client Project # 9896-00

Approximate Scale 1: 6,000 (1"=500')

www.historicalinfo.com





Site boundaries shown in red are approximate

65th St SE
delano, MN



1937

HIG Project # 2060706

Client Project # 9896-00

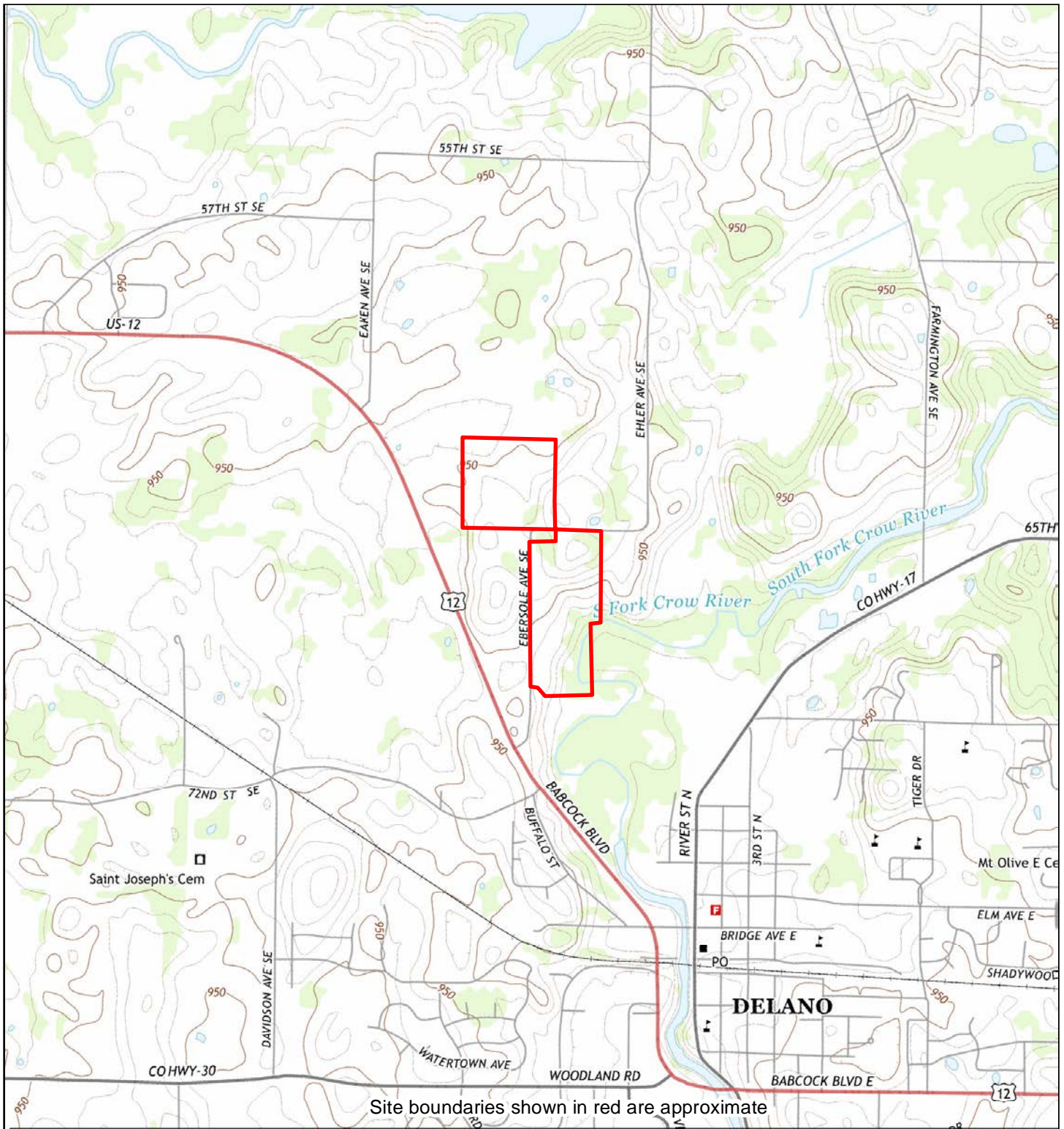
Approximate Scale 1: 6,000 (1"=500')

www.historicalinfo.com



Appendix F:

Topographic Maps



2013

0 Distance in Miles 1
1: 24,000 (1"=2,000') NAD 1983 UTM Zone 15N

Site information:

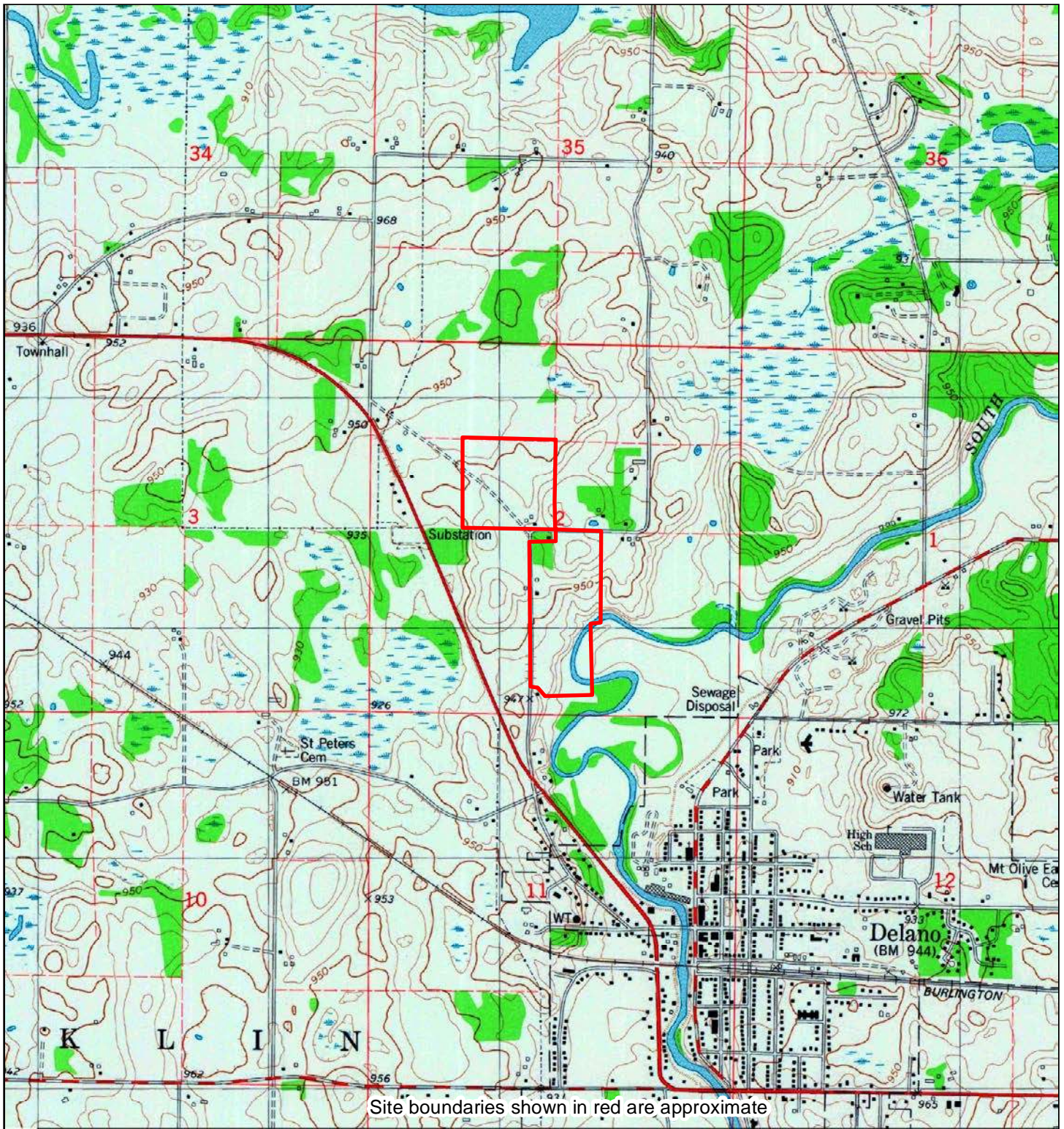
65th St SE
delano, MN




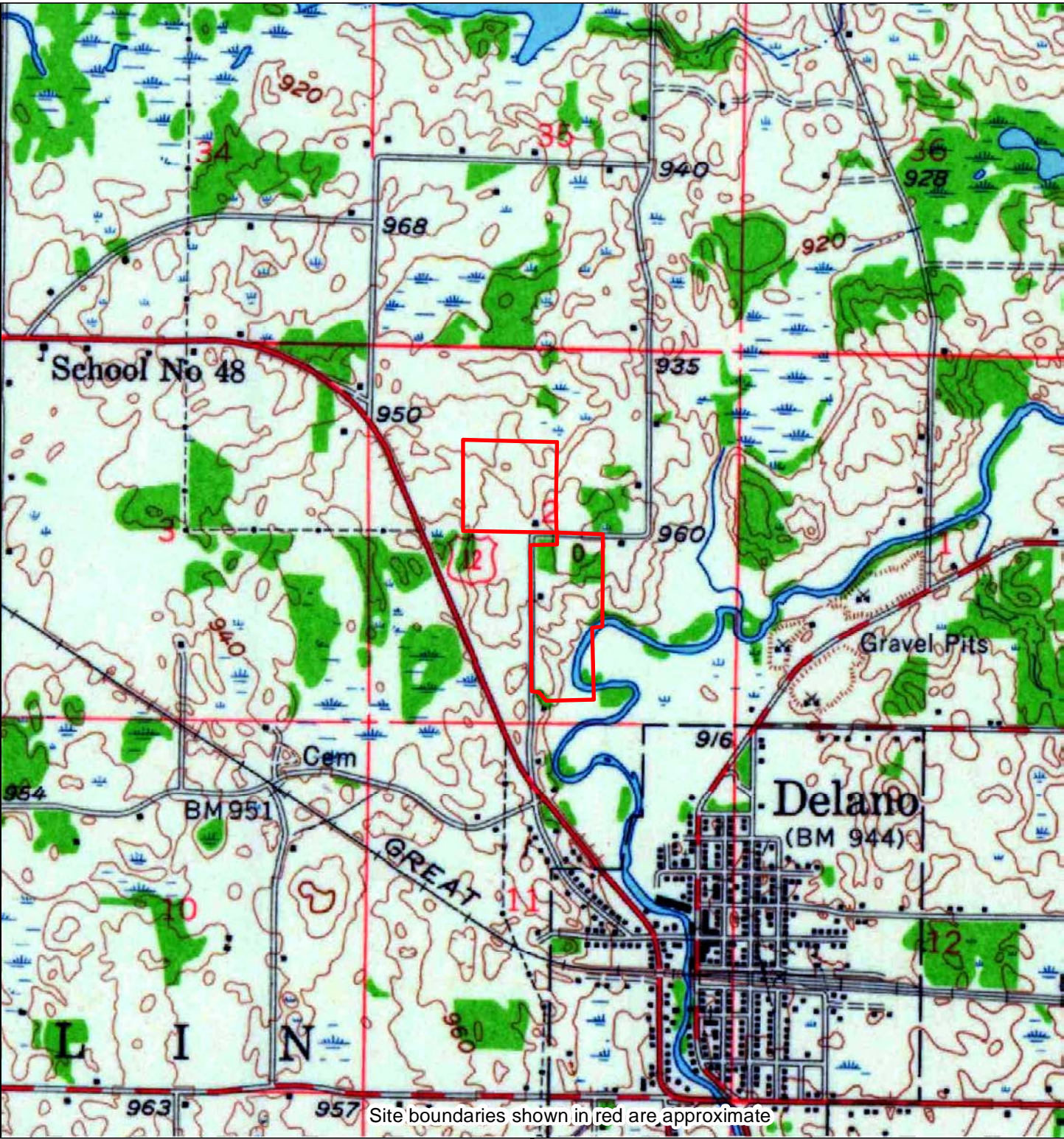
Unified maps show subdued modern topo features where corresponding maps of the same year were not published.

Carlson McCain project #9896-00
HIG #2060706 completed: 02/24/2022

Zone	Topographic Map Name	Publisher	Map Size	Base Map	Aerial Photo Topo Updates
					Photo Year Inspected Revised
All	Delano, MN	USGS	7½' x 7½'	2013	-- -- --



1981		<div><div>01</div><div>Distance in Miles</div><div>1: 24,000 (1"=2,000') NAD 1983 UTM Zone 15N</div></div>		Site information: 65th St SE delano, MN			
Unified maps show subdued modern topo features where corresponding maps of the same year were not published.		Carlson McCain project #9896-00 HIG #2060706 completed: 02/24/2022					
Zone	Topographic Map Name	Publisher	Map Size	Base Map	Aerial Photo Topo Updates		
All	Delano, MN	USGS	7½' x 7½'	1981	Photo Year	Inspected	Revised
					1975	--	--



1958		<div>0Distance in Miles1</div> <div>1: 24,000 (1"=2,000')NAD 1983 UTM Zone 15N</div>		Site information: 65th St SE delano, MN			
Unified maps show subdued modern topo features where corresponding maps of the same year were not published.			Carlson McCain project #9896-00 HIG #2060706 completed: 02/24/2022				
Zone	Topographic Map Name	Publisher	Map Size	Base Map	Aerial Photo Topo Updates		
All	Buffalo, MN	USGS	15' x 15'	1958	Photo Year	Inspected	Revised
					1953	--	--

Appendix G:

Sanborn Maps

Fire Insurance Maps No Coverage Statement

Site Location

65th St SE
delano, MN

Requested by

Carlson McCain
3890 pheasant ridge dr
Blaine, MN

HIG Project #

2060706

Client Project #

9896-00

Date Created

02/25/2022



Historical
Information
Gatherers

FIM+ Maps

The HIG Historical Map Collection and the United States Library of Congress Map Collection were searched for fire insurance maps (FIMs), real estate atlases and similar maps for the site location and adjoining properties. No FIMs or similar maps were identified for the site location and/or adjoining properties.

Appendix H:

City Directories

Attachment is omitted to conserve space in the EAW and is available upon request.

Appendix I:

Site Photographs

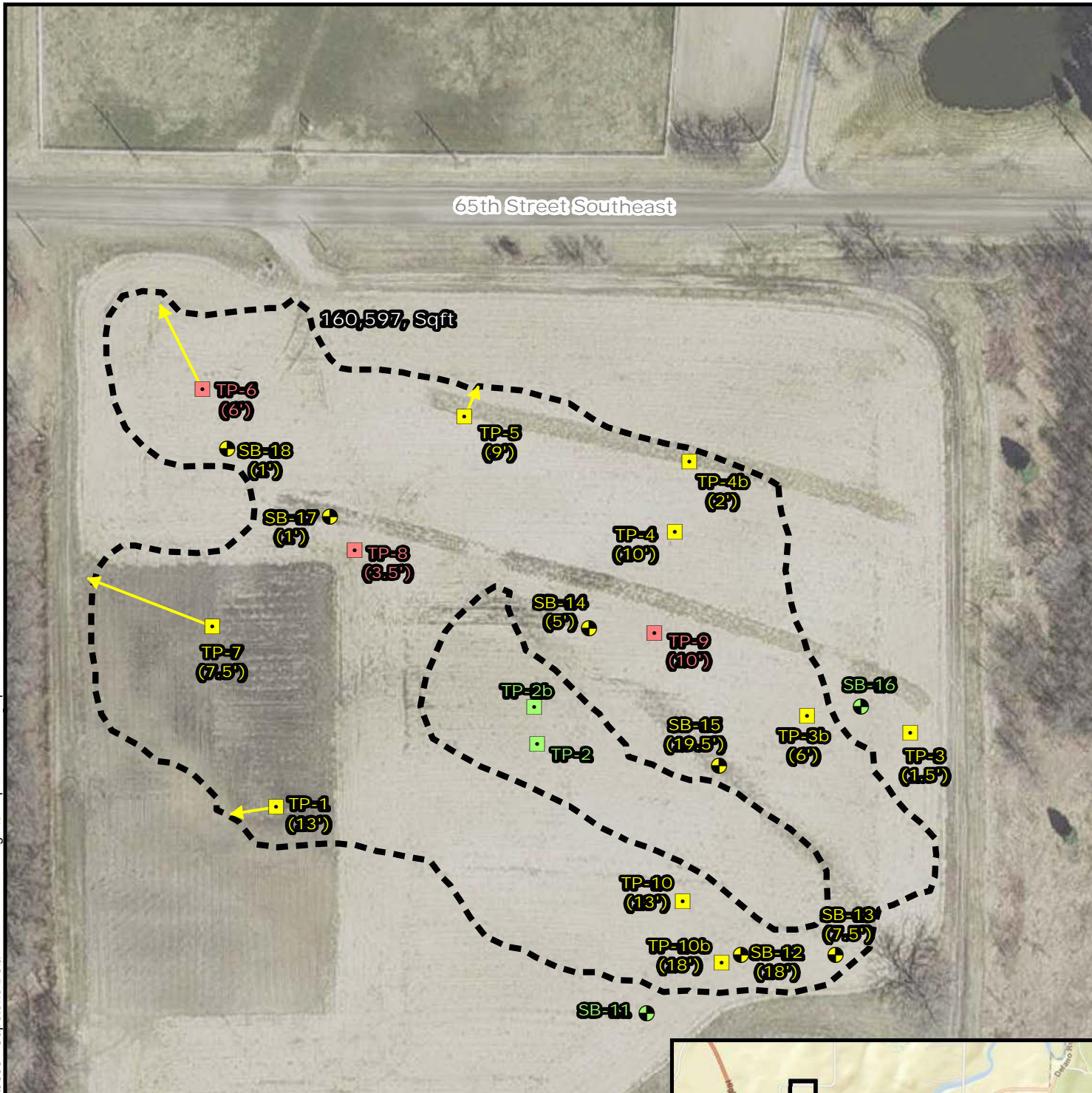
Attachment is omitted to conserve space in the EAW and is available upon request.

Appendix J:

Professional Resumes

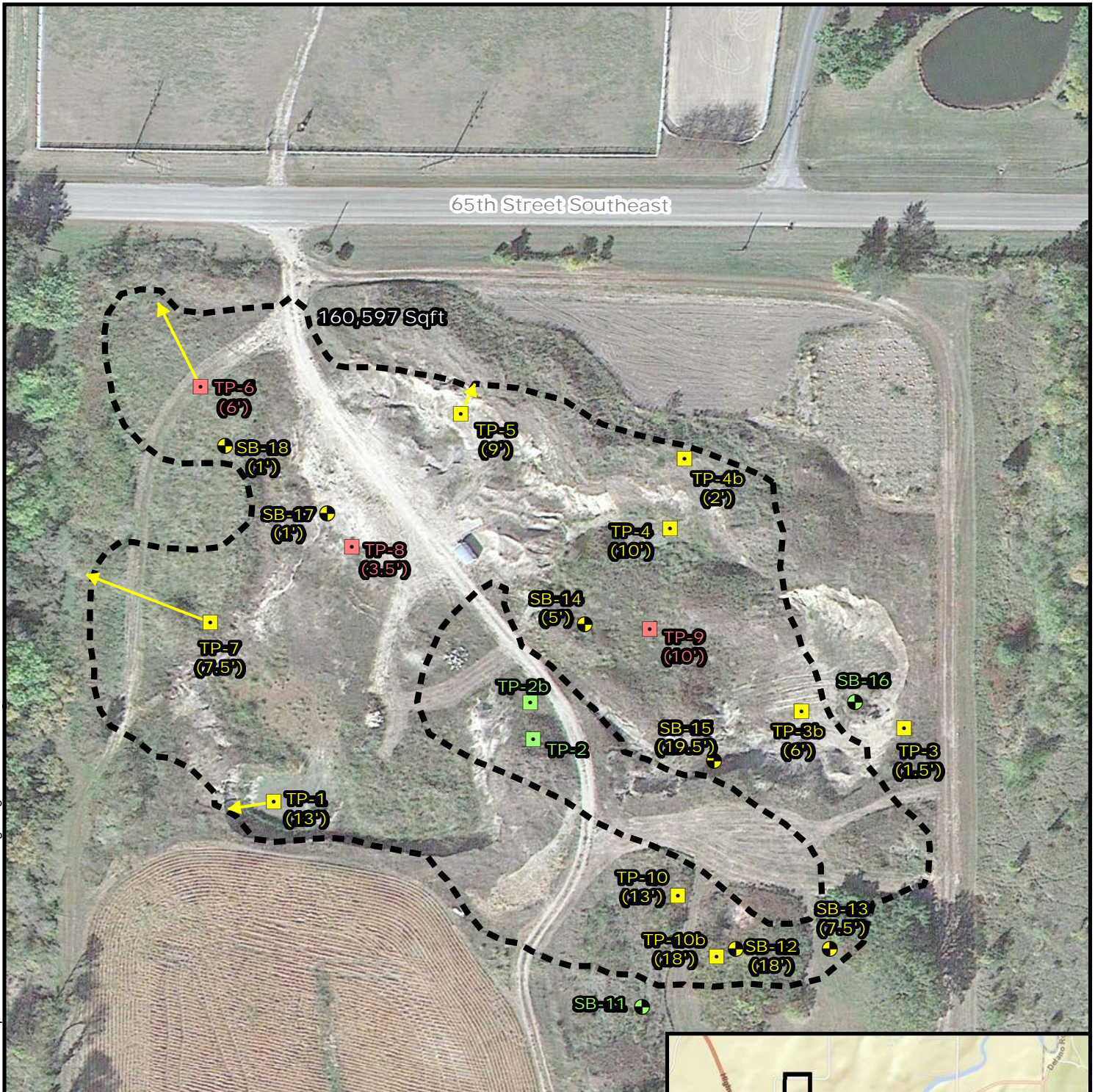
Attachment is omitted to conserve space in the EAW and is available upon request.

FIGURES



- Legend**
- Geotech Boring (No Fill Encountered)
 - Geotech Boring (Depth to Native Soil)
 - Test Pit Location (No Fill Encountered)
 - Test Pit Location (Depth to Native Soil)
 - Test Pit Location (Fill Geotechnically Unsuitable for Reuse)
 - Direction of Trenching
 - ▭ Estimated Extent of Mining Activities





- Legend**
- Geotech Boring (No Fill Encountered)
 - Geotech Boring (Depth to Native Soil)
 - Test Pit Location (No Fill Encountered)
 - Test Pit Location (Depth to Native Soil)
 - Test Pit Location (Fill Geotechnically Unsuitable for Reuse)
 - Direction of Trenching
 - ▬ Estimated Extent of Mining Activities



Figure 3:
2012 Aerial
Otto Property
Delano, Minnesota

TABLES

Table 1
Summary of Compounds Detected in Soil
 Limited Phase II Investigation - Otto Property
 Carlson McCain Project No. 9896-00

Compound	CAS No.	MPCA RES SRVs	MPCA SLVs	TP-1 (10-12') 310-224943-1	TP-3b (4-6') 310-224943-2	TP-4 (10-12') 310-225604-1	TP-5 (7-9') 310-224943-3	TP-6 (4-6') 310-224943-4	TP-7 (4-6') 310-225604-2	TP-10 (10-12') 310-224943-5	SB-16 (5-7') 310-226872-2	SB-18 (5-7') 310-226872-3	Trip Blank 310-224943-6
Volatile Organic Hydrocarbons (VOCs)				No Detections Above Laboratory Reporting Limits							NS	NS	No Detections
Polynuclear Aromatic Hydrocarbons (PAHs)				No Detections Above Laboratory Reporting Limits							NS	NS	No Detections
Calculated BaP Equivalent	NE	2	1.4	0.20607	<0.113275	<0.023443	<0.022655	0.26385	<0.023443	0.16465	<0.1194	0.166	NS
Benzo(a)anthracene	56-55-3	NE	NE	0.135	<0.0575	<0.0119	<0.0115	0.191	<0.0119	0.103	<0.0606	0.112	NS
Benzo(b)fluoranthene	205-99-2	NE	NE	0.178	<0.0575	<0.0119	<0.0115	0.224	<0.0119	0.164	<0.0606	0.146	NS
Benzo(k)fluoranthene	207-08-9	NE	NE	0.0707	<0.0575	<0.0119	<0.0115	0.0787	<0.0119	<0.0602	<0.0606	<0.0585	NS
Benzo(a)pyrene	50-32-8	2	1.4	0.154	<0.0575	<0.0119	<0.0115	0.198	<0.0119	0.126	<0.0606	0.129	NS
Chrysene	218-01-9	NE	NE	0.14	<0.0575	<0.0119	<0.0115	0.218	<0.0119	0.125	<0.0606	0.125	NS
Dibenz(a,h)anthracene	53-70-3	NE	NE	<0.0617	<0.0575	<0.0119	<0.0115	<0.0615	<0.0119	<0.0602	<0.0606	<0.0585	NS
Indeno(1,2,3-cd)pyrene	193-39-5	NE	NE	0.123	<0.0575	<0.0119	<0.0115	0.143	<0.0119	0.107	<0.0606	0.0995	NS
Benzo(g,h,i)perylene	191-24-2	NE	NE	0.134	<0.0575	<0.0119	<0.0115	0.138	<0.0119	0.114	<0.0606	0.109	NS
Fluoranthene	206-44-0	200	670	0.222	<0.0575	<0.0119	<0.0115	0.281	<0.0119	0.193	0.0663	0.199	NS
Phenanthrene	85-01-8	NE	NE	<0.0617	<0.0575	<0.0119	<0.0115	0.0863	<0.0119	<0.0602	<0.0606	<0.0585	NS
Pyrene	129-00-0	220	440	0.212	<0.0575	<0.0119	<0.0115	0.314	<0.0119	0.17	0.0632	0.216	NS
Petroleum Hydrocarbons				No Detections Above Laboratory Reporting Limits							NS	NS	No Detections
Gasoline Range Organics (GRO)	NE	100 ⁽¹⁾		<12.4	<11.2	NS	<10.6	<11.6	NS	<11.0	NS	NS	<10.0
Diesel Range Organics (DRO)	NE	100 ⁽¹⁾		<7.09	<6.31	<6.36	<6.79	9.84	<8.55	<6.94	<9.40	<6.26	NS
Metals				No Detections Above Laboratory Reporting Limits							NS	NS	No Detections
Arsenic	7440-38-2	9	5.8	9.67	5.85	NS	6.51	17.1	NS	8.63	NS	NS	NS
Barium	7440-39-3	3,000	1,700	108	75.9	NS	103	137	NS	114	NS	NS	NS
Chromium	7440-47-3	NE	NE	18.3	13.7	NS	17.9	21.2	NS	21.5	NS	NS	NS
Lead	7439-92-1	300	2,700	10.4	7.36	NS	8.58	16	NS	15.6	NS	NS	NS
Mercury	7439-97-6	3.1	3.3	0.0298	0.0468	NS	0.0523	0.0523	NS	0.0445	NS	NS	NS
Selenium	7782-49-2	77	2.6	<1.43	1.45	NS	<1.36	<1.43	NS	1.49	NS	NS	NS
Silver	7440-22-4	77	7.9	<0.238	0.25	NS	<0.227	<0.239	NS	<0.224	NS	NS	NS

Notes:

- Results in milligrams per kilogram (mg/kg), which is roughly equivalent to parts-per-million (ppm)
- < = Less than laboratory reporting limit
- Bold** = result above laboratory reporting limit
- Screening Limit exceeded
- (1) Screening Limit based on MPCA Best Management Practices for Off-Site Reuse of Excess Fill
- BaP = Benzo(a)pyrene (BaP Equivalents calculated using MPCA Remediation Soil Reference Spreadsheet)
- CAS = Chemical Abstracts Service
- MPCA = Minnesota Pollution Control Agency
- NE = Not Established
- NS = Not Sampled
- RES = Residential
- SLV = MPCA Remediation Division Soil Leaching Pathway (6/13)
- SRV = MPCA Soil Reference Value - Risk Based Site Evaluation Guidance for Soil - Human Health Pathway (6/09 and 08/17)

ATTACHMENT A

Attachment is omitted to conserve space in the EAW and is available upon request.

ATTACHMENT B

Attachment is omitted to conserve space in the EAW and is available upon request.



June 14, 2022

Mr. Matt Barker
Capstone Homes
14015 Sunfish Lake Blvd – Suite 400
Ramsey, MN 55413

sent via email to: mbarker@capstonehomes-mn.com

Re: Limited Phase II Investigation Report
4450 65th Street Southeast (Rutherford Property)
Delano, Minnesota 55328
Carlson McCain Project No. 9896-00

Dear Mr. Barker:

Carlson McCain, Inc. (Carlson McCain) is pleased to present this Limited Phase II Investigation Report for the above referenced Site (also referred to as the Property). The Investigation was completed to investigate soil and groundwater conditions for the Property based on knowledge of the historic presence of stockpiled fill soil placed on the Property without the previous owner's knowledge (at the time). Due to the unknown source of the fill, there is potential for contaminated soil to be present in this area

Field Investigation

As shown on Figure 1, surficial soil samples were taken from three soil mounds (S-1 through S-3) In addition, Haugo Geotechnical Services (Haugo) advanced one soil boring (SB-24) on March 9, 2022 to investigate geotechnical suitability and enable the collection of a groundwater sample. A Carlson McCain geologist and Haugo engineer were present to characterize soils, provide oversight, and conduct field screening/sampling activities. Analytical services were provided by Eurofins TestAmerica, Inc. (TestAmerica) of Cedar Falls, Iowa, a certified laboratory in the State of Minnesota.

The following Sections describe the methods and procedures that were used to conduct this Investigation.

Soil Sampling

Prior to starting intrusive work, all public underground utilities were cleared through the Gopher State One-Call System. Borings were drilled in accordance with Minnesota Department of Health (MDH) Well Construction Code (Minnesota Rules 4725).

Surficial soil samples were collected directly from dedicated acetate sleeves advanced approximately 12" into the ground by hand.

The soil boring was advanced using 4.25-inch inner diameter (ID) hollow-stem auger. Soil samples were collected continuously using a 2-inch outer diameter (OD) by 2-foot long, split spoon sampler during drilling and manually and visually classified according to methods outlined in the American Society for Testing and Materials (ASTM) D2488. Soil characteristics were entered onto a boring log by the Carlson McCain field geologist (a copy of the boring log is included in Attachment A). Soil cuttings were thin spread in the vicinity of each drilling location and the borehole was abandoned by Haugo in accordance with MDH requirements.

Field Screening

To aid in determining if contamination was present in soil, visual and olfactory observations, as well as vapor monitoring using a photoionization detector (PID), were conducted. Organic vapors were monitored in soils using MPCA bag headspace methods. Soils were placed into a polyethylene bag, which was then sealed. The sample was shaken, placed in a warm environment to allow organic vapors to develop and the highest reading observed within the first five seconds after insertion of the PID into the bag, was then recorded. Prior to the start of work, the PID was calibrated using the benzene equivalent of an isobutylene standard. PID readings are shown on the right-hand column of the logs included in Attachment A.

Soil Sampling

Soil samples were collected directly from the stainless-steel split spoon sampler or the acetate sleeve, in accordance with MPCA Guidelines. The sampling surface was kept as clean as practical, to minimize the potential for contamination of samples. A clean and dry sheet of relatively inert plastic was placed on the working surface. If materials used in the sampling process were set down, they were placed on a clean portion of the plastic sheet. A clean pair of nitrile gloves was used at the onset of sampling activities at each new sampling point. Furthermore, sampling personnel took care not to touch the inside of sampling containers or lids. Care was also taken to minimize the potential for airborne contamination of samples during collection.

Groundwater Sampling

Measurable groundwater was not encountered; therefore, a deeper soil sample was collected instead from the terminus of SB-24.

Sample Handling Procedures

As each sample was collected, an adhesive label was affixed to each sampling container. Each sample container was uniquely numbered and labeled using indelible ink. At a minimum, the information on the label included the analytical parameter(s), preservative(s), sampling personnel, date and time of sample collection, sample type and the project name. After samples had been labeled, they were placed on ice and maintained at a temperature of 6°C or colder.

A chain of custody (COC) accompanied each cooler containing samples that were to be submitted to TestAmerica for chemical analysis. The COC was filled out progressively, as samples from each sampling point were collected. The completed COC was then placed into a sealed polyethylene bag. Field personnel were then required to sign, time and date the COC prior to relinquishing custody to the laboratory. One copy of the COC was retained by field personnel and the remaining copies were submitted to the laboratory. Until the samples had been relinquished to the laboratory, custody was the responsibility of field personnel.

Prior to being placed in a cooler, all glass containers were protected using bubble wrap. In addition, absorbent material was placed in the bottom of each cooler to minimize breakage. Wet ice was used to cool the samples. The COC was then placed on top of the samples and ice.

Upon receipt of each cooler at the laboratory, the time of arrival was noted and the COC was signed by the person accepting the shipment. The laboratory sample custodian then checked the cooler temperature using the temperature blank, inventoried the samples and checked them against the COC. The COC was then signed by the sample custodian and samples became the responsibility of the laboratory.

Surveying

Each soil sample location was surveyed using a Trimble® R-10-2 global positioning system (GPS) to establish the horizontal and vertical control for each point. Horizontal coordinates were referenced to the Wright County Coordinate System and vertical control was made in reference to National Geodetic Vertical Datum (NGVD).

Laboratory Analysis

A total of four soil samples were analyzed for volatile organic compounds (VOCs), diesel range organics (DRO), gasoline range organics (GRO), Resource Conservation and Recovery Act (RCRA) metals, and polynuclear aromatic hydrocarbons (PAHs). All samples were prepared and analyzed in accordance with MDH and/or United States Environmental Protection Agency (EPA) methods and procedures. Copies of the laboratory reports are included in Attachment B.

As a quality assurance/quality control (QA/QC) measure, both field and laboratory samples were taken in order to evaluate procedures being used. A trip blank was included with samples to determine whether any VOCs were detected throughout the sampling and shipping & handling process. A temperature blank was also included in the cooler to ensure samples had been thermally preserved (i.e. 6°C or colder). Laboratory QA/QC included method blanks, surrogate spikes and/or matrix spikes/matrix spike duplicates (MS/MSD).

After the data were received from the laboratory, each report was reviewed for accuracy and completeness to make sure that specific data quality objectives had been met (i.e., verification that holding times were met, reviewing reporting limits, trip blank results, etc.).

Discussion of Results

Soil Conditions

Two geologic units were encountered during this Investigation. Beneath the topsoil was yellowish-brown, silty sand, trace gravel (Unified Soil Classification System or USCS designation of SM), with low cohesiveness and low plasticity to a depth of approximately 21 feet below ground surface (bgs). Underlying this was reddish-brown, sandy clay with moderate cohesiveness and plasticity (CLS). Copies of the logs are included in Attachment A.

Field Screening

There were no elevated PID readings, anthropogenic material, or visual or olfactory evidence of contamination observed. PID readings were recorded on the field boring log included in Attachment A.

Analytical Results

Soil

Soil analytical results were compared to various Screening Limits developed by the MPCA. Soil Reference Values (SRVs) represent the concentration of a contaminant in soil below which normal dermal contact, inhalation and/or ingestion does not generally present a risk to human health. Soil Leaching Values (SLVs) represent the concentration of a contaminant in soil above which it is able to leach into groundwater at levels in excess of drinking water standards. Soil analytical results for this Investigation were compared to Tier 1 Residential SRVs and Tier 1 SLVs.

Table 1 provides a summary of compounds detected in soil and their associated MPCA Screening Limits and a discussion of analytical results is presented below:

- DRO was detected in the soil sample S-2 at a concentration of 11.9 milligrams per kilogram (mg/kg), well below its MPCA Screening Limit of 100 mg/kg. DRO was not detected above laboratory reporting limits in any other soil samples.
- PAHs were detected in the soil samples S-1 and S-2; however, all detections (including the calculated Benzo(a)pyrene (BaP) equivalent) fell below their respective Screening Limits.
- Arsenic, Barium, chromium, lead, and/or mercury were detected in each sample analyzed; however, none of the detections exceeded their respective MPCA Screening Limits and fell within ranges typically regarded as naturally-occurring.
- There were no detections above the respective laboratory reporting limits for GRO or VOCs in any of the soil samples.

Conclusions

This Limited Phase II Investigation identified low level PAH and DRO impacts to soil. These impacts are below residential standards and thus no further investigation is recommended.

Closing

If you have any questions or comments, please feel free to call me at (651) 304-0391 or send me an e-mail at dmargarit@carlsonmccain.com. We appreciate the opportunity to work with you on this Project.

Sincerely,

Carlson McCain, Inc.



Danny Margarit, PhD
Environmental Scientist



John Lichter, P.E.
Senior Environmental Engineer

Figure, Table and Attachments: As noted

FIGURES



TABLES

Table 1
Summary of Compounds Detected in Soil
 4450 65th Street Southeast (Rutherford Property)
 Carlson McCain Project No. 9896-00

Compound/Parameter	CAS No.	MPCA RES SRVs	MPCA SLVs	S-1 310-231983-1	S-2 310-231983-2	S-3 310-231983-3	SB-24 (35'-37') 310-232464-1	Trip Blank 310-232464-2
Volatile Organic Compounds (VOCs)				No Detections above Laboratory Reporting Limits				
Petroleum Hydrocarbons								
Gasoline Range Organics (GRO)	NE	100 ⁽¹⁾		<12.1	<12.3	<9.66	<11.7	NS
Diesel Range Organics (DRO)	NE	100 ⁽¹⁾		<7.21	11.9	<5.54	<18.7	NS
Polynuclear Aromatic Hydrocarbons (PAHs)								
Calculated BaP Equivalent	NE	2	1.4	0.117	0.504	<0.059888	<0.113669	NS
Benzo(a)anthracene	56-55-3	NE	NE	0.0641	0.401	<0.0304	<0.0577	NS
Benzo(b)fluoranthene	205-99-2	NE	NE	0.104	0.419	<0.0304	<0.0577	NS
Benzo(k)fluoranthene	207-08-9	NE	NE	0.0428	0.154	<0.0304	<0.0577	NS
Benzo(a)pyrene	50-32-8	2	1.4	0.0817	0.347	<0.0304	<0.0577	NS
Chrysene	218-01-9	NE	NE	0.0722	0.386	<0.0304	<0.0577	NS
Dibenz(a,h)anthracene	53-70-3	NE	NE	0.0152	0.0658	<0.0304	<0.0577	NS
Indeno(1,2,3-cd)pyrene	193-39-5	NE	NE	0.048	0.185	<0.0304	<0.0577	NS
Acenaphthene	83-32-9	460	81	<0.00702	0.0351	<0.0304	<0.0577	NS
Anthracene	120-12-7	2,800	1,300	0.0107	0.122	<0.0304	<0.0577	NS
Benzo(g,h,i)perylene	191-24-2	NE	NE	0.0577	0.202	<0.0304	<0.0577	NS
Fluoranthene	206-44-0	210	670	0.149	0.891	<0.0304	<0.0577	NS
Fluorene	86-73-7	390	110	<0.00702	0.0629	<0.0304	<0.0577	NS
Phenanthrene	85-01-8	NE	NE	0.0666	0.638	<0.0304	<0.0577	NS
Pyrene	129-00-0	220	440	0.121	0.66	<0.0304	<0.0577	NS
Metals								
Arsenic	7440-38-2	9	5.8	4.36	4.44	<3.00	<3.97	NS
Barium	7440-39-3	3,100	1,700	110	104	30.7	67.6	NS
Chromium	7440-47-3	NE	NE	13.1	13.2	8.22	12.8	NS
Lead	7439-92-1	200	2,700	10.1	9.58	<3.75	<4.97	NS
Mercury	7439-97-6	2.7	3.3	0.0321	0.028	<0.0188	0.0199	NS

Notes:

- Results in milligrams per kilogram (mg/kg), which is roughly equivalent to parts-per-million (ppm)
- < = Less than laboratory reporting limit
- **Bold** = result above laboratory reporting limit
- Screening Limit exceeded
- (1) Screening Limit based on MPCA Best Management Practices for the Off-Site Reuse of Unregulated Fill (c-rem1-01, February, 2012)
- BaP = Benzo(a)pyrene (BaP Equivalents calculated using MPCA Remediation Soil Reference Spreadsheet)
- CAS = Chemical Abstracts Service
- MPCA = Minnesota Pollution Control Agency
- NE = Not Established
- NS = Not Sampled
- RES = Residential
- SLV = MPCA Remediation Division Soil Leaching Pathway (6/13)
- SRV = MPCA Soil Reference Value - Risk Based Site Evaluation Guidance for Soil - Human Health Pathway (6/09 and 08/17)

ATTACHMENT A



SOIL BORING SB-24

PAGE 1 OF 1

CLIENT	Capstone	PROJECT NAME	Capstone Delano Project
PROJECT NUMBER	9896-00	PROJECT LOCATION	Delano, Minnesota
DATE STARTED	5/27/22	COMPLETED	5/27/22
DRILLING CONTRACTOR	Haugo Geotechnical Services	GROUND ELEVATION	
DRILLING METHOD	4 1/4" ID HSA	HOLE SIZE	2"
LOGGED BY	D. Margarit	CHECKED BY	D. Margarit
NOTES			
		GROUND WATER LEVELS:	
		AT TIME OF DRILLING	---
		AT END OF DRILLING	---
		AFTER DRILLING	---

FORMATION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	TIME	PID (ppm)
	0					Black organic topsoil.		
	5	SS 1	29	OL				
	7.0							0.3
	10	SS 2	40			Yellowish-Brown SILTY SAND, fine-grained, low plasticity/cohesiveness, trace gravel, fill.		
	15	SS 3	40	SM				0.4
	20	SS 4	40					0.2
	21.0							
	25	SS 5	40			Reddish-Brown SANDY CLAY, fine-grained, moderate plasticity/cohesiveness, till.		0.2
	30	SS 6	40	CLS				0.2
	35	SS 7	40					
	37.0							
						-soil sample collected from 35' to 37' bgs. End of boring at 37.0 feet.		

ATTACHMENT B

Attachment is omitted to conserve space in the EAW and is available upon request.

May 16, 2022

Mr. Matt Barker
Capstone Homes
14015 Sunfish Lake Blvd – Suite 400
Ramsey, MN 55413

sent via email to: mbarker@capstonehomes-mn.com

Re: Soil Sampling Investigation Report
6800 Ebersole Avenue Southeast (the Running Property)
Delano, Minnesota
Carlson McCain Project No. 9896-00

Dear Mr. Barker:

Carlson McCain, Inc. (Carlson McCain) is pleased to present this Soil Sampling Investigation Report for the above referenced Site (also referred to as the Property). The Investigation was completed to investigate soil conditions for the Property to evaluate the following Historical Recognized Environmental Condition (HREC) identified in a Phase I Environmental Site Assessment (ESA) prepared by Carlson McCain and dated April 5, 2022:

- The Tapio feedlot and associated pollution and violations are considered an HREC since they were resolved to the satisfaction of the regulatory agency (the Minnesota Pollution control Agency (MPCA)).

The file was closed by the MPCA after cleanup of the extensive manure and carcass buildup that had occurred on the feedlot; however, the MPCA did not collect any confirmation samples. Therefore, it was recommended to complete sampling in the area to confirm there are no remaining elevated nitrogen impacts.

Field Investigation

As shown on Figure 1, surficial composite soil samples were collected by hand from the former feedlot footprint. Every four sub-samples were composited to create a total of 14 samples (FL-1 through FL-14). Fieldwork was completed on April 27th, 2022 by a Carlson McCain geologist. Analytical services were provided by Eurofins TestAmerica, Inc. (TestAmerica) of Cedar Falls, Iowa, a certified laboratory in the State of Minnesota. The following Sections describe the methods and procedures that were used to conduct this Investigation.

Soil Sampling

Soil sub-samples were collected directly from dedicated acetate sleeves and composited in a low-density polyethylene (Ziplock®) bag. Sample containers were filled directly from the Ziplock® bag. A clean pair of nitrile gloves was used at the onset of sampling activities at each new sampling point. Furthermore, sampling personnel took care not to touch the inside of sampling containers or lids.

Soil Sample Handling Procedures

As each sample was collected, an adhesive label was affixed to each sampling container. Each sample container was uniquely numbered and labeled using indelible ink. At a minimum, the information on the label included the analytical parameter(s), preservative(s), sampling personnel, date and time of sample collection, sample type and the project name. After samples had been labeled, they were placed on ice and maintained at a temperature of 6°C or colder.

A chain of custody (COC) accompanied each cooler containing samples that were to be submitted to TestAmerica for chemical analysis. The COC was filled out progressively, as samples from each sampling point were collected. The completed COC was then placed into a sealed polyethylene bag. Field personnel were then required to sign, time and date the COC, prior to relinquishing custody to the laboratory. One copy of the COC was retained by field personnel and the remaining copies were submitted to the laboratory. Until the samples had been relinquished to the laboratory, custody was the responsibility of field personnel.

Prior to being placed in a cooler, all glass containers were protected using bubble wrap. In addition, absorbent material was placed in the bottom of each cooler to minimize breakage. Wet ice was used to cool the samples. The COC was then placed on top of the samples and ice.

Upon receipt of each cooler at the laboratory, the time of arrival was noted and the COC was signed by the person accepting the shipment. The laboratory sample custodian then checked the cooler temperature using the temperature blank, inventoried the samples and checked them against the COC. The COC was then signed by the sample custodian and samples became the responsibility of the laboratory.

Surveying

Each sub-sample location was surveyed by Carlson McCain, using a Trimble® R-10-2 global positioning system (GPS) to establish the horizontal and vertical control for each boring location. Horizontal coordinates were referenced to the Wright County Coordinate System, and vertical control was made in reference to National Geodetic Vertical Datum (NGVD).

Laboratory Analysis

Fourteen soil samples and one duplicate soil sample were collected and submitted to TestAmerica for chemical analysis. All samples were prepared and analyzed in accordance with Minnesota Department of Health (MDH) and/or U.S. Environmental Protection Agency (EPA) methods and procedures. Soil samples were analyzed for nitrogen (nitrate plus nitrite) and Total Kjeldahl Nitrogen (TKN). A copy of the analytical report is attached.

As a quality assurance/quality control (QA/QC) measure, both field and laboratory samples were taken in order to evaluate procedures being used. The “blind” duplicate sample was included with the samples to test for consistent and precise laboratory analysis. A temperature blank was also included in

the cooler to ensure samples had been thermally preserved (i.e. 6°C or colder). Laboratory QA/QC included method blanks, surrogate spikes and/or matrix spikes/matrix spike duplicates (MS/MSD).

After the data were received from the laboratory, each report was reviewed for accuracy and completeness to make sure that specific data quality objectives had been met (i.e., verification that holding times were met, reviewing reporting limits, duplicate results, etc.).

Discussion of Results

In the absence of MPCA published Screening Limits, these soil analytical results were compared to Screening Limits developed by the Minnesota Department of Agriculture (MDA) and found in *Guidance Document 19 Soil Cleanup Goals* (9/2021). The soil cleanup goals (SCGs) were developed based on human health-based goals, label application rate-based goals, and soil leaching-based goals specific to each compound. The default SCG for each compound is its lowest human health-based goal, label-based goal, or soil leaching-based goal. Table 1 provides a summary of compounds detected in soil and their associated MDA SCG. A discussion of analytical results is presented below.

- Nitrogen was detected in soil sample FL-11 at a concentration of 25.1 milligrams per kilogram (mg/kg), well below its SCG of 150 mg/kg. Nitrogen was not detected above its laboratory reporting limit in any other sample.
- TKN was detected in the soil samples FL-7, FL-11, and FL-12 at concentrations ranging from 5,790 mg/kg to 6,680 mg/kg, all exceeding its SCG of 5,000 mg/kg. TKN was detected in each of the remaining samples; however, all concentrations fell below its Screening Limit.

Recommendations

Based on the results of this Investigation, Carlson McCain is recommending additional sampling in an attempt to further define the horizontal and vertical extent of the area in which TKN exceeded its SCG. Once the area of concern has been further defined, remediation options will be presented to address these impacts.

Feedlots are regulated by the MPCA, who has established the Voluntary Brownfields Program (VBP) to assist voluntary parties in addressing environmental concerns. In exchange, they can issue Letters of Liability Assurance and/or Technical Assistance. In the event that Capstone Homes and/or their lender desire these letters for the identified contamination, enrollment in the VBP is necessary. Please note the MPCA may take up to 60 days to review required documents such as the VBP application and the VBP staff do bill for their time at a rate of \$150/hour (invoices are submitted directly to the applicant).

Closing

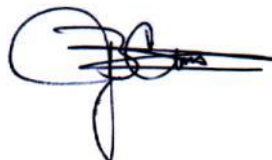
If you have any questions or comments, please feel free to call me at (651) 304-0391 or send me an e-mail at dmargarit@carlsonmccain.com. We appreciate the opportunity to work with you on this Project.

Sincerely,

Carlson McCain, Inc.

A handwritten signature in blue ink that reads "Danny Margarit". The signature is fluid and cursive, with the first name and last name clearly distinguishable.

Danny Margarit, PhD
Environmental Scientist

A handwritten signature in blue ink that reads "James B. Crowl III". The signature is more stylized and compact than the one to its left, with a prominent circular flourish at the beginning.

James B. Crowl III, P.G.
Senior Hydrogeologist

Figure, Table and Attachment: As noted

FIGURES



Legend

- Sub-Sample Location
- Sampling Grids
- Approximate Feedlot Location
- Property Boundary

0 60 Feet 1:720

Basemap: MnGeo color 7-county, 2020.



TABLES

Table 1
Summary of Compounds Detected in Soil
6800 Ebersole Avenue Southeast
Carlson McCain Project No. 9896-00

Compound	MDA	FL-1	FL-2	FL-3	FL-4	FL-5	FL-6	FL-7	FL-8	FL-9	FL-10	FL-11	FL-12	FL-13	FL-14
	SCG	310-230085-1	310-230085-2	310-230085-3	310-230085-4	310-230085-5	310-230085-6	310-230085-7	310-230085-8	310-230085-9	310-230085-10	310-230085-11	310-230085-12	310-230085-13	310-230085-14
Total Kjeldahl Nitrogen (TKN)	5,000	1,220	2,530	2,560	2,830	1,710	3,950	6,080	2,030	2,200	1,980	6,680	5,790	2,540	3,040
Nitrate + Nitrite as Nitrogen	150	<11.6	<12.4	<11.7	<12.1	<11.9	<13.7	<14.3	<12.2	<11.9	<11.1	25.1	<12.8	<11.9	<12.4

Notes:

- Results in milligrams per kilogram (mg/kg), which is roughly equivalent to parts-per-million (ppm)
- < = Less than laboratory reporting limit
- **Bold** = result above laboratory reporting limit

Screening Limit exceeded

- MDA = Minnesota Department of Agriculture
- SCG = Soil Cleanup Goal (based on MDA Guidance Document 19: Soil Cleanup Goals (9/2021))

ATTACHMENT A

Attachment is omitted to conserve space in the EAW and is available upon request.

July 19, 2022

Mr. Matt Barker
Capstone Homes
14015 Sunfish Lake Blvd – Suite 400
Ramsey, MN 55413

sent via email to: mbarker@capstonehomes-mn.com

Re: Supplemental Soil Sampling Investigation Report
6800 Ebersole Avenue Southeast (the Running Property)
Delano, Minnesota
Carlson McCain Project No. 9896-00

Dear Mr. Barker:

Carlson McCain, Inc. (Carlson McCain) is pleased to present this Supplemental Soil Sampling Investigation Report for the above referenced Site (also referred to as the Property). The Investigation was based on the results of a recently completed Soil Sampling Investigation and preceding Phase I Environmental Site Assessment (ESA) which identified the following Historical Recognized Environmental Condition (HREC), as that term is defined by American Society for Testing and Materials (ASTM) 1527-21:

- The Tapio feedlot and associated pollution and violations are considered an HREC since they were resolved to the satisfaction of the regulatory agency (the Minnesota Pollution Control Agency (MPCA)).

The file was closed by the MPCA after cleanup of the extensive manure and carcass buildup that had occurred on the feedlot; however, the MPCA did not collect any confirmation samples. Therefore, it was recommended to complete sampling in the area to confirm there are no remaining elevated nitrogen impacts. The Soil Sampling Investigation completed May 16, 2022, identified elevated levels of nitrogen in the form of Total Kjeldahl Nitrogen (TKN) in the surficial soil (collected from the depth interval of 6-12" below ground surface (bgs)) located on the southwest corner of the former feedlot (shown in Figure 1).

Field Investigation

As shown on Figure 2, individual grab soil samples were collected by hand from grids FL-6 through FL-8, FL-11, and FL-12, of the former feedlot footprint. Samples were collected from all four cardinal directions, 10 feet from previously identified "hotspot" locations (FL-6a, FL-11b, FL-11c, FL-11d, FL-12c, and FL-12e). Additional samples were collected in 10-foot "step-out" locations and held, pending the initial results. If a sample location was found to exceed the Screening Limit for TKN, the next farthest out sample was analyzed. This "stepped" process was utilized in an attempt to minimize analytical costs and eventual remediation volumes. In addition, a sample was collected from the depth interval of 2-2.5 feet bgs at each "hotspot" location, to determine the vertical extent of contamination.

Fieldwork was completed on June 7th, 2022 by a Carlson McCain geologist. Analytical services were provided by Pace Analytical (Pace) of Minneapolis, Minnesota, a certified laboratory in the State of Minnesota. The following Sections describe the methods and procedures that were used to conduct this Investigation.

Soil Sampling

Soil samples were collected directly from dedicated acetate sleeves which were advanced into the ground by hand using a small mallet. A clean pair of nitrile gloves was used at the onset of sampling activities at each new sampling point. Furthermore, sampling personnel took care not to touch the inside of sampling containers or lids.

Soil Sample Handling Procedures

As each sample was collected, an adhesive label was affixed to each sampling container. Each sample container was uniquely numbered and labeled using indelible ink. At a minimum, the information on the label included the analytical parameter(s), preservative(s), sampling personnel, date and time of sample collection, sample type and the project name. After samples had been labeled, they were placed on ice and maintained at a temperature of 6°C or colder.

A chain of custody (COC) accompanied each cooler containing samples that were to be submitted to Pace for chemical analysis. The COC was filled out progressively, as samples from each sampling point were collected. The completed COC was then placed into a sealed polyethylene bag. Field personnel were then required to sign, time and date the COC, prior to relinquishing custody to the laboratory. One copy of the COC was retained by field personnel and the remaining copies were submitted to the laboratory. Until the samples had been relinquished to the laboratory, custody was the responsibility of field personnel.

Prior to being placed in a cooler, all glass containers were protected using bubble wrap. In addition, absorbent material was placed in the bottom of each cooler to minimize breakage. Wet ice was used to cool the samples. The COC was then placed on top of the samples and ice.

Upon receipt of each cooler at the laboratory, the time of arrival was noted and the COC was signed by the person accepting the shipment. The laboratory sample custodian then checked the cooler temperature using the temperature blank, inventoried the samples and checked them against the COC. The COC was then signed by the sample custodian and samples became the responsibility of the laboratory.

Surveying

Each sample location was surveyed by Carlson McCain, using a Trimble® R-10-2 global positioning system (GPS) to establish the horizontal and vertical control for each boring location. Horizontal coordinates were referenced to the Wright County Coordinate System, and vertical control was made in reference to National Geodetic Vertical Datum (NGVD).

Laboratory Analysis

Carlson McCain collected 43 soil samples submitted them to Pace for chemical analysis. All samples were prepared and analyzed in accordance with Minnesota Department of Health (MDH) and/or U.S. Environmental Protection Agency (EPA) methods and procedures. Soil samples were analyzed for TKN. A copy of the analytical report is attached.

As a quality assurance/quality control (QA/QC) measure, both field and laboratory samples were taken in order to evaluate procedures being used. A temperature blank was also included in the cooler to ensure samples had been thermally preserved (i.e. 6°C or colder). Laboratory QA/QC included method blanks, surrogate spikes and/or matrix spikes/matrix spike duplicates (MS/MSD).

After the data were received from the laboratory, each report was reviewed for accuracy and completeness to make sure that specific data quality objectives had been met (i.e., verification that holding times were met, reviewing reporting limits, duplicate results, etc.).

Discussion of Results

In the absence of MPCA published Screening Limits, these soil analytical results were compared to Screening Limits developed by the Minnesota Department of Agriculture (MDA) which can be found in *Guidance Document 19 Soil Cleanup Goals* (9/2021). The soil cleanup goals (SCGs) were developed based on human health-based goals, label application rate-based goals, and soil leaching-based goals specific to each compound. The default SCG for each compound is its lowest human health-based goal, label-based goal, or soil leaching-based goal. Table 1 provides a summary of compounds detected in soil and their associated MDA SCG. A discussion of analytical results is presented below.

- Elevated TKN was detected in 33 of the 43 soil samples, at concentrations ranging from 518 milligrams per kilogram (mg/kg) to 14,200 mg/kg. The SCG for TKN in the upper 2.5 feet of soil is 5,000 mg/kg. Figure 2 shows the horizontal extent of sample locations in which TKN exceeded its SCG. Based on these results, the horizontal extent of TKN impacts is not fully defined.
- Deeper samples collected from the depth interval of 2-2.5 feet bgs at the “hotpot” locations: FL-6a, FL-11b, FL-11c, FL-11d, FL-12c, and FL-12e exhibited TKN concentrations ranging from 518 mg/kg to 2,280 mg/kg. All concentrations were below the SCG of 5,000 mg/kg, defining the vertical extent of contamination to the upper two feet of soil.

Recommendations

Based on the results of this Investigation, Carlson McCain is recommending remediation of the impacted soil (which will likely consist of excavation and land application of the impacted soil in a nearby field) in preparation of residential redevelopment of the site. Additional sampling of the area of concern to define the horizontal extent and further narrow the vertical extent is also be recommended to reduce remediation costs.

Feedlots are regulated by the MPCA, who established the Voluntary Brownfields Program (VBP) to assist voluntary parties in addressing environmental concerns. In exchange, they can issue Letters of Liability Assurance and/or Technical Assistance. In the event that Capstone Homes and/or their lender desire these Letters for the identified contamination, enrollment in the VBP is necessary. Please note the MPCA may take up to 60 days to review required documents such as the VBP application and the VBP staff do bill for their time at a rate of \$150/hour (invoices are submitted directly to the Applicant).

Closing

If you have any questions or comments, please feel free to call me at (651) 304-0391 or send me an e-mail at dmargarit@carlsonmccain.com. We appreciate the opportunity to work with you on this Project.

Sincerely,

Carlson McCain, Inc.

A handwritten signature in blue ink that reads "Danny Margarit". The signature is fluid and cursive, with the first name "Danny" and last name "Margarit" clearly distinguishable.

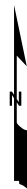
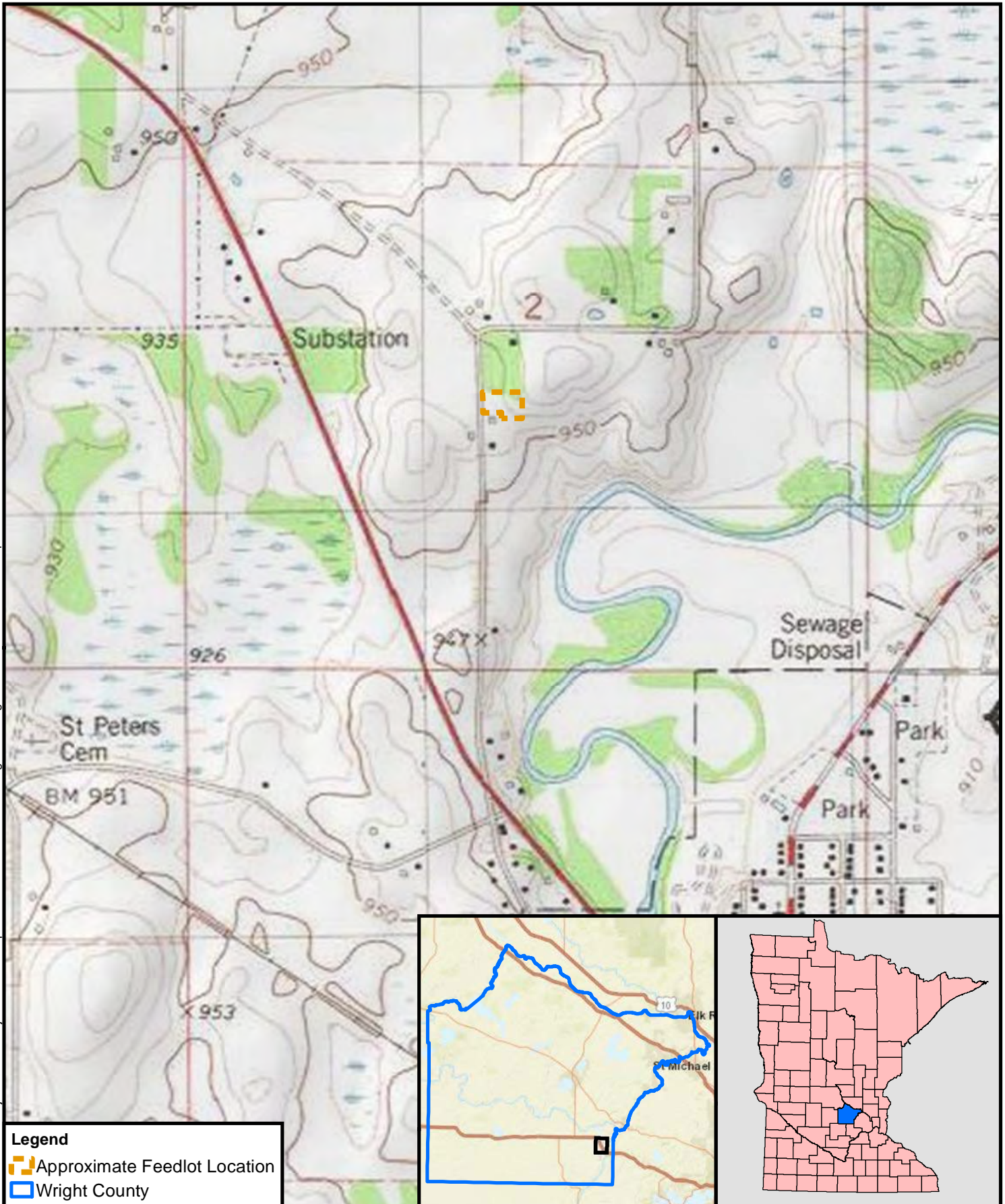
Danny Margarit, PhD
Environmental Scientist

A handwritten signature in blue ink that reads "James B. Crowl III". The signature is more formal and structured than the one on the left, with a large initial "J" and "B" followed by "Crowl III".

James B. Crowl III, P.G.
Senior Hydrogeologist

Figures, Table and Attachment: As noted

FIGURES



TABLES

Table 1
Summary of Compounds Detected in Soil
 6800 Ebersole Avenue Southeast
 Carlson McCain Project No. 9896-00

Compound	Total Kjeldahl Nitrogen (TKN)	Nitrate + Nitrite as Nitrogen
MDA SCG	5,000	150
FL-1	1,220	<11.6
FL-2	2,530	<12.4
FL-3	2,560	<11.7
FL-4	2,830	<12.1
FL-5	1,710	<11.9
FL-6	3,950	<13.7
FL-6a	12,200	NS
FL-6a (2'-2.5')	551	NS
FL-6a-N1	5,360	NS
FL-6a-E1	12,700	NS
FL-6a-E2	8,650	NS
FL-6a-S1	9,350	NS
FL-6a-W1	1,230	NS
FL-7	6,080	<14.3
FL-7a	1,540	NS
FL-7b	2,730	NS
FL-7c	2,810	NS
FL-7d	517	NS
FL-8	2,030	<12.2
FL-8a	423	NS
FL-9	2,200	<11.9
FL-10	1,980	<11.1

Compound	Total Kjeldahl Nitrogen (TKN)	Nitrate + Nitrite as Nitrogen
MDA SCG	5,000	150
FL-11	6,680	25.1
FL-11a	1,090	NS
FL-11b	8,350	NS
FL-11b (2'-2.5')	2,280	NS
FL-11b-N1	12,400	NS
FL-11b-N2	5,290	NS
FL-11b-S1	5,440	NS
FL-11b-S2	8,430	NS
FL-11b-S3	5,490	NS
FL-11b-W1	14,200	NS
FL-11b-W2	2,470	NS
FL-11c	5,800	NS
FL-11c (2'-2.5')	529	NS
FL-11c-N1	12,200	NS
FL-11c-S1	9,580	NS
FL-11c-S2	7,440	NS
FL-11c-S3	1,740	NS
FL-11d	11,900	NS
FL-11d (2'-2.5')	518	NS
FL-11d-N1	5,960	NS
FL-11d-N2	5,300	NS
FL-11d-N3	6,170	NS
FL-11d-E1	8,270	NS
FL-11d-E2	6,930	NS
FL-11d-E3	7,530	NS
FL-11d-S1	8,960	NS
FL-11d-S2	6,590	NS
FL-11d-S3	5,600	NS

Compound	Total Kjeldahl Nitrogen (TKN)	Nitrate + Nitrite as Nitrogen
MDA SCG	5,000	150
FL-12	5,790	<12.8
FL-12a	4,740	NS
FL-12b	3,230	NS
FL-12c	7,690	NS
FL-12c (2'-2.5')	678	NS
FL-12c-N1	5,230	NS
FL-12c-E1	7,370	NS
FL-12c-W1	8,190	NS
FL-12c-W2	8,460	NS
FL-12c-W3	10,100	NS
FL-12d	1,770	NS
FL-12f	4,200	NS
FL-12e	7,160	NS
FL-12e (2'-2.5')	824	NS
FL-12e-N1	9,390	NS
FL-12e-E1	7,770	NS
FL-12e-S1	5,400	NS
FL-12e-S2	1,110	NS
FL-12e-W1	6,620	NS
FL-12e-W2	7,670	NS
FL-12e-W3	8,100	NS
FL-13	2,540	<11.9
FL-14	3,040	<12.4

Notes:

- Results in milligrams per kilogram (mg/kg), which is roughly equivalent to parts-per-million (ppm)
- < = Less than laboratory reporting limit
- **Bold** = result above laboratory reporting limit
- Composite Sample
- Individual Grab Sample
- Screening Limit exceeded
- MDA = Minnesota Department of Agriculture
- SCG = Soil Cleanup Goal (based on MDA Guidance Document 19: Soil Cleanup Goals (9/2021))

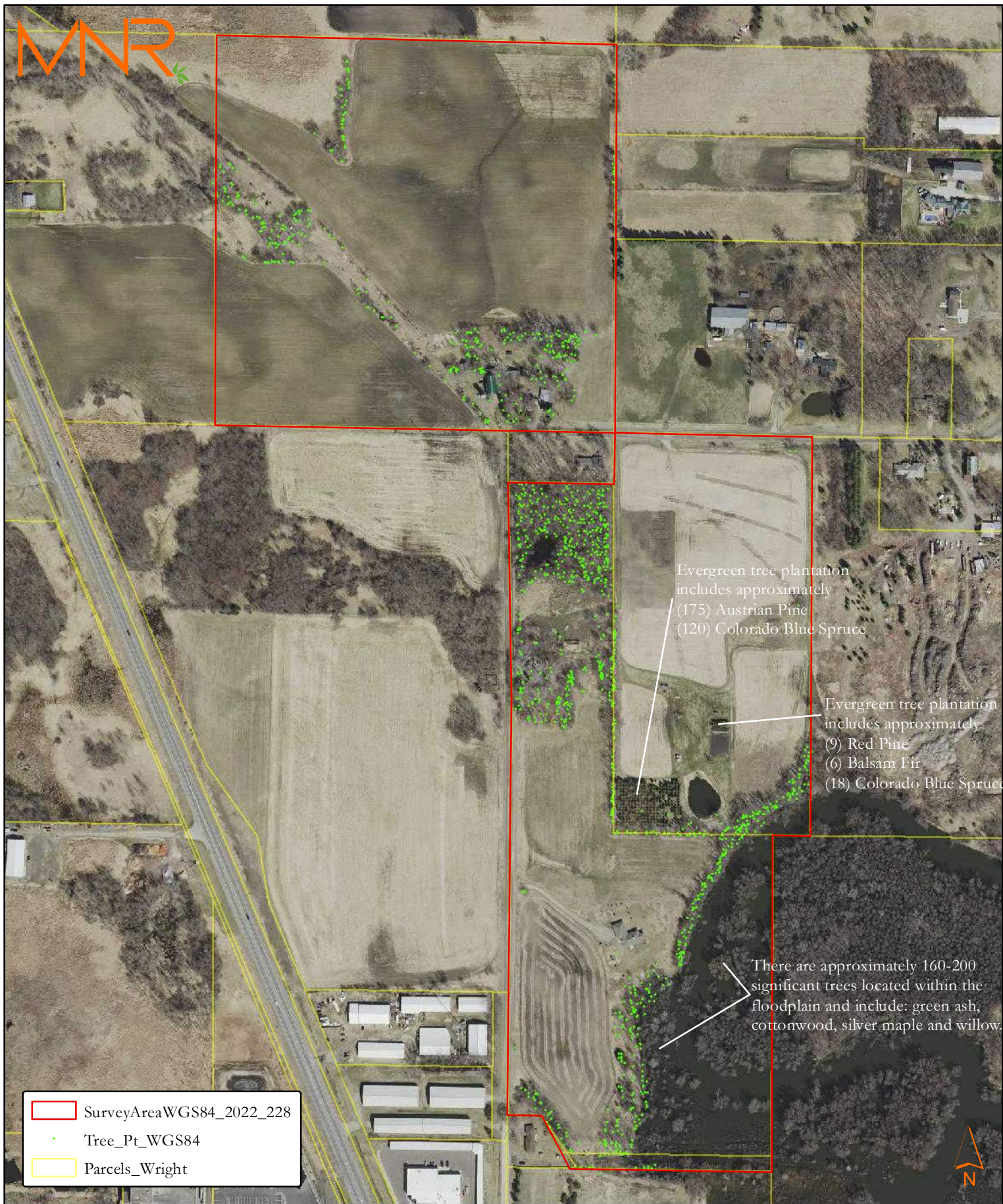
ATTACHMENT A

Attachment is omitted to conserve space in the EAW and is available upon request.

Appendix E

Tree Survey

Ebersole Residential Subdivision EAW
Delano, MN



Tree Inventory
Capstone
Ebersole Ave SE
Delano, MN

Figure 1

Appendix F
NHIS & IPaC Review Letters

Ebersole Residential Subdivision EAW
Delano, MN



Formal Natural Heritage Review - Cover Page

See next page for results of review. A draft watermark means the project details have not been finalized and the results are not official.

Project Name: Ebersole Residential EAW

Project Proposer: Capstone Homes

Project Type: Development, Residential

Project Type Activities: Tree Removal;Wetland impacts (e.g., discharge, runoff, sedimentation, fill, excavation)

TRS: T118 R25 S2

County(s): Wright

DNR Admin Region(s): Central

Reason Requested: State EAW

Project Description: The project entails construction of single-family residential development on 3 parcels of land. Mass grading of the site is proposed to begin in the spring ...

Existing Land Uses: The project area includes cropland, woodland, frontage along the South Fork Crow River (DNR Watercourse M-064-005), and other wetlands in the farm fields.

Landcover / Habitat Impacted: The project will convert the cropland and woodland into residential development.

Waterbodies Affected: South Fork Crow River (DNR Watercourse M-064-005) may receive treated stormwater discharge, and the project may propose to impact wetlands in the farm fields.

Groundwater Resources Affected: The project is not likely to affect groundwater resources.

Previous Natural Heritage Review: No

Previous Habitat Assessments / Surveys: No

SUMMARY OF AUTOMATED RESULTS

Category	Results	Response By Category
Project Details	No Comments	No Further Review Required
Ecologically Significant Area	No Comments	No Further Review Required
State-Listed Endangered or Threatened Species	No Comments	No Further Review Required
State-Listed Species of Special Concern	No Comments	No Further Review Required
Federally Listed Species	No Records	Visit IPaC For Federal Review



Minnesota Department of Natural Resources
Division of Ecological & Water Resources
500 Lafayette Road, Box 25
St. Paul, MN 55155-4025

May 3, 2022

Project ID: MCE #2022-00303

Lucius Jonett
Kjolhaug Environmental Services Company
2500 Shadywood Road, Suite 130
Orono, MN 55331

RE: Automated Natural Heritage Review of the proposed Ebersole Residential EAW
See Cover Page for location and project details.

Dear Lucius Jonett,

As requested, the above project has been reviewed for potential effects to rare features. Given the project details provided on the cover page, I do not believe the proposed project will negatively affect any known occurrences of rare features. To ensure compliance with federal law, conduct a federal regulatory review using the U.S. Fish and Wildlife Service's (USFWS) online [Information for Planning and Consultation \(IPaC\) tool](#).

Project Type and/or Project Type Activity Comments

- The Natural Heritage Information System (NHIS) tracks bat roost trees and hibernacula plus some acoustic data, but this information is not exhaustive. Even if there are no bat records listed below, all seven of Minnesota's bats, including the federally threatened northern long-eared bat ([Myotis septentrionalis](#)), can be found throughout Minnesota. Tree removal can negatively impact bats by destroying roosting habitat, especially during the pup rearing season when females are forming maternity roosting colonies and the pups cannot yet fly. To minimize these impacts, the DNR recommends that tree removal be avoided during the months of June and July.

The Natural Heritage Information System (NHIS), a collection of databases that contains information about Minnesota's rare natural features, is maintained by the Division of Ecological and Water Resources, Department of Natural Resources. The NHIS is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, native plant communities, and other natural features. However, the NHIS is not an exhaustive inventory and thus does not represent all of the occurrences of rare features within the state. Therefore, ecologically significant features for which we have no records may exist within the project area. If additional information becomes available regarding rare features in the vicinity of the project, further review may be necessary.

For environmental review purposes, the results of this Natural Heritage Review are valid for one year; the results are only valid for the project location and the project description provided on the cover page. If project details change or construction has not occurred within one year, please resubmit the project for review.

The Natural Heritage Review does not constitute project approval by the Department of Natural Resources. Instead, it identifies issues regarding known occurrences of rare features and potential effects to these rare features. For information on the environmental review process or other natural resource concerns, you may contact your [DNR Regional Environmental Assessment Ecologist](#).

Thank you for consulting us on this matter, and for your interest in preserving Minnesota's rare natural resources.

Sincerely,

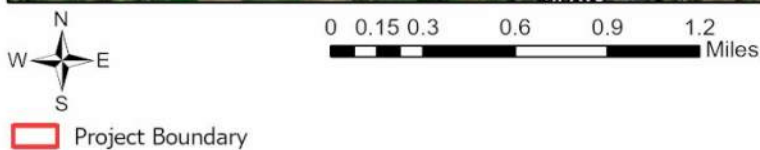
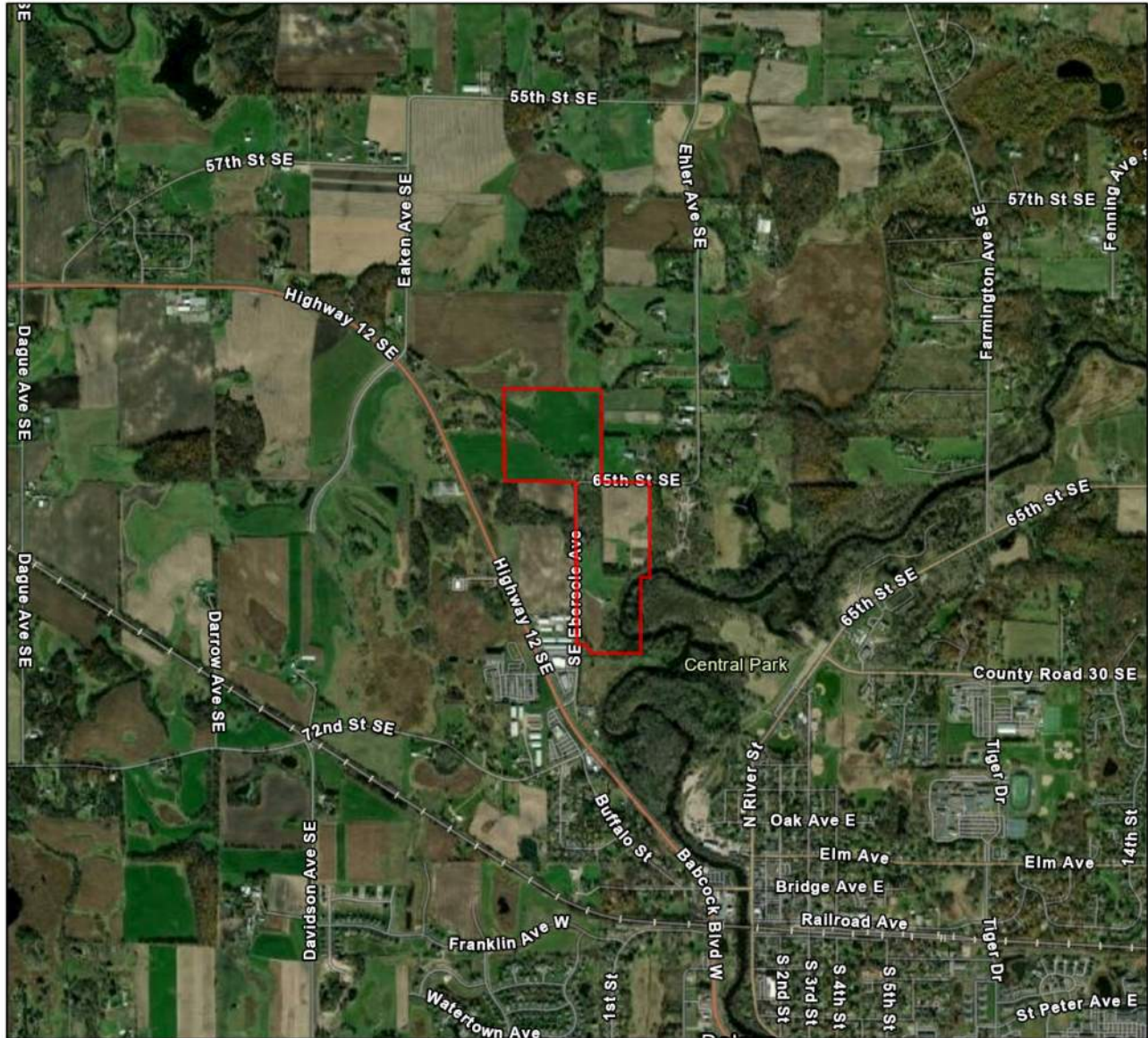
A handwritten signature in black ink that reads "Samantha Bump". The signature is written in a cursive, flowing style.

Samantha Bump
Natural Heritage Review Specialist
Samantha.Bump@state.mn.us

Links: USFWS Information for Planning and Consultation (IPaC) tool
[Information for Planning and Consultation \(IPaC\) tool](#)
DNR Regional Environmental Assessment Ecologist Contact Info
https://www.dnr.state.mn.us/eco/ereview/erp_regioncontacts.html

Ebersole Residential EAW

Aerial Imagery With Locator Map



Project Type: Development, Residential

Project Size (acres): 90.02

County(s): Wright

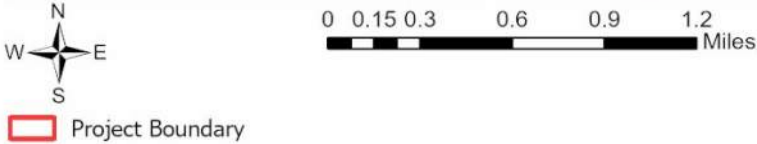
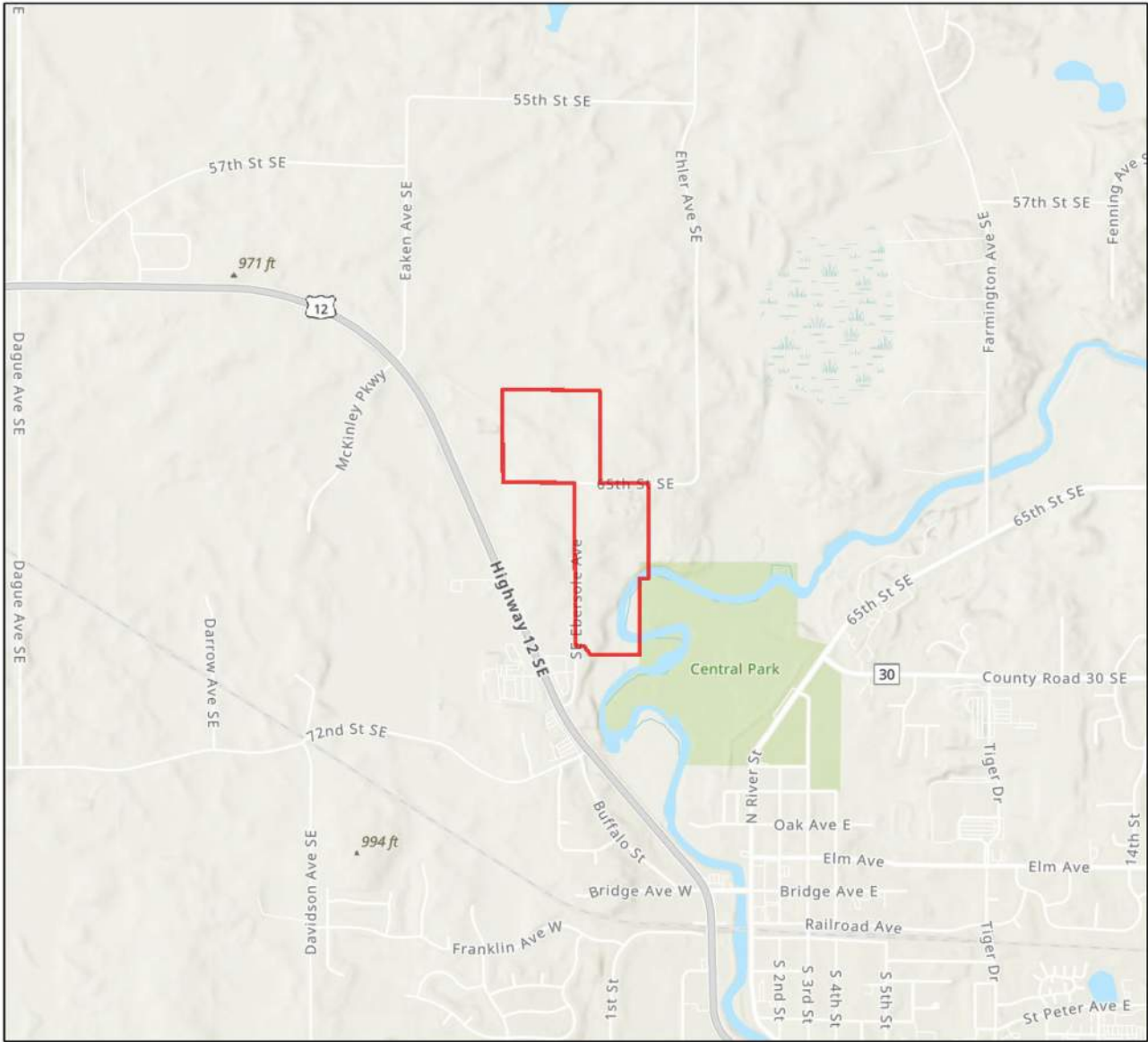
TRS: T118 R25 S2

Metropolitan Council, MetroGIS, Three Rivers Park District, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA



Ebersole Residential EAW

USA Topo Basemap With Locator Map



Project Type: Development, Residential
Project Size (acres): 90.02
County(s): Wright
TRS: T118 R25 S2

Metropolitan Council, MetroGIS, Three Rivers Park District, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA



Lucius Jonett

From: Lucius Jonett
Sent: Thursday, May 11, 2023 7:17 AM
To: MN_NHIS, Review (DNR)
Subject: RE: MCE #: 2022-00303 - Ebersole Residential EAW
Attachments: 2023-05-09 MCE Project Report - Ebersole_residential__5231_7185_FINAL.pdf

Thank you Jim,

I did submit a new project on Wednesday and the automated response does say a manual review is needed. New submittal MCE #: 2023-00365 project report attached.

Possibly because we identified 9 butternut trees onsite within the south project area. Two of the trees were found to be dead. Six more of the trees had cankers and are exhibiting dieback. Only one tree appeared to be alive and canker free. An Endangered and Threatened Species Take Permit for the butternut trees was submitted to the DNR by Kjolhaug Environmental on 3/13/2023.

We appreciate the help in expediting review, and wish the team well in processing the lineup of submissions.



Lucius Jonett, PLA (MN, WI, ND, IA)
Founder & Landscape Architect

Midwest Wetland Improvements, LLC
P.O. Box 448
Victoria, MN 55386

MN: (952) 261-9990
WI: (715) 207-9850
Email lucius@midwestwetlands.com
Web www.midwestwetlands.com

Restoring and protecting the water resources and habitats that are critical to life.

From: MN_NHIS, Review (DNR) <Review.NHIS@state.mn.us>
Sent: Wednesday, May 10, 2023 4:29 PM
To: Lucius Jonett <lucius@midwestwetlands.com>
Subject: RE: MCE #: 2022-00303 - Ebersole Residential EAW

Hello Lucius,

You will have to submit a new project in MCE. If you get a response that says your project needs a Manual Review, please let me know. We have a high number of project submissions in the queue right now so we are not meeting our goal of 3-4 week turnaround for manual reviews. I don't want to have your EAW process slowed down unduly, though, so if you let me know if you get a need for a manual review I will move it to the front of the line.

Jim

From: Bump, Samantha (MPCA) <Samantha.Bump@state.mn.us>
Sent: Tuesday, May 9, 2023 2:36 PM

To: MN_NHIS, Review (DNR) <Review.NHIS@state.mn.us>; Lucius Jonett <lucius@midwestwetlands.com>
Subject: FW: MCE #: 2022-00303 - Ebersole Residential EAW

Hi Lucius,

I am no longer with NHIS/DNR and am forwarding on your email to the NHIS Review inbox.

Samantha Bump

Project Manager | Environmental Review



From: Lucius Jonett <lucius@midwestwetlands.com>
Sent: Tuesday, May 9, 2023 9:42 AM
To: Bump, Samantha (MPCA) <Samantha.Bump@state.mn.us>
Subject: MCE #: 2022-00303 - Ebersole Residential EAW

This message may be from an external email source.

Do not select links or open attachments unless verified. Report all suspicious emails to Minnesota IT Services Security Operations Center.

Good morning Samantha,

After a several month pause on submitting the EAW, we are working with the RGU to finalize the draft to distribute for 30-day public comment. We identified that the natural heritage review we completed a year ago expired last week before we could get the draft out for public comment.

Are we able to informally request a resubmission through you or do we have to start a new project/submission? Project details have remained the same, just haven't started the process or construction within the one year timeline.



Lucius Jonett, PLA (MN, WI, ND, IA)
Founder & Landscape Architect

Midwest Wetland Improvements, LLC
P.O. Box 448
Victoria, MN 55386

MN: (952) 261-9990
WI: (715) 207-9850
Email lucius@midwestwetlands.com
Web www.midwestwetlands.com

Restoring and protecting the water resources and habitats that are critical to life.

NOTICE: This email (including attachments) is covered by the Electronic Communications Privacy Act, 18 U.S.C. 2510-2521. This email may be confidential and may be legally privileged. If you are not the intended recipient, you are hereby notified that any retention, dissemination, distribution, or copying of this communication is strictly prohibited. Please reply back to the sender that you have received this message in error, then delete it. Thank you



Formal Natural Heritage Review - Cover Page

See next page for results of review. A draft watermark means the project details have not been finalized and the results are not official.

Project Name: Ebersole Residential EAW

Project Proposer: Capstone Homes

Project Type: Development, Residential

Project Type Activities: Tree Removal; Structure Removal or Bridge Removal; Wetland impacts (e.g., discharge, runoff, sedimentation, fill, excavation)

TRS: T118 R25 S2

County(s): Wright

DNR Admin Region(s): Central

Reason Requested: State EAW

Project Description: The project entails construction of single-family residential development on 3 parcels of land to construct approximately 183 single-family lots and homes, ...

Existing Land Uses: The project area includes cropland, woodland, frontage along the South Fork Crow River (DNR Watercourse M-064-005), and other wetlands in the farm fields.

Landcover / Habitat Impacted: The project will convert the cropland and portions of existing wetland and woodland into residential development.

Waterbodies Affected: South Fork Crow River (DNR Watercourse M-064-005) may receive treated stormwater discharge, and the project will impact portions of the wetlands in the farm fields.

Groundwater Resources Affected: The project is not likely to affect groundwater resources.

Previous Natural Heritage Review: Yes, ERDB#: 2022-00303

Previous Habitat Assessments / Surveys: Yes

SUMMARY OF AUTOMATED RESULTS

Category	Results	Response By Category
Project Details	Needs Further Review	Needs Further Review
Ecologically Significant Area	No Comments	No Further Review Required
State-Listed Endangered or Threatened Species	No Comments	No Further Review Required
State-Listed Species of Special Concern	No Comments	No Further Review Required
Federally Listed Species	No Records	Visit IPaC For Federal Review



May 9, 2023

Project Name: Ebersole Residential EAW
Project Proposer: Capstone Homes
Project Type: Development, Residential
Project ID: MCE #2023-00365

AUTOMATED RESULTS: FURTHER REVIEW IS NEEDED

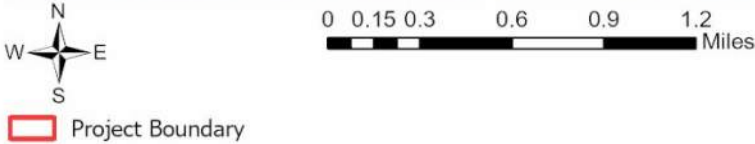
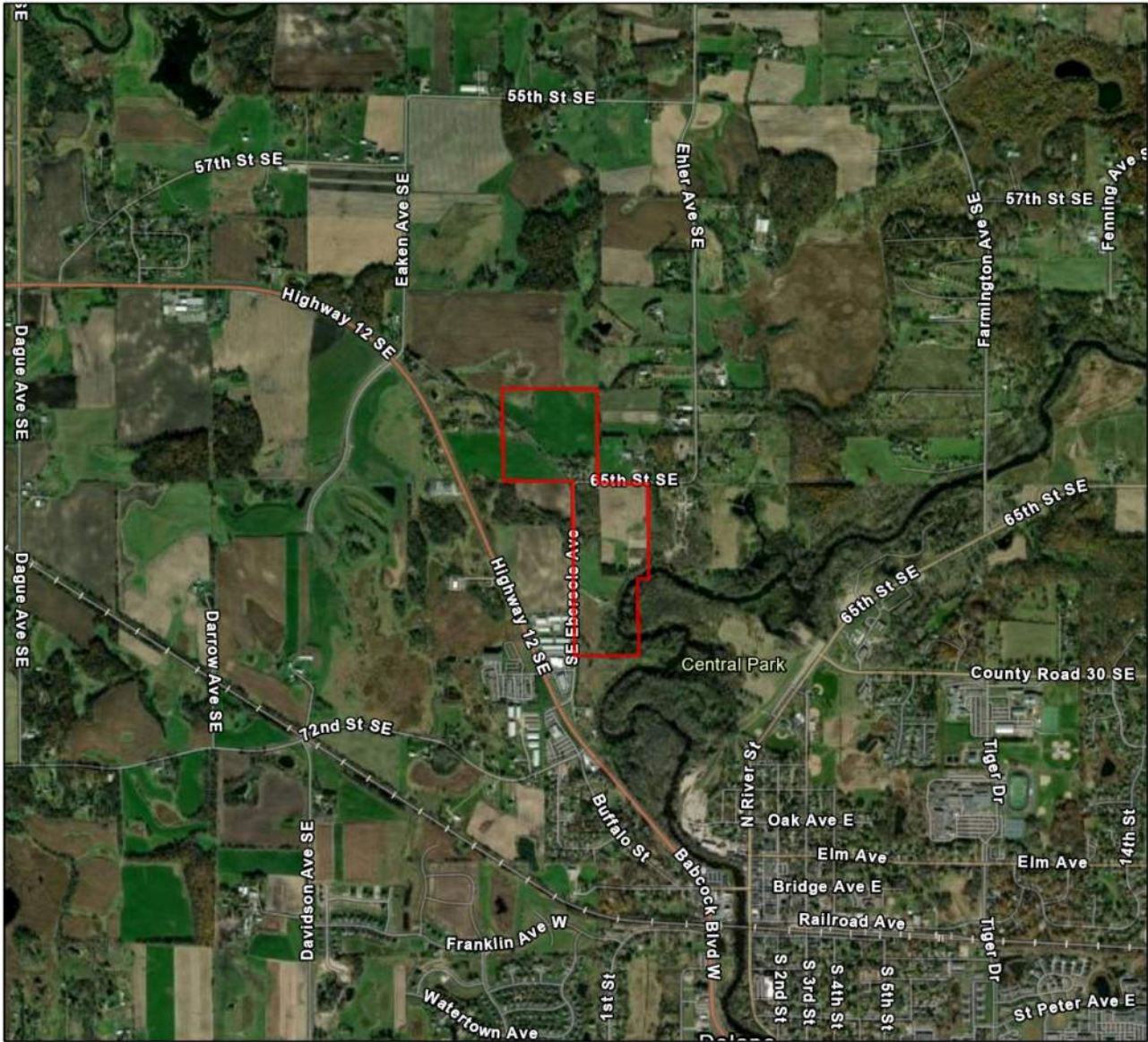
As requested, the above project has undergone an automated review for potential impacts to rare features. Based on this review, one or more rare features may be impacted by the proposed project and further review by the Natural Heritage Review Team is needed. You will receive a separate notification email when the review process is complete and the Natural Heritage Review letter has been posted.

Please refer to the table on the cover page of this report for a summary of potential impacts to rare features. For additional information or planning purposes, use the Explore Page in Minnesota Conservation Explorer to view the potentially impacted rare features or to create a Conservation Planning Report for the proposed project.

If you have additional information to help resolve the potential impacts listed in the summary results, please attach related project documentation in the Edit Details tab of the Project page. Relevant information includes, but is not limited to, additional project details, completed habitat assessments, or survey results. This additional information will be considered during the project review.

Ebersole Residential EAW

Aerial Imagery With Locator Map



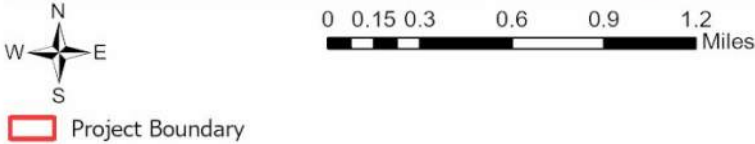
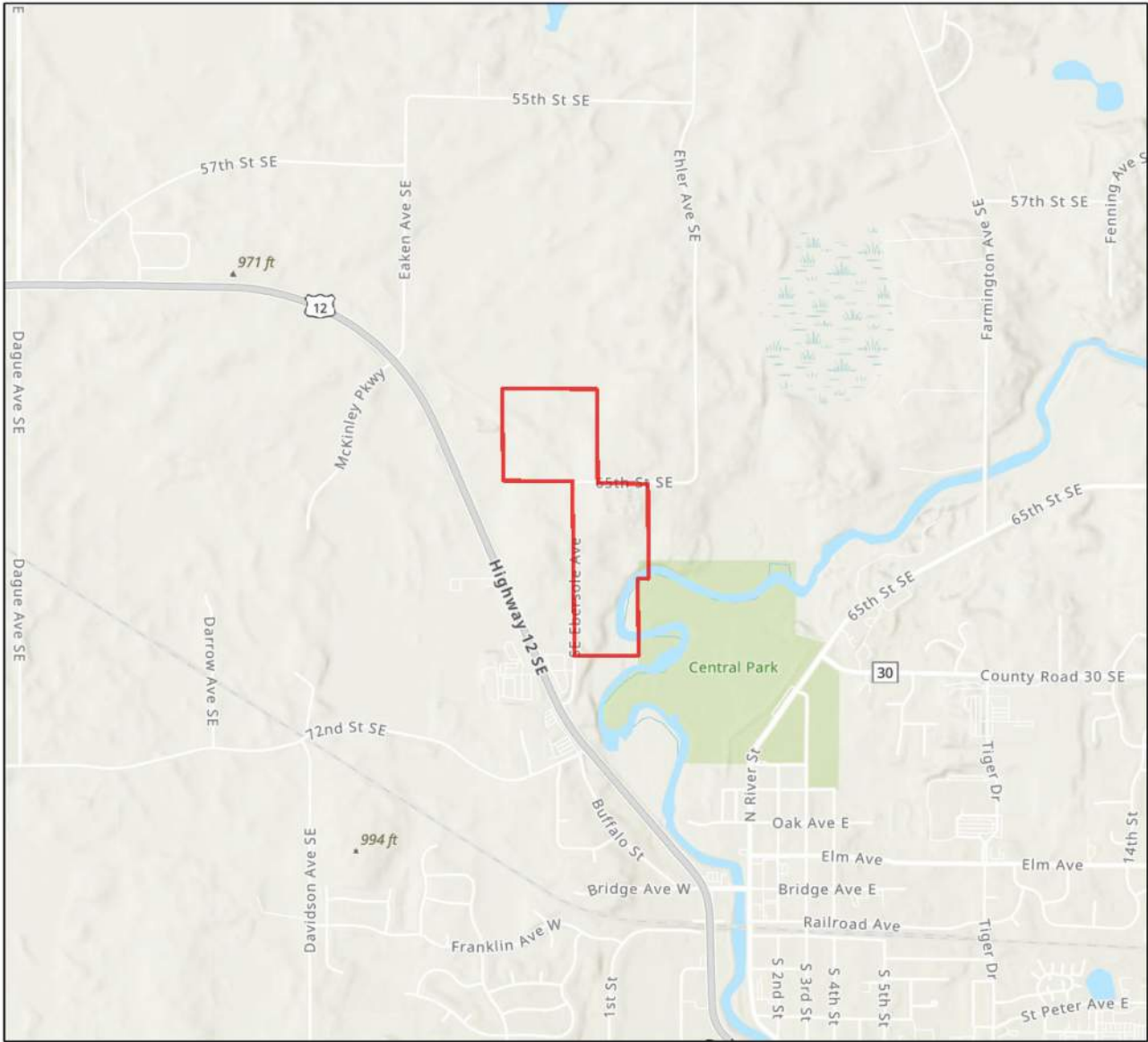
Project Type: Development, Residential
Project Size (acres): 90.32
County(s): Wright
TRS: T118 R25 S2

Metropolitan Council, MetroGIS, Three Rivers Park District, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA



Ebersole Residential EAW

USA Topo Basemap With Locator Map



Project Type: Development, Residential
Project Size (acres): 90.32
County(s): Wright
TRS: T118 R25 S2

Metropolitan Council, MetroGIS, Three Rivers Park District, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA





United States Department of the Interior



FISH AND WILDLIFE SERVICE
Minnesota-Wisconsin Ecological Services Field Office
3815 American Blvd East
Bloomington, MN 55425-1659
Phone: (952) 858-0793 Fax: (952) 646-2873

In Reply Refer To:
Project Code: 2023-0081245
Project Name: Ebersole Residential EAW

May 11, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

This response has been generated by the Information, Planning, and Conservation (IPaC) system to provide information on natural resources that could be affected by your project. The U.S. Fish and Wildlife Service (Service) provides this response under the authority of the Endangered Species Act of 1973 (16 U.S.C. 1531-1543), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d), the Migratory Bird Treaty Act (16 U.S.C. 703-712), and the Fish and Wildlife Coordination Act (16 U.S.C. 661 *et seq.*).

Threatened and Endangered Species

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and may be affected by your proposed project. The species list fulfills the requirement for obtaining a Technical Assistance Letter from the U.S. Fish and Wildlife Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the ECOS IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS IPaC system by completing the same process used to receive the enclosed list.

Consultation Technical Assistance

Please refer to our [Section 7 website](#) for guidance and technical assistance, including [step-by-step instructions](#) for making effects determinations for each species that might be present and for specific guidance on the following types of projects: projects in developed areas, HUD, CDBG, EDA, USDA Rural Development projects, pipelines, buried utilities, telecommunications, and requests for a Conditional Letter of Map Revision (CLOMR) from FEMA.

We recommend running the project (if it qualifies) through our **Minnesota-Wisconsin Federal Endangered Species Determination Key (Minnesota-Wisconsin ("D-key"))**. A [demonstration video](#) showing how-to access and use the determination key is available. Please note that the Minnesota-Wisconsin D-key is the third option of 3 available d-keys. D-keys are tools to help Federal agencies and other project proponents determine if their proposed action has the potential to adversely affect federally listed species and designated critical habitat. The Minnesota-Wisconsin D-key includes a structured set of questions that assists a project proponent in determining whether a proposed project qualifies for a certain predetermined consultation outcome for all federally listed species found in Minnesota and Wisconsin (except for the northern long-eared bat- see below), which includes determinations of "no effect" or "may affect, not likely to adversely affect." In each case, the Service has compiled and analyzed the best available information on the species' biology and the impacts of certain activities to support these determinations.

If your completed d-key output letter shows a "No Effect" (NE) determination for all listed species, print your IPaC output letter for your files to document your compliance with the Endangered Species Act.

For Federal projects with a "Not Likely to Adversely Affect" (NLAA) determination, our concurrence becomes valid if you do not hear otherwise from us after a 30-day review period, as indicated in your letter.

If your d-key output letter indicates additional coordination with the Minnesota-Wisconsin Ecological Services Field Office is necessary (i.e., you get a "May Affect" determination), you will be provided additional guidance on contacting the Service to continue ESA coordination outside of the key; ESA compliance cannot be concluded using the key for "May Affect" determinations unless otherwise indicated in your output letter.

Note: Once you obtain your official species list, you are not required to continue in IPaC with d-keys, although in most cases these tools should expedite your review. If you choose to make an effects determination on your own, you may do so. If the project is a Federal Action, you may want to review our section 7 step-by-step instructions before making your determinations.

Using the IPaC Official Species List to Make No Effect and May Affect Determinations for Listed Species

1. If IPaC returns a result of "There are no listed species found within the vicinity of the project," then project proponents can conclude the proposed activities will have **no effect** on any federally listed species under Service jurisdiction. Concurrence from the Service is not required for **no effect** determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records.
 2. If IPaC returns one or more federally listed, proposed, or candidate species as potentially present in the action area of the proposed project – other than bats (see below) – then project proponents must determine if proposed activities will have **no effect** on or **may affect** those species. For assistance in determining if suitable habitat for listed, candidate, or proposed species occurs within your project area or if species may be affected by project activities, you can obtain [Life History Information for Listed and Candidate Species](#) on our office website. If no impacts will occur to a species on the IPaC species list (e.g., there is no habitat present in the project area), the appropriate determination is **no effect**. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records.
-

3. Should you determine that project activities **may affect** any federally listed, please contact our office for further coordination. Letters with requests for consultation or correspondence about your project should include the Consultation Tracking Number in the header. Electronic submission is preferred.

Northern Long-Eared Bats

Northern long-eared bats occur throughout Minnesota and Wisconsin and the information below may help in determining if your project may affect these species.

This species hibernates in caves or mines only during the winter. In Minnesota and Wisconsin, the hibernation season is considered to be November 1 to March 31. During the active season (April 1 to October 31) they roost in forest and woodland habitats. Suitable summer habitat for northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥ 3 inches dbh for northern long-eared bat that have exfoliating bark, cracks, crevices, and/or hollows), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat and evaluated for use by bats. If your project will impact caves or mines or will involve clearing forest or woodland habitat containing suitable roosting habitat, northern long-eared bats could be affected.

Examples of unsuitable habitat include:

- Individual trees that are greater than 1,000 feet from forested or wooded areas,
- Trees found in highly developed urban areas (e.g., street trees, downtown areas),
- A pure stand of less than 3-inch dbh trees that are not mixed with larger trees, and
- A monoculture stand of shrubby vegetation with no potential roost trees.

If IPaC returns a result that northern long-eared bats are potentially present in the action area of the proposed project, project proponents can conclude the proposed activities **may affect** this species **IF** one or more of the following activities are proposed:

- Clearing or disturbing suitable roosting habitat, as defined above, at any time of year,
- Any activity in or near the entrance to a cave or mine,
- Mining, deep excavation, or underground work within 0.25 miles of a cave or mine,
- Construction of one or more wind turbines, or
- Demolition or reconstruction of human-made structures that are known to be used by bats based on observations of roosting bats, bats emerging at dusk, or guano deposits or stains.

If none of the above activities are proposed, project proponents can conclude the proposed activities will have **no effect** on the northern long-eared bat. Concurrence from the Service is not required for **No**

Effect determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records.

If any of the above activities are proposed, and the northern long-eared bat appears on the user's species list, the federal project user will be directed to either the range-wide northern long-eared bat D-key or the Federal Highways Administration, Federal Railways Administration, and Federal Transit Administration Indiana bat/ Northern long-eared bat D-key, depending on the type of project and federal agency involvement. Similar to the Minnesota-Wisconsin D-key, these d-keys helps to determine if prohibited take might occur and, if not, will generate an automated verification letter.

Please note: On November 30, 2022, the Service published a proposal final rule to reclassify the northern long-eared bat as endangered under the Endangered Species Act. On January 26, 2023, the Service published a 60-day extension for the final reclassification rule in the Federal Register, moving the effective listing date from January 30, 2023, to March 31, 2023. This extension will provide stakeholders and the public time to preview interim guidance and consultation tools before the rule becomes effective. When available, the tools will be available on the Service's northern long-eared bat website (<https://www.fws.gov/species/northern-long-eared-bat-myotis-septentrionalis>). Once the final rule goes into effect on March 31, 2023, the 4(d) D-key will no longer be available (4(d) rules are not available for federally endangered species) and will be replaced with a new Range-wide NLEB D-key (range-wide d-key). For projects not completed by March 31, 2023, that were previously reviewed under the 4(d) d-key, there may be a need for reinitiation of consultation. For these ongoing projects previously reviewed under the 4(d) d-key that may result in incidental take of the northern long-eared bat, we recommend you review your project using the new range-wide d-key once available. If your project does not comply with the range-wide d-key, it may be eligible for use of the Interim (formal) Consultation framework (framework). The framework is intended to facilitate the transition from the 4(d) rule to typical Section 7 consultation procedures for federally endangered species and will be available only until spring 2024. Again, when available, these tools (new range-wide d-key and framework) will be available on the Service's [northern long-eared bat website](#).

Whooping Crane

Whooping crane is designated as a non-essential experimental population in Wisconsin and consultation under Section 7(a)(2) of the Endangered Species Act is only required if project activities will occur within a National Wildlife Refuge or National Park. If project activities are proposed on lands outside of a National Wildlife Refuge or National Park, then you are not required to consult. For additional information on this designation and consultation requirements, please review "[Establishment of a Nonessential Experimental Population of Whooping Cranes in the Eastern United States](#)."

Other Trust Resources and Activities

Bald and Golden Eagles - Although the bald eagle has been removed from the endangered species list, this species and the golden eagle are protected by the Bald and Golden Eagle Act and the Migratory Bird Treaty Act. Should bald or golden eagles occur within or near the project area please contact our office for further coordination. For communication and wind energy projects, please refer to additional guidelines below.

Migratory Birds - The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Service. The Service has the responsibility under the MBTA to proactively prevent the

mortality of migratory birds whenever possible and we encourage implementation of [recommendations that minimize potential impacts to migratory birds](#). Such measures include clearing forested habitat outside the nesting season (generally March 1 to August 31) or conducting nest surveys prior to clearing to avoid injury to eggs or nestlings.

Communication Towers - Construction of new communications towers (including radio, television, cellular, and microwave) creates a potentially significant impact on migratory birds, especially some 350 species of night-migrating birds. However, the Service has developed [voluntary guidelines for minimizing impacts](#).

Transmission Lines - Migratory birds, especially large species with long wingspans, heavy bodies, and poor maneuverability can also collide with power lines. In addition, mortality can occur when birds, particularly hawks, eagles, kites, falcons, and owls, attempt to perch on uninsulated or unguarded power poles. To minimize these risks, please refer to [guidelines](#) developed by the Avian Power Line Interaction Committee and the Service. Implementation of these measures is especially important along sections of lines adjacent to wetlands or other areas that support large numbers of raptors and migratory birds.

Wind Energy - To minimize impacts to migratory birds and bats, wind energy projects should follow the Service's [Wind Energy Guidelines](#). In addition, please refer to the Service's [Eagle Conservation Plan Guidance](#), which provides guidance for conserving bald and golden eagles in the course of siting, constructing, and operating wind energy facilities.

State Department of Natural Resources Coordination

While it is not required for your Federal section 7 consultation, please note that additional state endangered or threatened species may also have the potential to be impacted. Please contact the Minnesota or Wisconsin Department of Natural Resources for information on state listed species that may be present in your proposed project area.

Minnesota

[Minnesota Department of Natural Resources - Endangered Resources Review Homepage](#)

Email: Review.NHIS@state.mn.us

Wisconsin

[Wisconsin Department of Natural Resources - Endangered Resources Review Homepage](#)

Email: DNRERReview@wi.gov

We appreciate your concern for threatened and endangered species. Please feel free to contact our office with questions or for additional information.

Attachment(s):

- Official Species List
 - USFWS National Wildlife Refuges and Fish Hatcheries
 - Migratory Birds
 - Wetlands
-

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Minnesota-Wisconsin Ecological Services Field Office

3815 American Blvd East

Bloomington, MN 55425-1659

(952) 858-0793

PROJECT SUMMARY

Project Code: 2023-0081245

Project Name: Ebersole Residential EAW

Project Type: Residential Construction

Project Description: The project entails construction of single-family residential development on 3 parcels of land to construct approximately 183 single-family lots and homes, and 102 attached townhomes in 23 buildings. Project construction will convert 61.6 acres of crop land designated as green acres, permanently impact approximately 0.79 acres of wetland, remove 11.9 acres of trees, and create lots within a shoreland overlay to develop the new roads, lots, homes, landscaping, and storm water features. The balance of the site project area will include about 7.85 acres of tree avoidance, 9.94 acres of wetland preservation and dedication of approximately 2.6 acres of greenspace to the City of Delano. The existing home on one of the Running property parcels will be preserved as a lot in the new subdivision. One small shed on the Otto property parcel will be demolished. And a barn, silo, storage sheds, home, and garage buildings will be demolished and removed from the Rutherford property parcel. Tree clearing and removal for all three parcels will occur during the winter months, prior to March 31, to minimize impacts to Northern Long-eared Bat. Mass grading of two project parcels is proposed to begin in the spring of 2024 followed by the installation of roads, municipal utilities, mass grading, storm water management practices, and new home construction. Two phases of home construction on these two parcels are anticipated to take 2 to 3 years depending on the housing market. The next mass grading phase on the 3rd parcel will start at or near the completion of home construction associated with the first grading phase. After the third parcel is graded, 2 phases of home construction will begin and is anticipated to take 2 to 3 years depending on the housing market.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@45.055939949999996,-93.79664602273827,14z>



Counties: Wright County, Minnesota

ENDANGERED SPECIES ACT SPECIES

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Whooping Crane <i>Grus americana</i> Population: U.S.A. (AL, AR, CO, FL, GA, ID, IL, IN, IA, KY, LA, MI, MN, MS, MO, NC, NM, OH, SC, TN, UT, VA, WI, WV, western half of WY) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/758	Experimental Population, Non- Essential

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

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1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\)](#) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Dec 1 to Aug 31
Black Tern <i>Chlidonias niger</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3093	Breeds May 15 to Aug 20

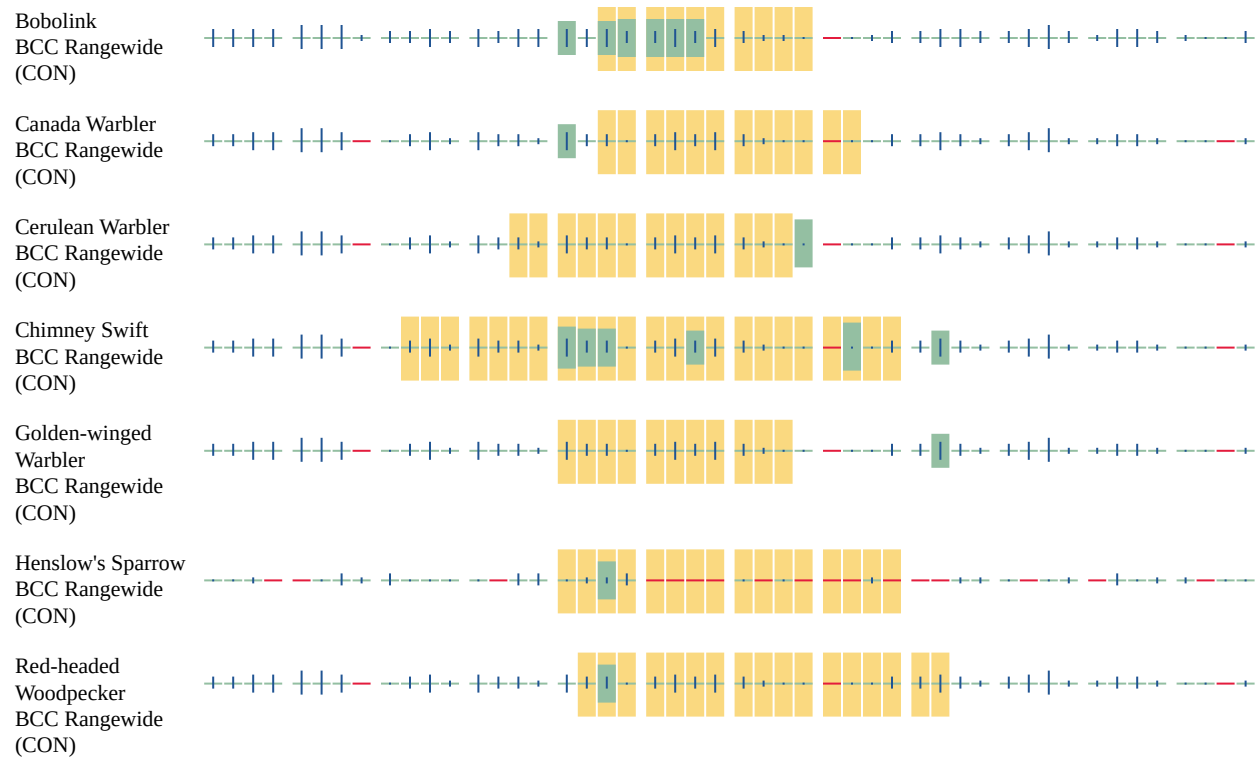
NAME	BREEDING SEASON
Bobolink <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Canada Warbler <i>Cardellina canadensis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
Cerulean Warbler <i>Dendroica cerulea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 22 to Jul 20
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Golden-winged Warbler <i>Vermivora chrysoptera</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8745	Breeds May 1 to Jul 20
Henslow's Sparrow <i>Ammodramus henslowii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3941	Breeds May 1 to Aug 31
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.



Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

MIGRATORY BIRDS FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
 2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
 3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles)
-

potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER EMERGENT WETLAND

- [PEM1C](#)
- [PEM1A](#)

RIVERINE

- [R2UBH](#)

FRESHWATER POND

- [PABH](#)
-

IPAC USER CONTACT INFORMATION

Agency: Midwest Wetland Improvements

Name: Lucius Jonett

Address: P.O. Box 448

City: Victoria

State: MN

Zip: 55386

Email: lucius@midwestwetlands.com

Phone: 9522619990



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Minnesota-Wisconsin Ecological Services Field Office
3815 American Blvd East
Bloomington, MN 55425-1659
Phone: (952) 858-0793 Fax: (952) 646-2873



In Reply Refer To:
Project code: 2023-0081245
Project Name: Ebersole Residential EAW

May 11, 2023

Subject: Consistency letter for 'Ebersole Residential EAW' for specified threatened and endangered species that may occur in your proposed project location consistent with the Minnesota-Wisconsin Endangered Species Determination Key (Minnesota-Wisconsin DKey).

Dear Lucius Jonett:

The U.S. Fish and Wildlife Service (Service) received on **May 11, 2023** your effect determination(s) for the 'Ebersole Residential EAW' (Action) using the Minnesota-Wisconsin DKey within the Information for Planning and Consultation (IPaC) system. You have submitted this key to satisfy requirements under Section 7(a)(2). The Service developed this system in accordance of with the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C 1531 et seq.).

Based on your answers and the assistance of the Service's Minnesota-Wisconsin DKey, you made the following effect determination(s) for the proposed Action:

Species	Listing Status	Determination
Monarch Butterfly (<i>Danaus plexippus</i>)	Candidate	No effect
Tricolored Bat (<i>Perimyotis subflavus</i>)	Proposed	No effect
	Endangered	
Whooping Crane (<i>Grus americana</i>)	Experimental	No effect
	Population, Non-Essential	

Determination Information

Thank you for informing the Service of your "No Effect" determination(s). No further coordination is necessary for the species you determined will not be affected by the Action.

Additional Information

Sufficient project details: Please provide sufficient project details on your project homepage in IPaC (Define Project, Project Description) to support your conclusions. Failure to disclose important aspects of your project that would influence the outcome of your effects

determinations may negate your determinations and invalidate this letter. If you have site-specific information that leads you to believe a different determination is more appropriate for your project than what the Dkey concludes, you can and should proceed based on the best available information.

Future project changes: The Service recommends that you contact the Minnesota-Wisconsin Ecological Services Field Office or re-evaluate the project in IPaC if: 1) the scope or location of the proposed Action is changed; 2) new information reveals that the action may affect listed species or designated critical habitat in a manner or to an extent not previously considered; 3) the Action is modified in a manner that causes effects to listed species or designated critical habitat; or 4) a new species is listed or critical habitat designated. If any of the above conditions occurs, additional consultation with the Service should take place before project changes are final or resources committed.

For non-Federal representatives: Please note that when a project requires consultation under section 7 of the Act, the Service must consult directly with the Federal action agency unless that agency formally designates a non-Federal representative (50 CFR 402.08). Non-Federal representatives may prepare analyses or conduct informal consultations; however, the ultimate responsibility for section 7 compliance under the Act remains with the Federal agency. Please include the Federal action agency in additional correspondence regarding this project.

Species-specific information

Bald and Golden Eagles: Bald eagles, golden eagles, and their nests are protected under the Bald and Golden Eagle Protection Act (54 Stat. 250, as amended, 16 U.S.C. 668a-d) (Eagle Act). The Eagle Act prohibits, except when authorized by an Eagle Act permit, the “taking” of bald and golden eagles and defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” The Eagle Act’s implementing regulations define disturb as “... to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”

If you observe a bald eagle nest in the vicinity of your proposed project, you should follow the National Bald Eagle Management Guidelines (May 2007). For more information on eagles and conducting activities in the vicinity of an eagle nest, please visit our regional eagle website or contact Margaret at Margaret_Rheude@fws.gov. **If the Action may affect bald or golden eagles, additional coordination with the Service under the Eagle Act may be required.**

The following species and/or critical habitats may also occur in your project area and **are not** covered by this conclusion:

- Northern Long-eared Bat *Myotis septentrionalis* Endangered

Coordination with the Service is not complete if additional coordination is advised above for any species.

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

Ebersole Residential EAW

2. Description

The following description was provided for the project 'Ebersole Residential EAW':

The project entails construction of single-family residential development on 3 parcels of land to construct approximately 183 single-family lots and homes, and 102 attached townhomes in 23 buildings. Project construction will convert 61.6 acres of crop land designated as green acres, permanently impact approximately 0.79 acres of wetland, remove 11.9 acres of trees, and create lots within a shoreland overlay to develop the new roads, lots, homes, landscaping, and storm water features. The balance of the site project area will include about 7.85 acres of tree avoidance, 9.94 acres of wetland preservation and dedication of approximately 2.6 acres of greenspace to the City of Delano. The existing home on one of the Running property parcels will be preserved as a lot in the new subdivision. One small shed on the Otto property parcel will be demolished. And a barn, silo, storage sheds, home, and garage buildings will be demolished and removed from the Rutherford property parcel. Tree clearing and removal for all three parcels will occur during the winter months, prior to March 31, to minimize impacts to Northern Long-eared Bat. Mass grading of two project parcels is proposed to begin in the spring of 2024 followed by the installation of roads, municipal utilities, mass grading, storm water management practices, and new home construction. Two phases of home construction on these two parcels are anticipated to take 2 to 3 years depending on the housing market. The next mass grading phase on the 3rd parcel will start at or near the completion of home construction associated with the first grading phase. After the third parcel is graded, 2 phases of home construction will begin and is anticipated to take 2 to 3 years depending on the housing market.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@45.055939949999996,-93.79664602273827,14z>



QUALIFICATION INTERVIEW

1. This determination key is intended to assist the user in evaluating the effects of their actions on Federally listed species in Minnesota and Wisconsin. It does not cover other prohibited activities under the Endangered Species Act (e.g., for wildlife: import/export, Interstate or foreign commerce, possession of illegally taken wildlife, etc.; for plants: import/export, reduce to possession, malicious destruction on Federal lands, commercial sale, etc.) or other statutes. Additionally, this key DOES NOT cover wind development, purposeful take (e.g., for research or surveys), communication towers that have guy wires or are over 450 feet in height, aerial or other large-scale application of any chemical (such as insecticide or herbicide), and approval of long-term permits or plans (e.g., FERC licenses, HCP's).

Click **YES** to acknowledge that you must consider other prohibitions of the ESA or other statutes outside of this determination key.

Yes

2. Is the action being funded, authorized, or carried out by a Federal agency?

No

3. Are you the Federal agency or designated non-federal representative?

No

4. Does the action involve the installation or operation of wind turbines?

No

5. Does the action involve purposeful take of a listed animal?

No

6. Does the action involve a new communications tower?

No

7. Does the activity involve aerial or other large-scale application of ANY chemical, including pesticides (insecticide, herbicide, fungicide, rodenticide, etc)?

No

8. Does the action occur near a bald eagle nest?

Note: Contact the Minnesota or Wisconsin Department of Natural Resources for an up-to-date list of known bald eagle nests.

No

9. Will your action permanently affect local hydrology?

Yes

10. Does your project have the potential to impact the riparian zone or indirectly impact a stream/river (e.g., cut and fill; horizontal directional drilling; construction; vegetation removal; pesticide or fertilizer application; discharge; runoff of sediment or pollutants; increase in erosion, etc.)?

Note: Consider all potential effects of the action, including those that may happen later in time and outside and downstream of the immediate area involved in the action.

Endangered Species Act regulation defines "effects of the action" to include all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (50 CFR 402.02).

Yes

11. Will your action disturb the ground or existing vegetation?

Note: This includes any off-road vehicle access, soil compaction (enough to collapse a rodent burrow), digging, seismic survey, directional drilling, heavy equipment, grading, trenching, placement of fill, pesticide application (herbicide, fungicide), vegetation management (including removal or maintenance using equipment or prescribed fire), cultivation, development, etc.

Yes

12. Will your action include spraying insecticides?

No

13. Does your action area occur entirely within an already developed area?

Note: Already developed areas are already paved, covered by existing structures, manicured lawns, industrial sites, or cultivated cropland, AND do not contain trees that could be roosting habitat. Be aware that listed species may occur in areas with natural, or semi-natural, vegetation immediately adjacent to existing utilities (e.g. roadways, railways) or within utility rights-of-way such as overhead transmission line corridors, and can utilize suitable trees, bridges, or culverts for roosting even in urban dominated landscapes (so these are not considered "already developed areas" for the purposes of this question). If unsure, select NO..

No

14. [Hidden Semantic] Does the action area intersect the monarch butterfly species list area?

Automatically answered

Yes

15. Under the ESA, monarchs remain warranted but precluded by listing actions of higher priority. The monarch is a candidate for listing at this time. The Endangered Species Act does not establish protections or consultation requirements for candidate species. Some Federal and State agencies may have policy requirements to consider candidate species in planning. We encourage implementing measures that will remove or reduce threats to these species and possibly make listing unnecessary.

If your project will have no effect on monarch butterflies (for example, if your project won't affect their habitat or individuals), then you can make a "no effect" determination for this project.

Are you making a "no effect" determination for monarch?

Yes

16. [Hidden semantic] Does the action intersect the Tricolored bat species list area?

Automatically answered

Yes

17. The tricolored bat was proposed for listing as endangered on September 13, 2022. During winter, tricolored bats hibernate in caves, abandoned mines, and abandoned tunnels ranging from small to large in size. During spring, summer and fall months, they roost primarily among leaf clusters of live or recently dead deciduous/hardwood trees.

What effect determination do you want to make for the tricolored bat (Only make a "may affect" determination if you think the project is likely to jeopardize the continued existence of the species)?

1. "No effect"

IPAC USER CONTACT INFORMATION

Agency: Midwest Wetland Improvements

Name: Lucius Jonett

Address: P.O. Box 448

City: Victoria

State: MN

Zip: 55386

Email: lucius@midwestwetlands.com

Phone: 9522619990



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Minnesota-Wisconsin Ecological Services Field Office
3815 American Blvd East
Bloomington, MN 55425-1659
Phone: (952) 858-0793 Fax: (952) 646-2873



In Reply Refer To:
Project code: 2023-0081245
Project Name: Ebersole Residential EAW

May 11, 2023

Federal Nexus: no
Federal Action Agency (if applicable):

Subject: Technical assistance for 'Ebersole Residential EAW'

Dear Lucius Jonett:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on May 11, 2023, for 'Ebersole Residential EAW' (here forward, Project). This project has been assigned Project Code 2023-0081245 and all future correspondence should clearly reference this number. **Please carefully review this letter. Your Endangered Species Act (Act) requirements are not complete.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into the IPaC must accurately represent the full scope and details of the Project. Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat Rangewide Determination Key (Dkey), invalidates this letter.

Determination for the Northern Long-Eared Bat

Based upon your IPaC submission and a standing analysis, your project is not reasonably certain to cause incidental take of the northern long-eared bat. Unless the Service advises you within 15 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the Action is not likely to result in unauthorized take of the northern long-eared bat.

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination for the northern long-eared bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Candidate
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered
- Whooping Crane *Grus americana* Experimental Population, Non-Essential

You may coordinate with our Office to determine whether the Action may cause prohibited take of the animal species and/or critical habitat listed above. Note that if a new species is listed that may be affected by the identified action before it is complete, additional review is recommended to ensure compliance with the Endangered Species Act.

Next Steps

Coordination with the Service is complete. This letter serves as technical assistance. All conservation measures should be implemented as proposed. Thank you for considering federally listed species during your project planning.

We are uncertain where the northern long-eared bat occurs on the landscape outside of known locations. Because of the steep declines in the species and vast amount of available and suitable forest habitat, the presence of suitable forest habitat alone is a far less reliable predictor of their presence. Based on the best available information, most suitable habitat is now expected to be unoccupied. During the interim period, while we are working on potential methods to address this uncertainty, we conclude take is not reasonably certain to occur in areas of suitable habitat where presence has not been documented.

If no changes occur with the Project or there are no updates on listed species, no further consultation/coordination for this project is required for the northern long-eared bat. However, the Service recommends that project proponents re-evaluate the Project in IPaC if: 1) the scope, timing, duration, or location of the Project changes (includes any project changes or amendments); 2) new information reveals the Project may impact (positively or negatively) federally listed species or designated critical habitat; or 3) a new species is listed, or critical habitat designated. If any of the above conditions occurs, additional coordination with the Service should take place before project implements any changes which are final or commits additional resources.

If you have any questions regarding this letter or need further assistance, please contact the Minnesota-Wisconsin Ecological Services Field Office and reference Project Code 2023-0081245 associated with this Project.

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

Ebersole Residential EAW

2. Description

The following description was provided for the project 'Ebersole Residential EAW':

The project entails construction of single-family residential development on 3 parcels of land to construct approximately 183 single-family lots and homes, and 102 attached townhomes in 23 buildings. Project construction will convert 61.6 acres of crop land designated as green acres, permanently impact approximately 0.79 acres of wetland, remove 11.9 acres of trees, and create lots within a shoreland overlay to develop the new roads, lots, homes, landscaping, and storm water features. The balance of the site project area will include about 7.85 acres of tree avoidance, 9.94 acres of wetland preservation and dedication of approximately 2.6 acres of greenspace to the City of Delano. The existing home on one of the Running property parcels will be preserved as a lot in the new subdivision. One small shed on the Otto property parcel will be demolished. And a barn, silo, storage sheds, home, and garage buildings will be demolished and removed from the Rutherford property parcel. Tree clearing and removal for all three parcels will occur during the winter months, prior to March 31, to minimize impacts to Northern Long-eared Bat. Mass grading of two project parcels is proposed to begin in the spring of 2024 followed by the installation of roads, municipal utilities, mass grading, storm water management practices, and new home construction. Two phases of home construction on these two parcels are anticipated to take 2 to 3 years depending on the housing market. The next mass grading phase on the 3rd parcel will start at or near the completion of home construction associated with the first grading phase. After the third parcel is graded, 2 phases of home construction will begin and is anticipated to take 2 to 3 years depending on the housing market.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@45.055939949999996,-93.79664602273827,14z>



DETERMINATION KEY RESULT

Based on the answers provided, the proposed Action is consistent with a determination of “may affect, but not likely to adversely affect” for the Endangered northern long-eared bat (*Myotis septentrionalis*).

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of the northern long-eared bat or any other listed species?

Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

No

2. Do you have post-white nose syndrome occurrence data that indicates that northern long-eared bats (NLEB) are likely to be present in the action area?

Bat occurrence data may include identification of NLEBs in hibernacula, capture of NLEBs, tracking of NLEBs to roost trees, or confirmed acoustic detections. With this question, we are looking for data that, for some reason, may have not yet been made available to U.S. Fish and Wildlife Service.

No

3. Does any component of the action involve construction or operation of wind turbines?

Note: For federal actions, answer ‘yes’ if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

No

4. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

No

PROJECT QUESTIONNAIRE

IPAC USER CONTACT INFORMATION

Agency: Midwest Wetland Improvements

Name: Lucius Jonett

Address: P.O. Box 448

City: Victoria

State: MN

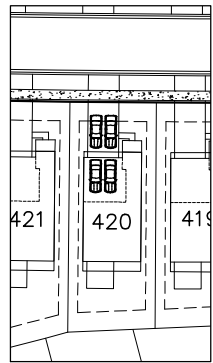
Zip: 55386

Email: lucius@midwestwetlands.com

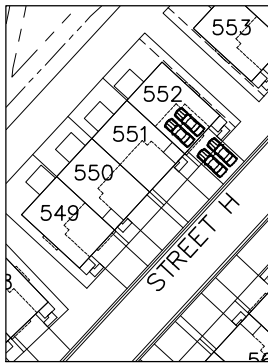
Phone: 9522619990

Appendix G
Townhome Parking Exhibit and Traffic Study Report

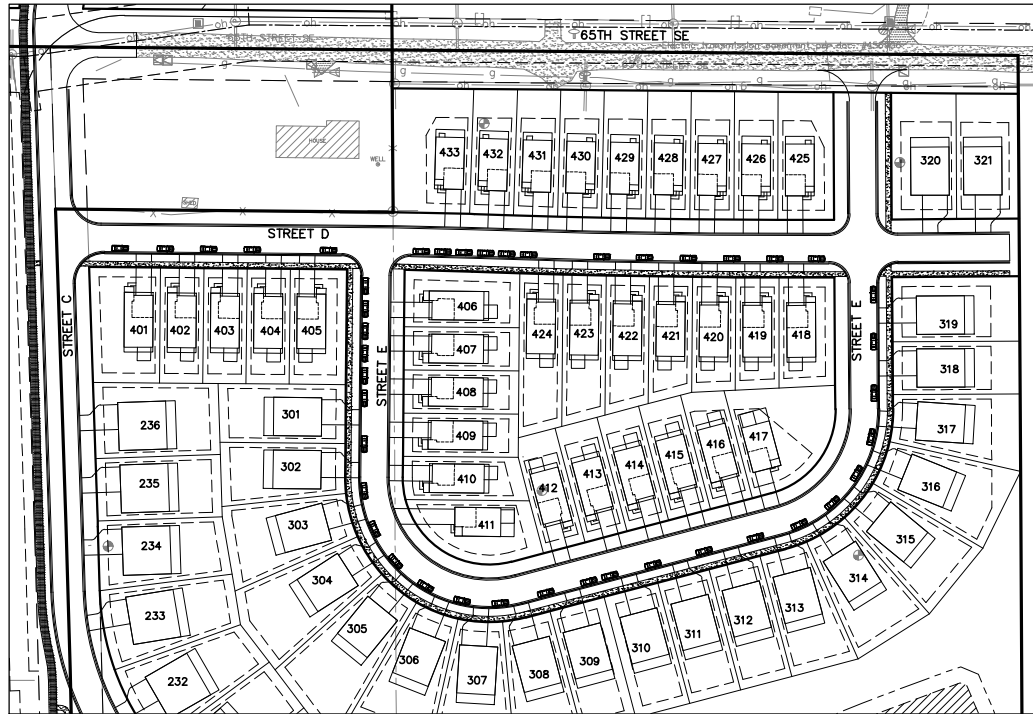
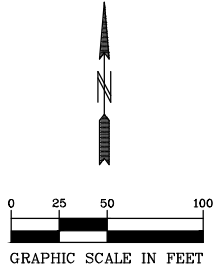
Ebersole Residential Subdivision EAW
Delano, MN



300's & 400's NUMBERED HOMES
DRIVEWAY & GARAGE PARKING



500's & 600's NUMBERED TOWNHOMES
DRIVEWAY & GARAGE PARKING



LIBERTY DETACHED TOWNHOMES (SOUTH)

LIBERTY DETACHED TOWNHOMES (SOUTH)
PARKING SUMMARY:

LOTS 301-319 & 401-433

52 UNITS

ON STREET PARKING - 43 SPACES
PARKING IN DRIVEWAY - 104 SPACES
PARKING IN GARAGE - 104 SPACES

SITE TOTAL PARKING: 251 SPACES



LIBERTY DETACHED TOWNHOMES (NORTH)

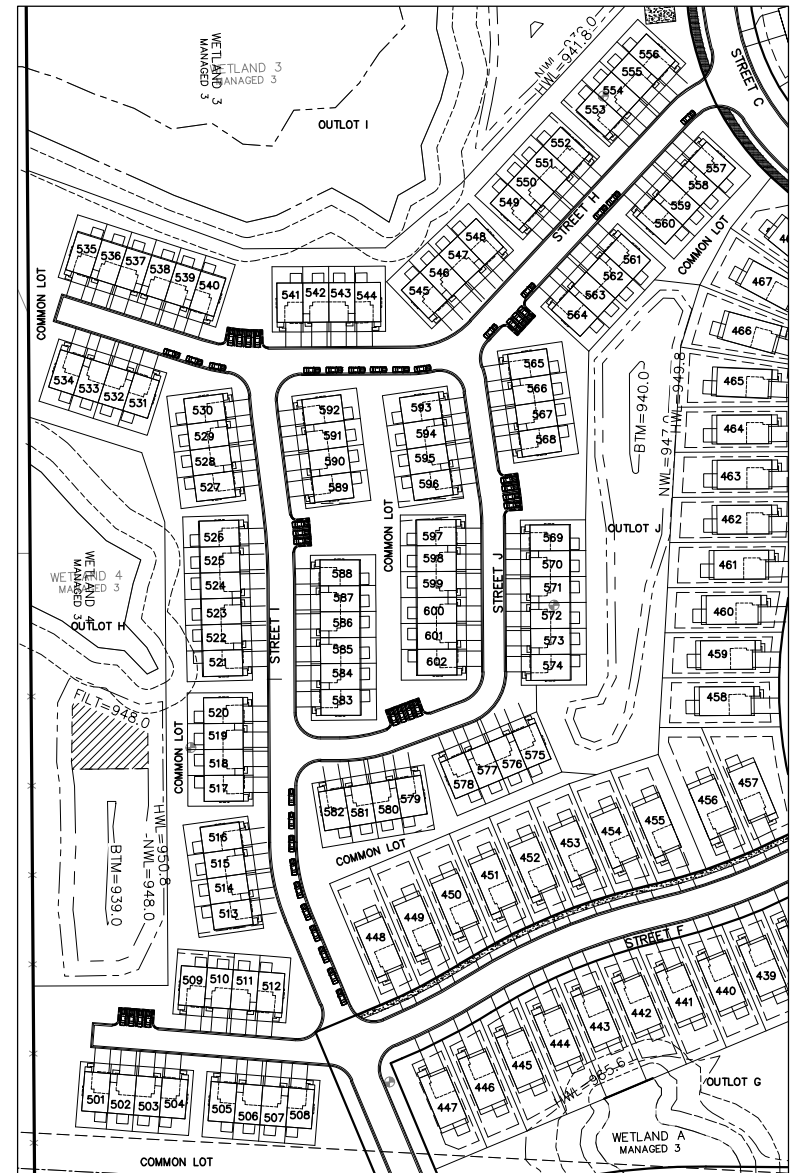
LIBERTY DETACHED TOWNHOMES (NORTH)
PARKING SUMMARY:

LOTS 434-487

54 UNITS

ON STREET PARKING - 71 SPACES
PARKING IN DRIVEWAY - 108 SPACES
PARKING IN GARAGE - 108 SPACES

SITE TOTAL PARKING: 287 SPACES



MULTI-FAMILY TOWNHOMES

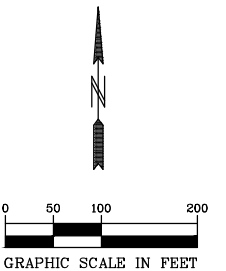
MULTI-FAMILY TOWNHOMES
PARKING SUMMARY:

LOTS 501-602

102 UNITS

PARKING BAYS - 22 SPACES
ON STREET PARKING - 24 SPACES
PARKING IN DRIVEWAY - 204 SPACES
PARKING IN GARAGE - 204 SPACES

SITE TOTAL PARKING: 454 SPACES



BENCH MARK
TOP NUT OF HYDRANT
ON EAST SIDE OF
EBERSOLE AVE. SE.
275' NE OF EBERSOLE
AVE. SE & COUNTY
ROAD 12 INTERSECTION
ELEV=945.37 (NAVD88)
00-ENG-121278-SHEET-PARK



May 12, 2023

To: Matt Barker, 648-1 Land, LLC

From: Vernon Swing, PE

Re: Traffic Analysis – Ebersole Avenue Project, Delano, MN

Per your request, S² Traffic Solutions has conducted a traffic analysis for the proposed development of the Ebersole Avenue Project (referred to as the Proposed Project) in Delano, MN. The Proposed Project will develop 183 single family homes and 102 townhome units on approximately 88 acres on a parcel located approximately 850 feet north of Trunk Highway 12 (TH 12). The site includes two parcels, the southern parcel is currently bordered on west by Ebersole Ave SE on the north by 65th Ave SE, and northern parcel is bordered on south by 65th Ave SE, and is offset to the northwest from the southern parcel. The Proposed Project will realign and extend Ebersole Ave SE through the two parcels. Also, the City of Delano Long Range Plan includes the extension of 65th Ave SE to the west to intersect TH 12 as demands warrants. (See **Figure 1, Vicinity Map**, and **Figure 2, Site Plan**).

This memorandum documents the existing conditions, the anticipated new site-generated traffic from the Proposed Project and its distribution, and reviews the traffic operations at the following intersections for the year after completion of the development, 2028, and for the Long Range Planning Horizon, 2045:

- Ebersole Ave SE & TH 12
- Bridge Ave E & TH 12
- Bridge Ave E & River St N (CSAH 30)
- Woodland Rd (CSAH 30) & TH 12

Existing Conditions

The existing conditions of the roadways and intersection providing direct access to the Proposed Project were documented and are noted in **Table 1**. Additionally, **Figure 3** shows the existing lane geometry and traffic control at the study intersections.

Table 1. Study Roadway Characteristics

Roadway	Functional Class	Typical Section	Posted Speed	AADT*
Trunk Highway 12	Minor Arterial	3-Lane Undivided Urban (60 - foot section)	40 mph	Near Site 12,300, SE of Woodland 19,100 (2018)*
Bridge Ave E	Major Collector	2-Lane Undivided Urban	30 mph	6700 (2016)*
River St N (CSAH 30)	Major Collector	2-Lane Undivided Urban	30 mph	4850 (2016)*
Woodland Rd (CSAH 30)	Major Collector	3-Lane Undivided Urban (55 - foot section)	35 mph	12,000 (2022)**
Ebersole/65th	Local Street	2-Lane Undivided Urban	30 mph	200 (2022)**

*AADT Sources: *From MnDOT data; **From 2022 turning movement traffic count

Existing Traffic Volumes

AM and PM peak hour turning movement counts were conducted at all study area intersections on Thursday May 19th, 2022. The AM peak traffic hour was found to generally occur from 7:15 – 8:15 AM and the PM peak traffic hour was found to occur from 4:15 - 5:15 PM (See **Figure 4**, Existing Traffic Volumes).

Future Conditions

To quantify the impacts of a development on the surrounding roadway system, it is necessary to first forecast and analyze traffic conditions that would be present on the roadway system without the inclusion of the proposed project. The anticipated construction completion date for the Proposed Project is 2027, thus year 2028 was selected for analysis so as to compare traffic conditions after initial traffic patterns to and from the Proposed Project have become established. Also, the planning horizon year 2045 conditions were forecast. To determine the future traffic conditions two methods were considered: A review of the City of Delano census data regarding population growth, and a review of MnDOT's historical daily traffic counts. The review of the census data suggests the population will grow at 1.5 percent per year, while the MnDOT data suggests traffic will increase by 1.7 percent per year. To present a **worst case** condition this report utilizes the 1.7 percent annual growth rate to estimate background No-Build) conditions in 2028 and 2045. The 1.7 percent annual growth rate in background traffic is inclusive of other developments that may occur in Delano by 2045. **Figure 5 and 6** illustrated the 2028 and 2045 No-Build traffic conditions with this growth rates applied to the existing volumes, respectively.

Trip Generation

As mentioned earlier, the Proposed Project will include 183 single family homes and 102 Townhomes. The volume of vehicle trips generated by the Proposed Project has been estimated for the weekday AM and PM peak hours and on a daily basis using the data methodology described in the Institute of Transportation Engineers' **Trip Generation Manual**¹, 11 Edition. ITE's Land Use Code corresponding to Single Family Homes is Code 210 and for townhomes is Code 215. Table 2 summarizes the trip generation estimate for the new uses.

Table 2 - Trip Generation

Land Use	Type	Block No.	Land Use Code	Size	Trips Generated:					
					AM peak		PM Peak		Weekday ADT	
					Enter	Exit	Enter	Exit		
Single Family Housing	Residential	1	210	183 units	E 32	97	E 110	65	E 1,759	
Single Family Attached	Residential	1	215	102 units	E 12	35	E 34	23	E 727	
Total					44	132	144	88		2,486
					176		232			

As shown in Table 2, the Proposed Project will generate 176 trips (44 entering and 132 exiting) during the morning traffic peak hour, 232 trips (144 entering and 88 exiting) during the evening traffic peak hour and 2,486 daily trips.

Trip Distribution

As mentioned above, the Proposed Project will realign Ebersole Ave SE through the site, and will also access 65th Ave SE. The forecast traffic for the Proposed Project has been assigned to the roadway network according to the existing traffic patterns in the area and according to anticipated travel times.

¹ Trip Generation Manual, Institute of Transportation Engineers (ITE), 11th Edition

It is noted, the travel times surveyed during the AM and PM traffic peak times using Apple Maps and Google Maps indicated traffic destined to the east will utilize TH 12 versus TH 55 as the trip length is 4-6 minutes shorter on average. That said, it is estimated that 10 percent of the site traffic will travel north on Ehler Ave SE to reach TH 55. **Figure 7** illustrates the general trip distribution, and the trip assignment at the accesses and study intersections, and **Figure 7a** illustrates the addition of the new extension of 65th Ave SE to the west to intersect TH 12. **Figure 8 and 9** illustrates the 2028 Build and 2045 Build (with the 65th Ave SE extension) conditions, respectively. These figures reflect the combination of the 2028 and 2045 No-Build traffic on Figures 5 and 6 with the trip assignments on Figure 7 and 7a.

Traffic Operations

The operating conditions of transportation facilities, such as roadways, traffic signals, roundabouts and stop-controlled intersections, are evaluated based on the relationship of the theoretical capacity of a facility to the actual traffic volume on that facility. Various factors affect capacity including travel speed, roadway geometry, grade, number of travel lanes, and intersection control. The current standards for evaluating capacity and operating conditions are contained in *Highway Capacity Manual*². The procedures describe operating conditions in terms of driver delay represented as a Level of Service (LOS). Operations are given letter designations with "A" representing the best operating conditions and "F" representing the worst. Generally, level of service "D" represents the threshold for acceptable overall intersection operating conditions during a peak hour. The Chart on the following page summarizes the level of service and delay criteria for signalized and unsignalized intersections.

Level of Service	Description	Delay (sec)	
		Signalized	Unsignalized/ Roundabout
A	Primarily free-flow operation.	0-10	0-10
B	Reasonably unimpeded operation.	>10-20	>10-15
C	Stable operation. The ability to maneuver is more restricted than LOS B.	>20-35	>15-25
D	Less stable operation. Small increases in flow may cause large increases in delay and reduced speeds.	>35-55	>25-35
E	Unstable operation. Low speeds and considerable delay.	>55-80	>35-50
F	Congested operation. High delay and extensive queuing.	>80	>50

For side street stop-controlled intersections special emphasis is given to providing an estimate for the level of service of the minor approaches. Traffic operations at an unsignalized intersection with side street stop-control can be described two ways. First, consideration is given to the overall intersection

² Highway Capacity Manual (HCM), Transportation Research Board, 6th Edition

level of service. This takes into account the total number of vehicles entering the intersection and the capability of the intersection to support these volumes. Second, it is important to consider the delay on the minor approaches, since the mainline does not have to stop. It is common for intersections with higher mainline traffic volumes to experience increased levels of delay and poor level of service on the side streets.

A final fundamental component of operational analyses is a study of vehicular queuing, or the line of vehicles waiting to pass through an intersection. An intersection can operate with an acceptable Level of Service, but if queues from the intersection extend back to block entrances to turn lanes or accesses to adjacent land uses, unsafe operating conditions could result. In this report, the Industry Design Standard 95th percentile queue length is used. The 95th Percentile Queue Length refers to that length of vehicle queue that has only a five-percent probability of occurring during an analysis hour.

This study has utilized the industry current Synchro/SimTraffic software package (11th Edition) to analyze the 2028 and 2045 No-Build and Build conditions for both the AM and PM peak hours. It is noted, the reported results are from the aggregate of 10 SimTraffic simulations which use a random number generator to seed the network with vehicles. These results reflect dynamic conditions and are more accurate than the results of the static analysis reported by Synchro. Due to the random number generator results can sometimes show slightly better operations on minor movements under higher traffic conditions when the intersections are operating well. This can be seen when delays and queues noted in the Build Scenario are slightly less than the No-Build or Existing Scenarios.

Analysis Results

Table 3 summarizes the results of the operational analysis. Note the 2028 and 2045 No-Build and Build operations reflect the additional traffic associated with the 1.7 percent annual growth rate applied to existing traffic volumes. Additionally, the Build operations include the new traffic forecast for the Proposed Project. Also, the 2045 Build conditions reflect the future City of Delano project to extend 65th Ave SE to intersect with TH 12 to the west as a signalized intersection. Additionally, unpublished potential improvements to the existing infrastructure by 2045 have been studied to provide acceptable roadway operations. These improvements are necessary for the 2045 No-Build conditions, and are assumed to be in place and are reflected in the analysis of the 2045 Build conditions. Further discussion of these changes follows Table 3.

Table 3. Operational Analysis

LOS (Delay in sec) plus Vehicle Queuing in Feet		2028 NB AM		2028 B AM		2028 NB PM		2028 B PM		2025 NB AM		2025 B AM		2025 NB PM		2025 B PM		2025 NB PM M		2025 B PM	
Intersection No.		2028 NB AM	2028 B AM	2028 NB PM	2028 B PM	2025 NB AM	2025 B AM	2025 NB PM	2025 B PM	2025 NB AM M	2025 B AM	2025 NB PM	2025 B PM	2025 NB PM M	2025 B PM	2025 NB PM M	2025 B PM	2025 NB PM M	2025 B PM	2025 NB PM M	2025 B PM
10 (Side Stop)		a (3.3)	a (5.9)	a (5.8)	a (9.0)	a (4.1)	a (6.1)	a (7.1)	a (8.2)	a (4.7)	a (6.1)	a (7.1)	a (8.2)	a (7.0)	a (8.2)	a (7.0)	a (8.2)	a (7.0)	a (8.2)	a (7.0)	a (8.2)
<i>Worst Movement</i>		b wbl (14.4)	c wbl (20.8)	c wbl (23.9)	e wbl (43.6)	c wbl (16.5)	c wbl (23.4)	f wbl (56.9)	e wbl (52.3)	c wbl (16.6)	c wbl (23.4)	f wbl (56.9)	e wbl (52.3)	c wbl (21.0)	e wbl (52.3)	c wbl (21.0)	e wbl (52.3)	c wbl (21.0)	e wbl (52.3)	c wbl (21.0)	e wbl (52.3)
95th Percentile Q		wb 22	wb 89	wb 28	wbl 108	wb 28	wb 68	wb 32	wb 83	wb 28	wb 68	wb 32	wb 83	wb 44	wb 83	wb 44	wb 83	wb 44	wb 83	wb 44	wb 83
15 (Signal)		b (12.6)	b (13.0)	b (16.4)	c (20.6)	b (15.9)	b (20.8)	c (26.0)	c (24.3)	b (17.9)	b (20.8)	c (26.0)	c (24.3)	c (23.7)	c (24.3)	c (23.7)	c (24.3)	c (23.7)	c (24.3)	c (23.7)	c (24.3)
<i>Worst Movement</i>		c wbt (31.9)	c wbl (26.4)	c wbl (27.5)	c wbl (29.0)	c wbl (29.5)	d wbl (43.2)	d sbl (36.8)	d wbl (41.0)	c wbt (28.1)	d wbl (43.2)	d sbl (36.8)	d wbl (41.0)	c wbl (33.9)	d wbl (41.0)	c wbl (33.9)	d wbl (41.0)	c wbl (33.9)	d wbl (41.0)	c wbl (33.9)	d wbl (41.0)
95th Percentile Q		wbl 128	nbt 158	nbt 298	nbt 416	nbt 189	nbt 245	nb 600	wb 375	nbt 182	nb 245	nb 600	wb 375	nbt 437	wb 375	nbt 437	wb 375	nbt 437	wb 375	nbt 437	wb 375
20 (All Stop)		a (8.3)	b (14.0)	b (10.8)	c (22.2)	c (24.0)	a (6.3)	f (139.2)	c (17.5)	a (5.9)	a (6.3)	f (139.2)	c (17.5)	a (9.3)	c (17.5)	a (9.3)	c (17.5)	a (9.3)	c (17.5)	a (9.3)	c (17.5)
<i>Worst Movement</i>		b ebt (11.5)	c ebt (20.9)	c nbt (15.4)	e nbt (40.0)	e ebt (43.2)	a ebt (8.2)	f nbt (230.3)	d nbt (33.4)	a ebl (7.4)	a ebt (8.2)	f nbt (230.3)	d nbt (33.4)	c sbl (16.0)	d nbt (33.4)	c sbl (16.0)	d nbt (33.4)	c sbl (16.0)	d nbt (33.4)	c sbl (16.0)	d nbt (33.4)
95th Percentile Q		eb 137	eb 320	nb 212	nb 368	eb 552	eb 173	nb 1476	nb 404	eb 127	eb 173	nb 1476	nb 404	sb 248	nb 404	sb 248	nb 404	sb 248	nb 404	sb 248	nb 404
25 (Signal)		c (24.5)	c (26.1)	c (20.4)	c (23.6)	f (158.2)	b (16.6)	f (82.2)	d (36.8)	b (14.6)	b (16.6)	f (82.2)	d (36.8)	c (24.9)	d (36.8)	c (24.9)	d (36.8)	c (24.9)	d (36.8)	c (24.9)	d (36.8)
<i>Worst Movement</i>		c ebl (30.8)	d ebl (50.5)	d ebl (37.6)	d ebl (44.6)	f ebl (347.3)	d ebl (40.7)	f ebl (143.8)	e sbl (67.9)	c ebl (26.7)	d ebl (40.7)	f ebl (143.8)	e sbl (67.9)	e ebl (55.9)	e sbl (67.9)	e ebl (55.9)	e sbl (67.9)	e ebl (55.9)	e sbl (67.9)	e ebl (55.9)	e sbl (67.9)
95th Percentile Q		eb 471	eb 575	wbl 297	nbt 470	eb 3671	sb 283	eb 2021	nbl 703	sbt 227	sb 283	eb 2021	nbl 703	nbl 517	nbl 703	nbl 517	nbl 703	nbl 517	nbl 703	nbl 517	nbl 703
30 (Side Stop)			a (0.3)		a (0.4)		a (0.3)		a (0.6)		a (0.3)		a (0.6)		a (0.6)		a (0.6)		a (0.6)		a (0.6)
<i>Worst Movement</i>		N/A	a wb (1.9)	N/A	a wbl (1.8)	N/A	a nbt (2.5)	N/A	a wbl (1.6)	N/A	a nbt (2.5)	N/A	a wbl (1.6)	N/A	a wbl (1.6)	N/A	a wbl (1.6)	N/A	a wbl (1.6)	N/A	a wbl (1.6)
95th Percentile Q			nb 17		nb 13		nb 17		nb 17		nb 17		nb 17		nb 17		nb 17		nb 17		nb 17
35 (Side Stop)			a (1.1)		a (1.6)		a (2.6)		a (2.3)		a (2.6)		a (2.3)		a (2.3)		a (2.3)		a (2.3)		a (2.3)
<i>Worst Movement</i>		N/A	a ebt (7.3)	N/A	a eb (9.2)	N/A	a nbl (5.7)	N/A	a sbl (4.6)	N/A	a nbl (5.7)	N/A	a sbl (4.6)	N/A	a sbl (4.6)	N/A	a sbl (4.6)	N/A	a sbl (4.6)	N/A	a sbl (4.6)
95th Percentile Q			eb 43		wb 44		sb 45		nb 51		sb 45		nb 51		nb 51		nb 51		nb 51		nb 51
40 (Side Stop)			a (1.0)		a (1.2)		a (2.5)		a (1.1)		a (2.5)		a (1.1)		a (1.1)		a (1.1)		a (1.1)		a (1.1)
<i>Worst Movement</i>		N/A	a wbl (4.5)	N/A	a wbl (4.8)	N/A	a wbl (4.7)	N/A	a wbl (5.3)	N/A	a wbl (4.7)	N/A	a wbl (5.3)	N/A	a wbl (5.3)	N/A	a wbl (5.3)	N/A	a wbl (5.3)	N/A	a wbl (5.3)
95th Percentile Q			wb 43		wb 30		wb 49		wb 53		wb 49		wb 53		wb 53		wb 53		wb 53		wb 53
45 (Side Stop)			a (3.1)		a (0.8)		a (0.9)		a (0.7)		a (0.9)		a (0.7)		a (0.7)		a (0.7)		a (0.7)		a (0.7)
<i>Worst Movement</i>		N/A	a sbl (4.3)	N/A	a sbl (4.2)	N/A	a sbr (2.4)	N/A	a sbl (4.1)	N/A	a sbr (2.4)	N/A	a sbl (4.1)	N/A	a sbl (4.1)	N/A	a sbl (4.1)	N/A	a sbl (4.1)	N/A	a sbl (4.1)
95th Percentile Q			sb 44		sb 25		sb 41		sb 28		sb 41		sb 28		sb 28		sb 28		sb 28		sb 28
50 (Signal)							a (6.5)		a (9.5)		a (6.5)		a (9.5)		a (9.5)		a (9.5)		a (9.5)		a (9.5)
<i>Worst Movement</i>		N/A	N/A	N/A	N/A	N/A	c wbl (26.6)	N/A	d wbl (46.9)	N/A	c wbl (26.6)	N/A	d wbl (46.9)	N/A	d wbl (46.9)	N/A	d wbl (46.9)	N/A	d wbl (46.9)	N/A	d wbl (46.9)
95th Percentile Q							nb 173		nb 305		nb 173		nb 305		nb 305		nb 305		nb 305		nb 305

- Level of Service reported from an average delay from 10 SimTraffic simulations for overall intersection and worst movement.

- 95th percentile queues are a result from an average of 10 SimTraffic simulations and the longest queue per intersection is reported.

Intersection Key:

- 10 TH 12 & Ebersole Ave SE (TH 12 is north/south in this location)
- 15 TH 12 & Bridge Ave E (TH 12 is north/south in this location)
- 20 Bridge Ave E & River St N
- 25 TH 12 & Woodland Rd (TH 12 is north/south in this location)
- 30 65th Ave SE & South Site Access (east)
- 35 65th Ave SE & Ebersole Ave SE
- 40 Ebersole Ave SE & Site Access
- 45 65th Ave SE & North Site Access (west)
- 50 TH 12 & 65th Ave SE (TH 12 is north/south in this location)

The results shown in Table 3 indicate the overall operations are acceptable at LOS C or better at all intersections for the 2028 No-Build and Build AM and PM peak scenarios. During the 2028 PM Peak for Build conditions the left turn operations from southbound Ebersole Ave SE to eastbound TH 12 will operate at LOS E. This operational condition is due to the magnitude of volume during the PM Peak of TH 12 traffic resulting in fewer acceptable gaps in traffic for Ebersole Ave SE drivers to merge into the eastbound flow and is not uncommon for minor street approaches. Further the 95th percentile vehicle queues are manageable. No improvements are necessary.

The growth in traffic at 1.7 percent to the 2045 planning year results in reduced capacity of the roadway network, in particular at the intersections of TH 12 with Woodland Rd, as well as the intersection of Bridge Ave E and River St N. To address the capacity issues for the **2045 No-Build** conditions the following are the minimum improvements.

- **TH 12 and Woodland Rd** – As mentioned earlier, TH 12 is a three-lane facility with approximately 60 feet of pavement, and Woodland Rd is a 3-lane facility with nearly 55 feet of pavement. It is suggested that intersection be restriped to include an additional southbound/eastbound lane on TH 12 to the south of the intersection that runs to at least the Holiday/Circle K access to allow the eastbound to southbound Woodland Rd traffic to free flow; and the eastbound to northbound left turn lane on Woodland Rd be extended to 450 feet (this can fit with the existing left turn lane at W River Rd if laid out back to back with minimum 4:1 tapers). Also, the two-way left turn lane between Woodland Rd and Kelsey St should be converted to a dedicated left turn lane for northbound TH 12. These improvements will restore the operations to acceptable norms.
- **Bridge Ave E and River St N** – The all-way stop intersection is forecast to operate poorly at LOS F with long vehicle queuing in the 2045 No-Build scenarios. The existing geometry is constrained by the presence of buildings on the eastern corners, and by the Crow River to the west. It is suggested that a mini-roundabout be considered at this location, which results in greatly improved operations.

As mentioned earlier, the City of Delano has indicated they will extend 65th Ave SE to intersect with TH 12 as development occurs in area. It is anticipated this intersection will be signalized and will occur prior to 2045 if this development and others are built by then. (Note, the 1.7 percent annual background growth rate anticipates development occurring.) Therefore, the 2045 Build operations reflect the inclusion of extension of 65th Ave SE as well as the improvements identified above. The overall operations are shown to be acceptable a LOS or better at all the study intersections. The operations continue to identify the westbound to southbound left turn from Ebersole Ave SE to TH 12 as operating near capacity. The analysis, however, does not fully take into account the impact of the upstream traffic signal at TH 12 and 65th Ave SE which may create additional gaps for the left turning traffic. Also, the addition of the signal at TH 12 and 65th Ave SE may result in additional traffic diverting from the Ebersole Ave SE to 65th Ave SE if the delay on Ebersole Ave SE is greater than two and half minutes. That said, while the delay is over 30 seconds the 95th percentile traffic queue is only 60 feet or approximately 3 vehicles. The SimTraffic simulation shows this queue dissipates quickly. TH 12 near Ebersole Ave SE includes 60 feet of pavement suggesting a future 5-lane section could be considered.

Internal Roadways

The planned internal roadways for this project emphasize a traffic calming element. For the local streets, the plans include a 30 foot pavement section which is two feet less than the City standard of 32 feet, but does provide for 22 feet of drive lanes with parking on one side. This layout is not uncommon in dense urban settings and does result in slower traffic making it safer for future pedestrian and neighborhood traffic. The collector street sections are also planned to be two feet narrow, 34 feet, than the City's typical cross-section of 36 feet. Again, this is planned to keep speeds down and provide a more complete street environment enhancing pedestrian and bicycle safety at the expense of faster mobility. It is noted the planned internal local streets have capacity for approximately 6,000 trips per day with the 30-foot cross-section including parking on both sides, and the collector street has capacity for approximately 15,000 trips per day with the 34-foot cross-section assuming parking on side which could be limited if potentially turn lanes become necessary. The total development will generate 2,486 trips per day, which will be dispersed based on trip origin, indicating there is sufficient roadway capacity on the planned streets for the anticipated traffic from the development.

Summary and Conclusions

The proposed Ebersole Avenue project has been analyzed to determine the trip generation potential, the distribution of the traffic, and the impacts to the surrounding roadway network. The Proposed Project will develop 183 single family homes and 102 townhomes on approximately 88 acres on a parcel located approximately 850 feet north of Trunk Highway 12 (TH 12).

The Ebersole Avenue project will result in the realignment of the local streets in the vicinity of the site and is forecast to generate approximately 176 trips during the morning traffic peak time, 232 trips during the afternoon traffic peak and 2,486 trips per day. These trips were assigned to the local roadway network based on travel time surveys and existing traffic patterns. In general, ninety percent of the Proposed Project traffic will favor TH 12 to get to its destination and ten percent will favor TH 55.

Traffic operational analysis was conducted for the study area intersections for the No-Build and Build conditions for two design years, 2028, the year after completion of the project and 2045 the long range planning horizon. It is assumed that traffic in the area will grow at rate consistent with the historical growth in the area, calculated at 1.7 percent per year. The results of the analysis suggests there is sufficient capacity on the surrounding roadways in 2028 to accommodate the traffic from this development.

The 2045 analysis identified that there is insufficient intersection capacity at some of the study area intersections in their current striped geometrics to accommodate the 2045 No-Build traffic. Improvements including restriping the intersection of TH 12 and Woodland Rd, and the installation of a mini-roundabout at Bridge Ave E and River St N were reviewed and adopted to provide acceptable operations. The 2045 analysis of the Build condition indicate the improvements discussed for the 2045 No-Build, plus the City's planned extension of 65th Ave SE to form a new signalized intersection at TH 12 (thus reducing traffic at the Ebersole Ave SE and TH 12 intersection) will provide acceptable operations.

The project realigns Ebersole Ave SE through the site and provides other local streets. The design of these streets focus on traffic calming and safety of the neighborhood as opposed to mobility by providing roadways that are two feet narrower than the City's typical sections. This will provide a more

urban feel and will calm traffic creating a more pedestrian and bicycle friendly environment. It is noted these streets as planned have sufficient roadway capacity to accommodate neighborhood traffic.

In conclusion, the proposed development has appropriate access to the site and to the surrounding roadway network. The traffic operational analysis indicates there is available capacity on the roadways surrounding the site to accommodate the new site-generated traffic in the 2028 design year, and there is sufficient capacity available in the 2045 design year assuming minor improvements at some intersections are completed.

Attachments: Figures 1-9

(Appendices with Traffic Counts and Synchro/Simtraffic Worksheets are available upon request.)

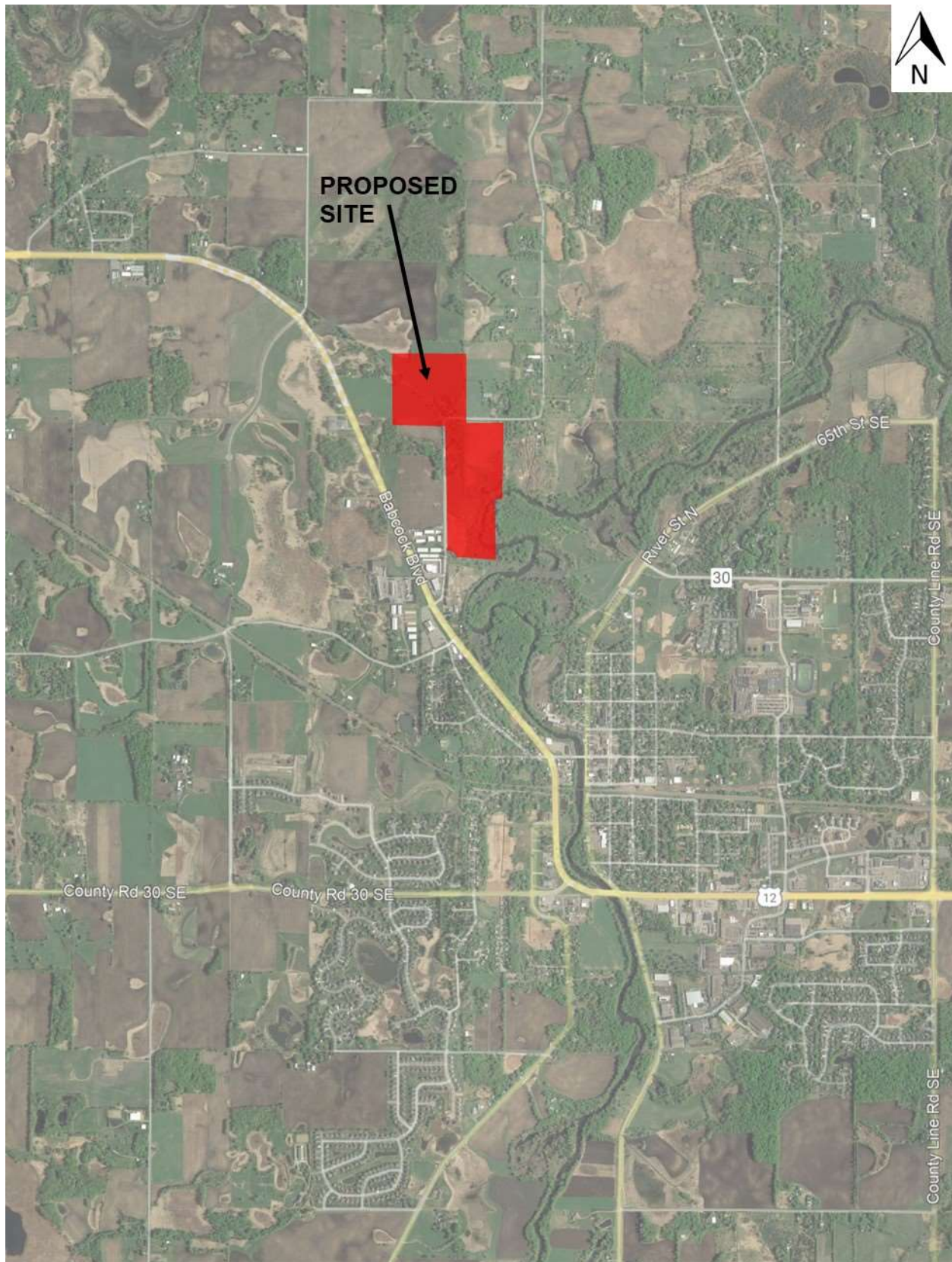


Figure 1 - Vicinity Map

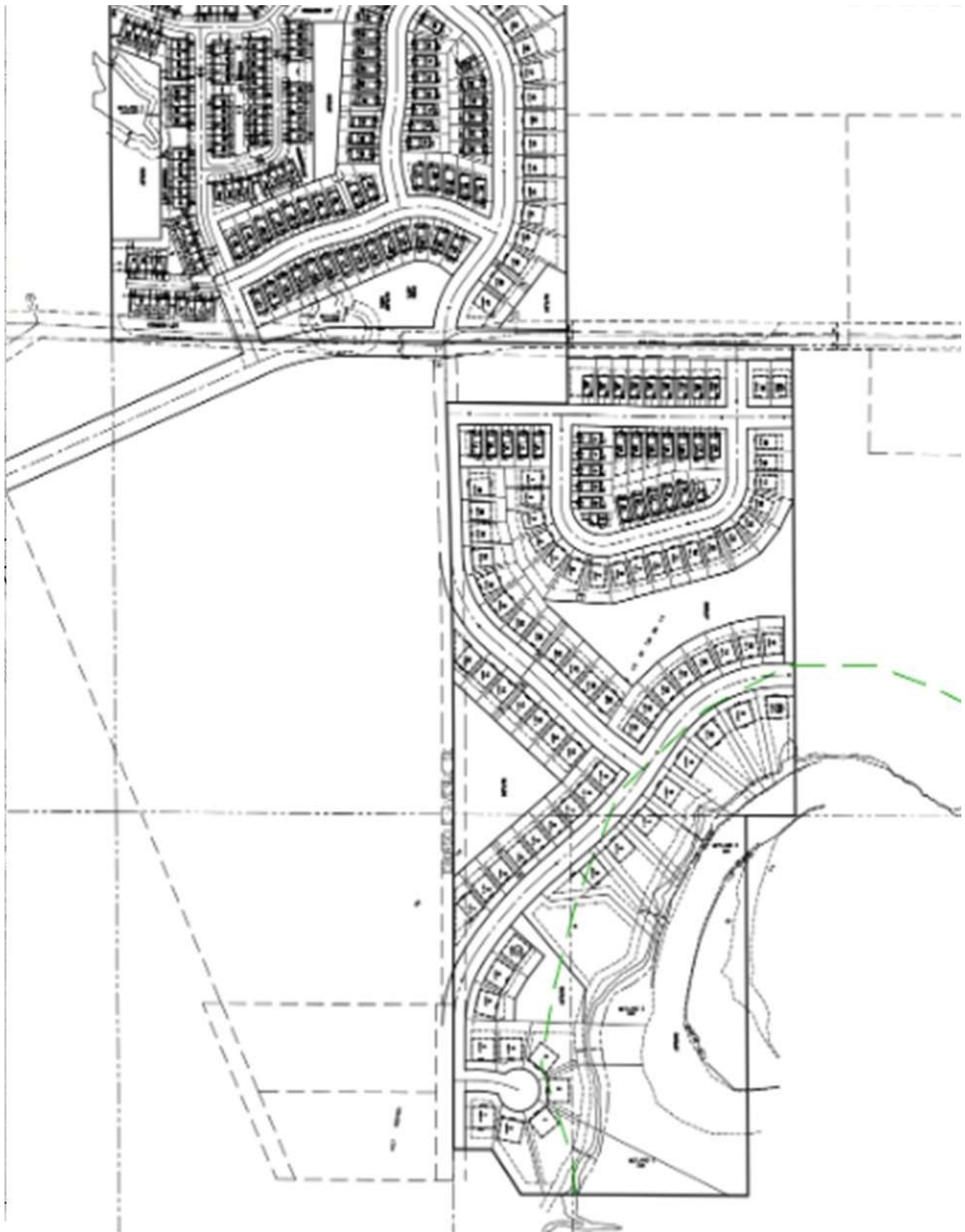


Figure 2 - Conceptual Site Plan (From Others)

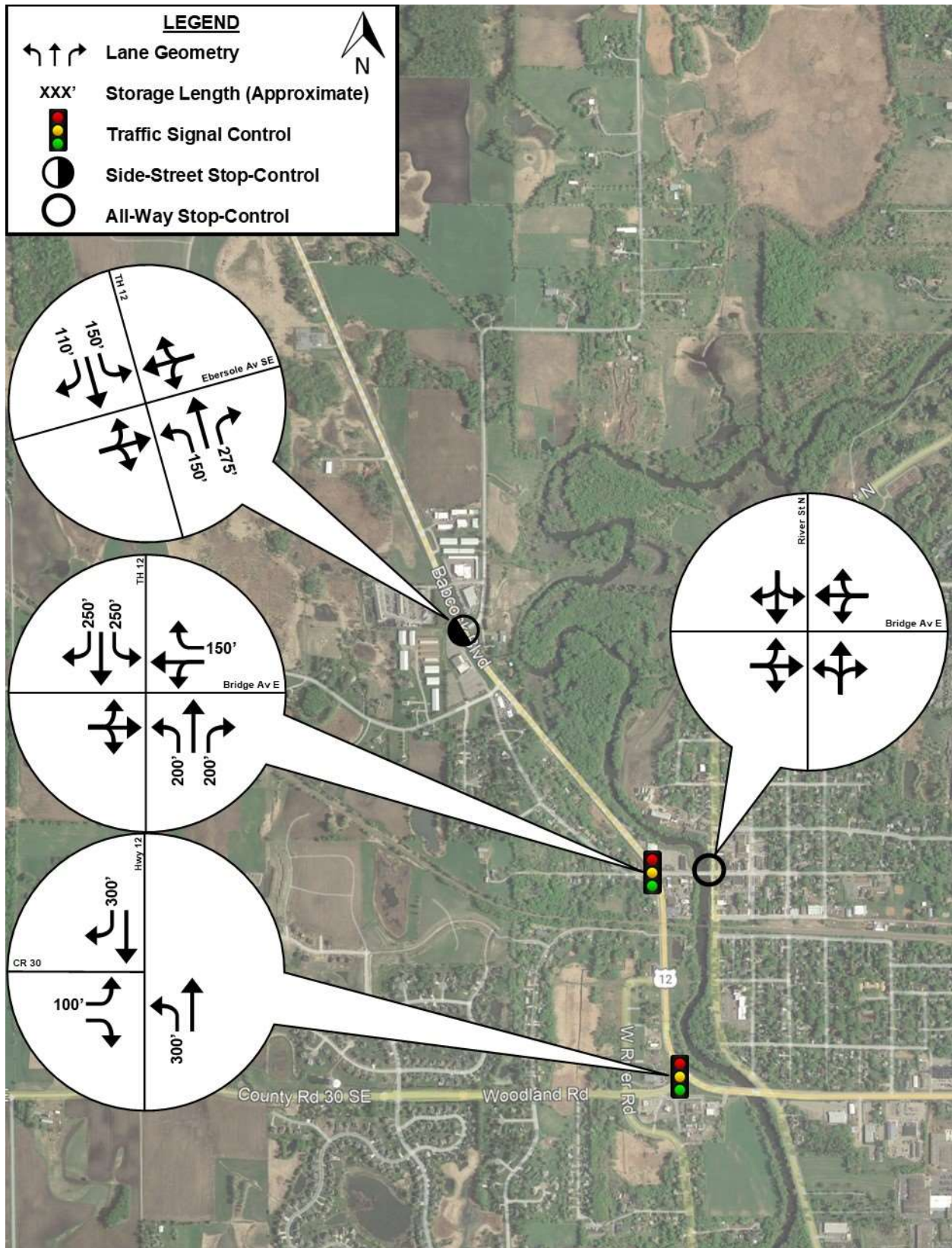


Figure 3 - Existing Geometrics

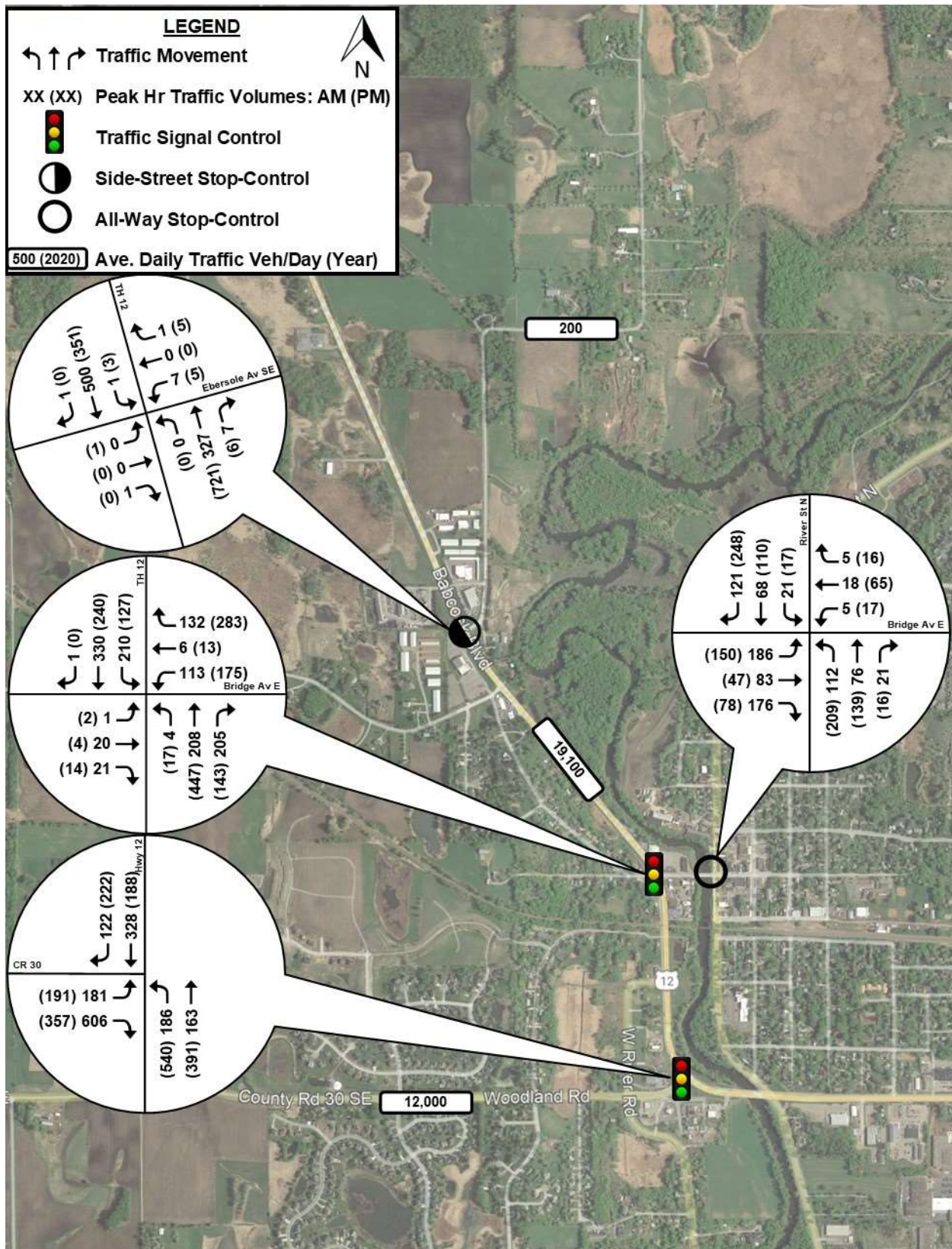


Figure 4 - Existing Traffic Volumes

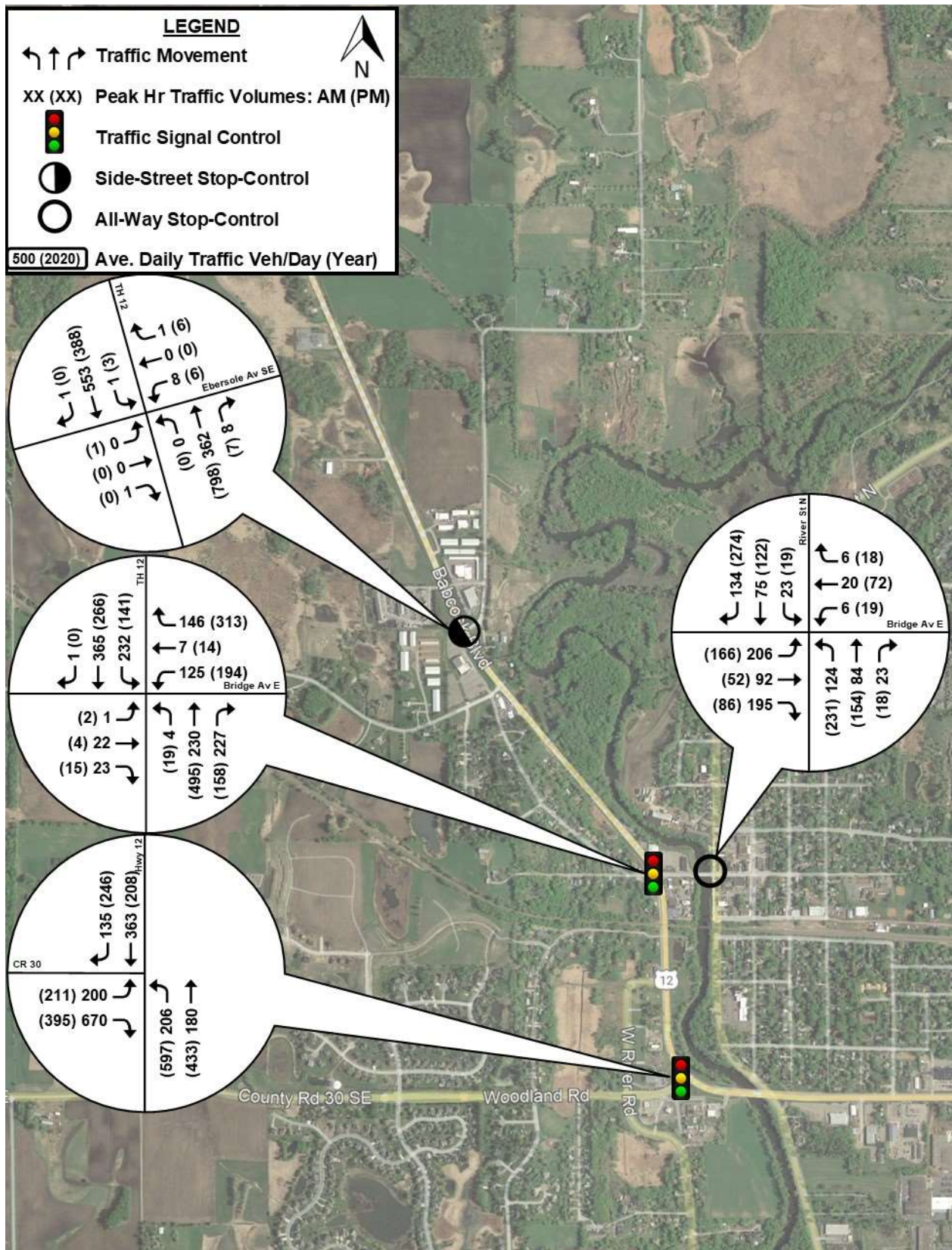


Figure 5 - 2028 No-Build Traffic Volumes

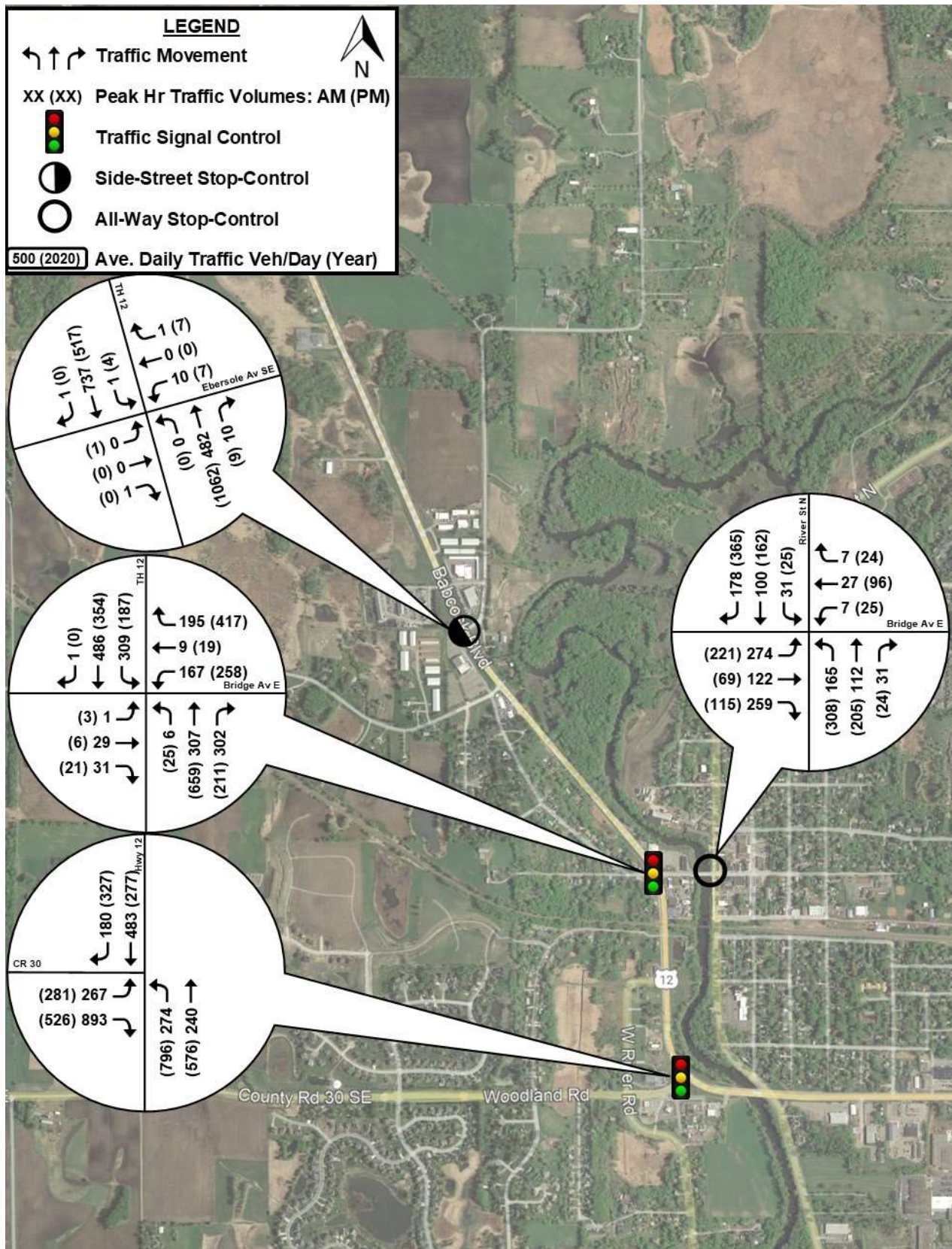


Figure 6 - 2045 No-Build Traffic Volumes

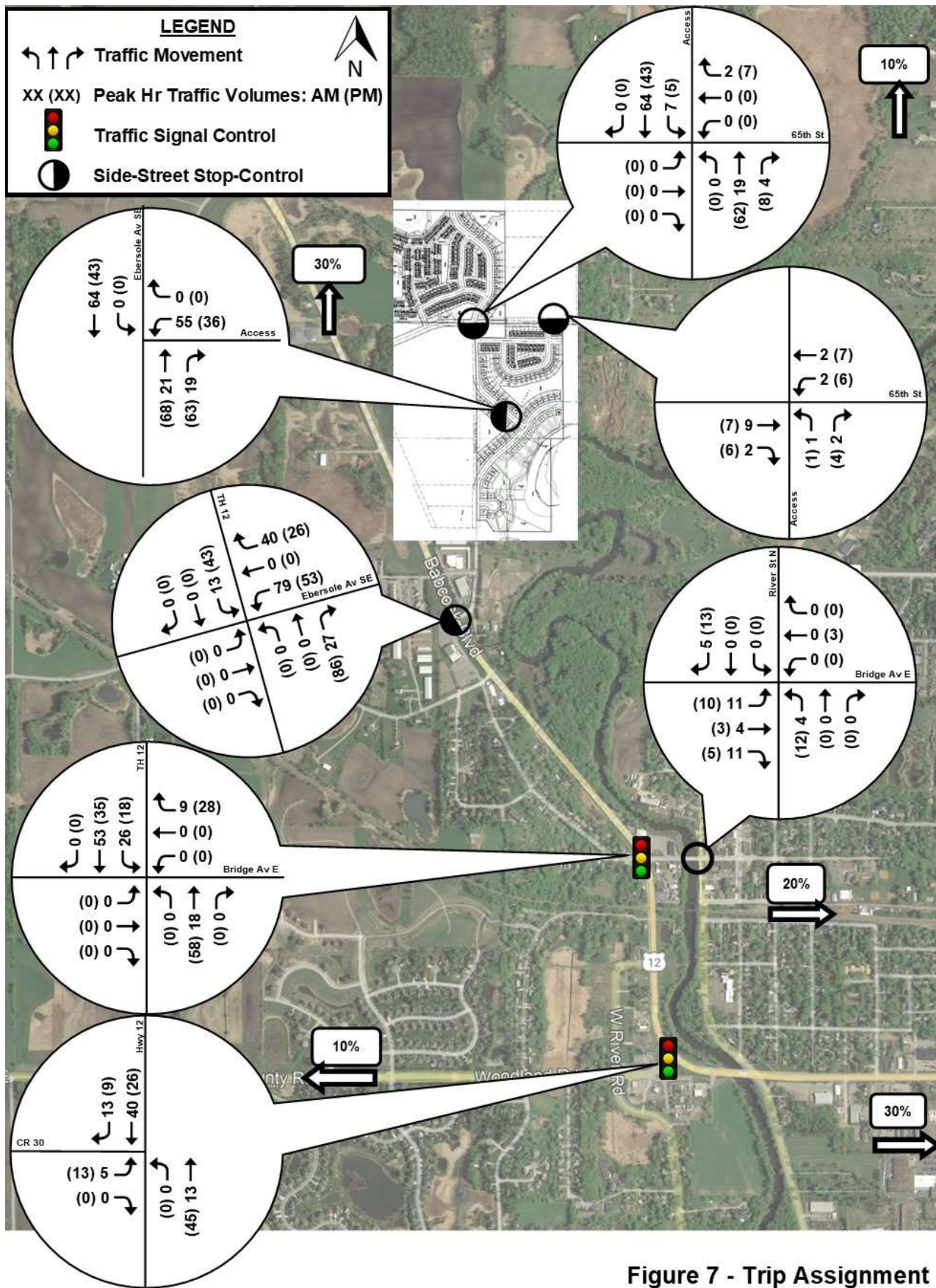


Figure 7 - Trip Assignment

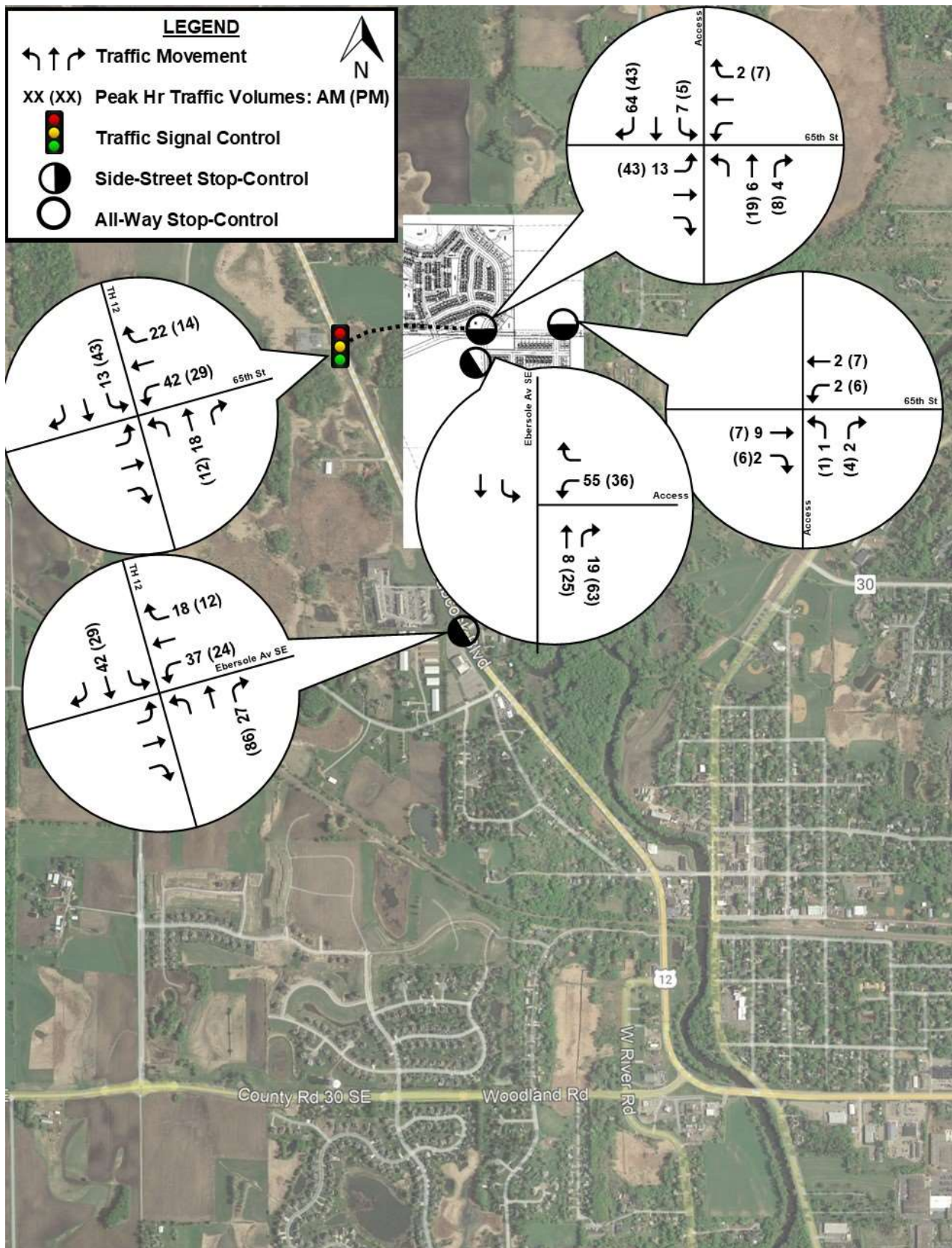


Figure 7a - 2045 Trip Assignment Change

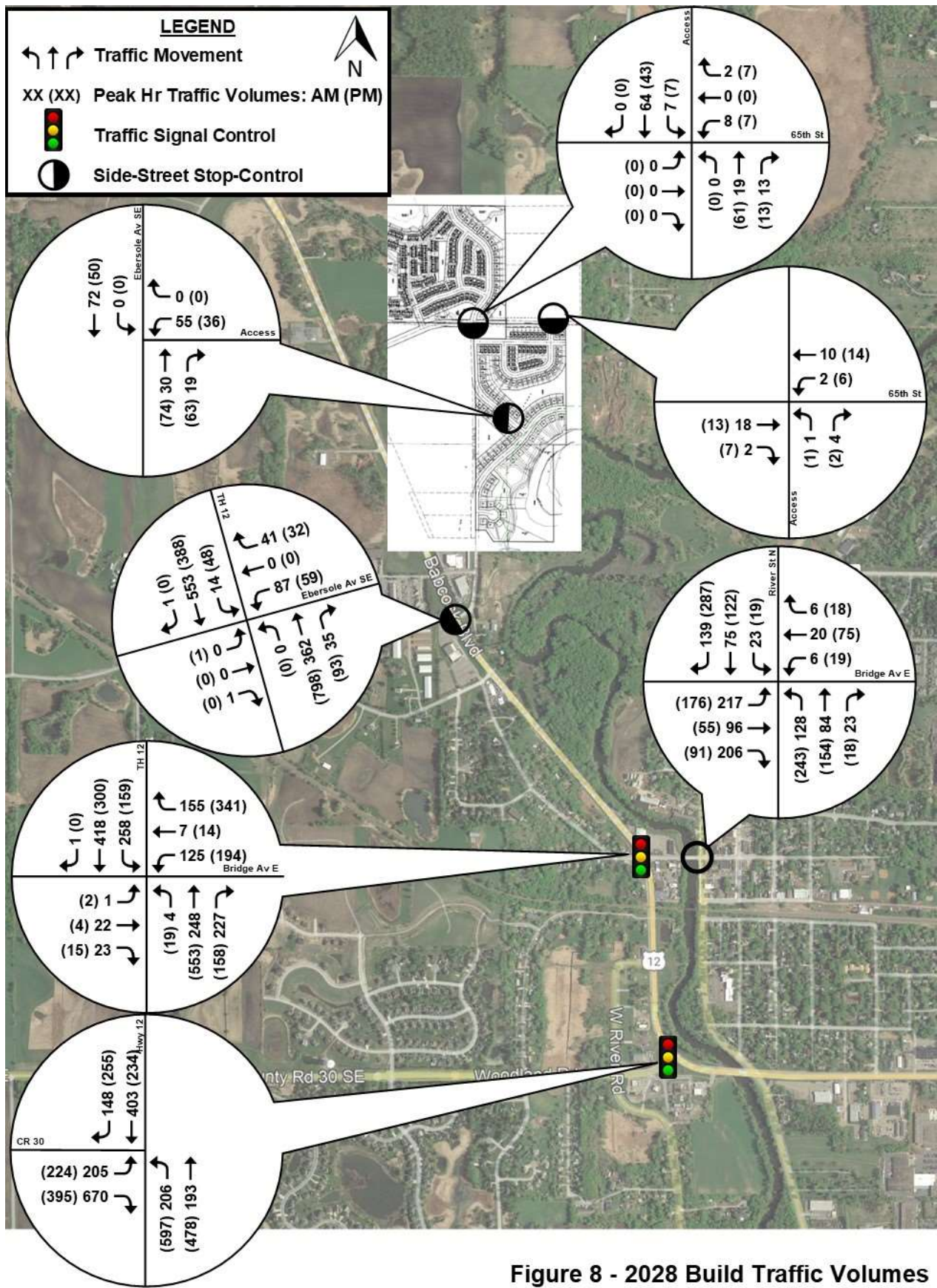


Figure 8 - 2028 Build Traffic Volumes

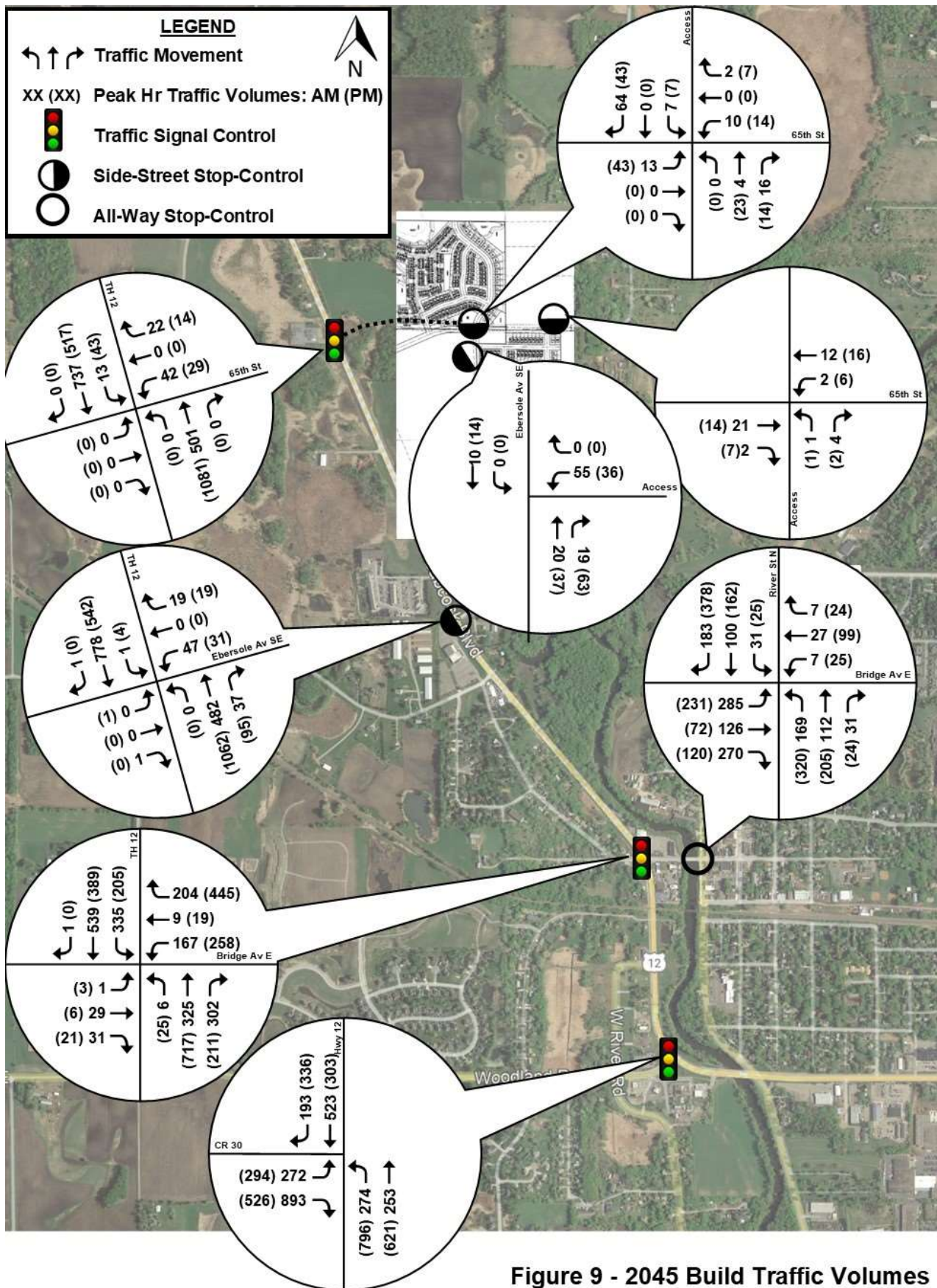


Figure 9 - 2045 Build Traffic Volumes