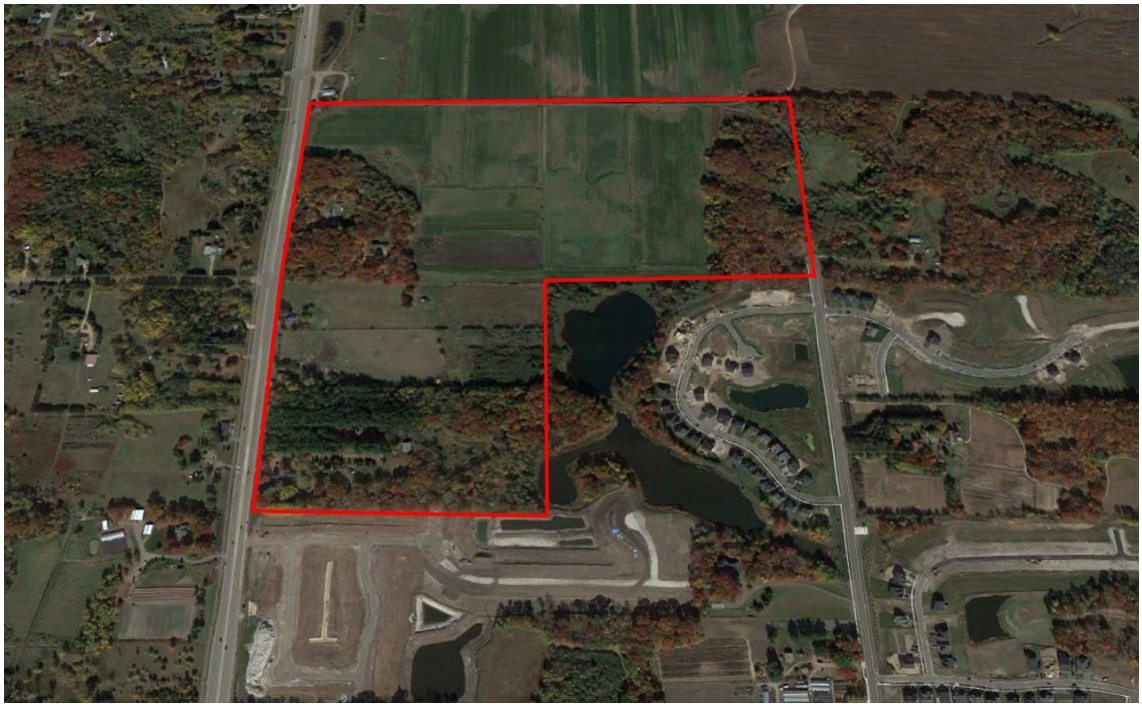
Lexington Waters Residential Development

Environmental Assessment Worksheet



June 4, 2021

comments 6-4-2021

Responsible Governmental Unit (RGU)

City of Blaine
10801 Town Square Drive NE
Blaine, MN 55449
https://www.blainemn.gov/

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Memo

To: Minnesota Environmental Quality Board
Environmental Review Distribution List

From: Erik Thorvig, Community Development Director

Date: July 6, 2021

Subject: Lexington Waters Residential Development EAW

As the Responsible Governmental Unit (RGU), the City of Blaine is issuing this Environmental Assessment Worksheet (EAW) for the Lexington Waters Residential Development. The public comment period on this EAW begins when the public notice is published in the Minnesota Environmental Quality Board (EQB) Monitor on July 13, 2021. A public notice or press release has been submitted for publication in the Blaine/Spring Lake Park Life newspaper. Public comments on this EAW will be accepted by the City of Blaine until 4:30pm on August 12, 2021.

updated schedule

City Council - approval for distribution - 6-21-2021
Letter to EQB - June 22, 2021
EQB publish date - June 29, 2021
comment period ends - July 29th, 2021
City Council - negative declaration determination - tentative 8-16-2021

Environmental Assessment Worksheet (EAW)

Lexington Waters Residential Development

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Environmental Assessment Worksheet (EAW)

Lexington Waters Residential Development

This Environmental Assessment Worksheet (EAW) form and EAW Guidelines are available at the Environmental Quality Board's website at: http://www.eqb.state.mn.us/EnvRevGuidanceDocuments.htm. The EAW form provides information about a project that may have the potential for significant environmental effects. The EAW Guidelines provide additional detail and resources for completing the EAW form.

Cumulative potential effects can either be addressed under each applicable EAW Item, or can be addresses collectively under EAW Item 19.

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: **Lexington Waters Residential Development**

2. Proposer:		**RGU:**	
Contact person:	Tracey Rust	Contact person:	Erik Thorvig
Title:	Senior Development Manager	Title:	Community Development Director
Address:	1660 Highway 100 S., Suite 400	Address:	10801 Town Square Drive NE
	St. Louis Park, MN 55416		Blaine, MN 55449
Phone:	(952) 525-3260	Phone:	(763) 785-6147
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4. Reason for EAW Preparation

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):
Minnesota Rules Part 4410.4300, Subp. 19.D. (Residential)

5. Project Location

County: Anoka County, Minnesota
City/Township: City of Blaine
PLS Location (¼, ¼, Section, Township, Range): NW ¼ of Section 1, T131N, R23W
Watershed (81 major watershed scale): Mississippi River Metro (20)
GPS Coordinates: 45.208385, -93.158444
Tax Parcel Number(s): 01-31-23-22-0001, 01-31-23-21-0001, 01-31-23-22-0004, 01-31-23-22-0002, 01-31-23-23-0003, 01-31-23-23-0002, 01-31-23-23-0001, 01-31-23-22-0003, and 01-31-23-23-0004

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.*

6. Project Description

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

Lexington Waters Residential Development will include up to 176 single-family homes, 120 detached townhomes, municipal streets, stormwater basins, wetland preservation, and parkland on 115.45 acres in eastern Anoka County. Site development will involve mass grading, connections to municipal sewer and water, and excavation of stormwater basins.

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.

Lexington Waters Residential Development is proposed on 115.45 acres of land in the northeastern part of the City of Blaine, Anoka County, Minnesota (**Figure 1**). The project area is located in the NW ¼ of Section 1, T131N, R23W (**Figure 2**). The site is on the east side of Lexington Avenue (CSAH 17), immediately south of the City of Ham Lake/City of Blaine boundary, and north of 125th Ave NE. Adjoining land uses include sod field to the north, woodland and new residential development to the east, new residential development to the south, and partially wooded rural residential lots to the west.

Site topography is relatively flat. The site has 14 feet of topographic relief. Natural slopes on the site do not exceed 10%. The site includes mostly sand, sandy loam, and mucky peat soils. Elevations range from 908 feet in the western part of the project near Lexington Avenue, down to 894 feet in the wetlands and sod fields. The site drains north through Anoka County Ditch 44-7 about 1.5 miles to Coon Creek. Coon Creek flows west and then south to the Mississippi River. The local watershed authority is the Coon Creek Watershed District.

Lexington Waters will include up to 176 single-family homes, 120 detached townhomes, municipal streets, stormwater basins, wetland preservation, and parkland on 115.45 acres of land in northeastern Blaine. Twelve of the 176 single-family lots are potential future lots shown as "ghost plats" lots on the Proposed Site Plan (**Figure 3**). These lots will not be part of the initial development, but may be developed when the remaining large lots are subdivided in the future. The Site Plan is included in **Appendix A**. Site development will involve mass grading, connections to municipal sewer and water, and excavation of stormwater basins.

The project area is served by the City of Blaine Police Department and the Spring Lake Park - Blaine - Mounds View (SBM) Fire Department. The SBM Fire Department is a nonprofit corporation managed by a Fire Board consisting of firefighters and community representatives. The project area is located in the Anoka-Hennepin School District (ISD #11).

The project area is about 39% sod field, 34% woodland, 17% grassland, 7% wetlands and ditches, and 2% developed. Developed areas include six existing rural single-family homes and various outbuildings. Project development will convert about 45.37 acres of sod field, 36.37 acres of woodland, 16.93 acres of grassland, and 1.65 acre of wetlands and ditches to suburban residential development with homes, streets, lawns, landscaping, and stormwater basins. Wetland impacts are proposed to be replaced through purchase of wetland banking credits, onsite wetland restoration, or some combination thereof.

The project design includes six stormwater basins to provide water quality treatment, runoff rate control, infiltration, and volume control. A seventh basin is being designed as a 6-to-9-acre excavated "lake" that will provide earthen borrow material for use in the development, but will not be needed to meet stormwater treatment or water quality requirements. The central part of the project will include a small park with a trail that will connect to an adjacent park to the southeast.

It is anticipated that construction of the development will start in the fall of 2021 and be phased over 2 to 5 years, depending on market conditions. Infrastructure such as municipal water and sanitary sewer mains will be extended through the site early in construction. It may be necessary to initiate stormwater system construction at the start of construction to treat stormwater and minimize potential effects of stormwater runoff.

c. Project magnitude:

Table 1. Project Magnitude

Characteristic	Number of Units
Total Project Acreage	115.45
Linear project length	0
Number and type of residential units	176 single-family homes 120 detached townhomes 296 detached residential units
Commercial building area (square feet)	0
Industrial building area (square feet)	0
Institutional building area (square feet)	0
Other uses – specify (acres)	NA
Structure height(s) (feet)	25-45

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.

Lexington Waters Residential Development is proposed to help meet the demand for single-family homes and detached townhomes in the City of Blaine. 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.

Future stages are not planned or likely.

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. Cover Types

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

Table 2. Cover Types

Land Cover	Before (acres)[1]	After (acres)[1]
Sod field	45.37	0.00
Woodland	39.77	3.40
Grassland	20.18	3.25
Lawn and landscaping	0.00	48.25
Wetlands and ditches	8.10	6.45
Impervious surface	2.03	36.10
Stormwater basins and "lake"	0.00	18.00
Totals	115.45	115.45

[1] Existing impervious surface includes existing homes, outbuildings, and driveways.

[2] The acreage of wetlands and ditches after development assumes the project will impact 1.65 acres of wetlands and ditches and that wetland replacement will occur at wetland banks located outside the project area. Some wetland replacement may occur onsite with excavation and restoration of Wetland 8.

Existing cover types are shown on **Figure 4**. Delineated wetlands are shown on **Figure 5**.

8. 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 3. Permits and Approvals Required

Unit of Government	Type of Application	Status
City of Blaine	EIS Need Decision	Submitted
City of Blaine	Rezoning and Preliminary Plat	To be submitted
City of Blaine	Final Plat	To be submitted
City of Blaine	Wetland Impact and Replacement Approval	To be submitted
City of Blaine	Grading Permit	To be submitted
City of Blaine	Building Permits	To be submitted
City of Blaine	Stormwater Management and Erosion Control	To be submitted
City of Blaine	Municipal Water Connection Permit	To be submitted
City of Blaine	Sanitary Sewer Connection Permit	To be applied for
Coon Creek Watershed District	Stormwater, Erosion Control, and Site Plan Approval	To be submitted
Coon Creek Watershed District	Wetland Delineation Approval	Approved
Minnesota Department of Natural Resources	Water Appropriation Permit	To be submitted if needed
Minnesota Pollution Control Agency	NPDES/SDS General Permit	To be submitted
U. S. Army Corps of Engineers	Wetland Delineation Concurrence	Approved

Cumulative potential effects may be considered and addressed in response to individual EAW Item Nos. 9-18, or the RGU can address all cumulative potential effects in response to EAW Item No. 19. If addressing cumulative effect under individual items, make sure to include information requested in EAW Item No. 19

9. Land Use

a. Describe:

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

The site includes six existing homes, sod fields, woodlands, grassland, and wetlands. The homestead in the southwestern corner of the site was constructed prior to 1938. Other homes were constructed between 1963 and 1994. Open fields on the site were generally used for hay crops in 1938. During

the 1950s and 1960s, fields were in hay and grass, with cropland on the western part of the site. By 1991, hayfields in the northern part of the site were converted to ditched sod fields.

Adjoining land use includes sod fields, cropland, sewered and unsewered residential development, and woodland (**Figure 6**). The City of Blaine 2040 Comprehensive Plan shows a newer 11.76-acre natural park with open water immediately southeast of the proposed project. The project will include an 0.77- to 1.11-acre park with a trail that will connect to the adjoining park to the southeast. As indicated under **Item 10b**, the area includes one soil type listed as farmland of statewide importance, which covers about 21.3% of the site. The site does not include any soil types listed as prime farmland or prime farmland if drained.

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 City of Blaine 2040 Comprehensive Plan guides the site for LDR Low Density Residential, 2.5 to 6 dwelling units/acre. The proposed project is consistent with the guided land use and the 2040 Comprehensive Plan.

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

Zoning Overview

The City of Blaine Zoning Map shows the project area zoned as FR - Farm Residence. The site will need to be rezoned to DF - Development Flex, similar to recent residential projects in the area. The project area is not located in or adjacent to shoreland overlay district, wild and scenic river, critical area, or agricultural preserve.

b. Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 9a above, concentrating on implications for environmental effects.

The project is compatible with surrounding land uses, which include sod fields, cropland, sewered and unsewered residential development, and woodland. The City of Blaine 2040 Comprehensive Plan guides the site for LDR Low Density Residential, and the project is consistent with the guided land use. The LDR land use is intended for residential development with 2.5 to 6 units/acre and the proposed project design has a gross density of 2.5 units/acre and a net density of 2.7 units/acre. The site will be rezoned from FR - Farm Residence to DF - Development Flex and the project is compatible with the proposed zoning.

c. Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 9b above.

The project area is proposed to be rezoned to DF - Development Flex. The proposed project is consistent with the intended land use and zoning classification, and compatible with adjoining land uses. Land use conflicts are not anticipated.

10. Geology, Soils and Topography / Land Forms

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 Anoka County, Minnesota (Minnesota Geological Survey 2013) indicates surficial sediments in the project area are partly sand and partly peat and muck. Surface sediments are underlain mostly by Tunnel City Group fine-grained sandstone and Wonewoc sandstone. The Geologic Atlas indicates depth to bedrock in the project area varies from about 250 to 350 feet. Depth to bedrock ranged from 179 to 330 feet in seven well logs for nearby domestic water wells (see **Item 11.a.ii**).

Neither the Geologic Atlas nor the Soil Survey of Anoka County identify sinkholes or karst conditions in the project area. Minnesota Regions Prone to Surface Karst Feature Development (MN DNR 2016) does not show any karst conditions or sinkholes mapped in the vicinity of the project. The thick surface sediments in the project area are expected to reduce the potential for subsurface erosion that leads to sinkholes. Mitigation is not proposed for sinkholes or karst conditions.

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 11.b.ii.*

The Web Soil Survey indicates the project area includes five soil mapping units that include sand, sandy loam, and peat and mucky peat (**Table 4** and **Figure 7**). Suitability ratings of soils on the site for dwelling units and local streets range from not limited to very limited. Soil limitations for construction include depth to saturated zone, subsidence, ponding, organic matter, frost action, and low strength. Soil susceptibility ratings for sheet and rill erosion by water are low to moderate, as indicated by K factors 0.10 and 0.24.

Grading operations for residential development construction are expected to affect about 105 to 110 acres and involve movement of about 700,000 cubic yards of soil to construct streets, residential building pads, and stormwater features. Grading is expected to avoid disturbance of about 5.5 to 10 acres of preserved wetland and woodland.

Site topography is relatively flat. The site has 14 feet of topographic relief and natural slopes on the site do not exceed 10%. The site includes mostly sand, mucky peat, and sandy loam soils. Elevations range from 908 feet in the western part of the project near Lexington Avenue, down to 894 feet in the wetlands and sod fields. The Soil Survey shows slopes on the site ranging from 0 to 6% (**Figure 8**).

Table 4. Soil Classifications

Symbol	Soil Map Unit[1]	% of Area	% Hydric	Hydric Category	Farmland Category
Iw	Isanti fine sandy loam	10.5	93	Predominantly hydric	Not prime farmland
LnA	Lino loamy fine sand, 0-4% slopes	21.3	5	Predominantly non-hydric	Farmland of statewide importance
Ma	Markey muck, occasionally ponded, 0-1% slopes	1.5	100	Hydric	Not prime farmland
Rf	Rifle mucky peat	46.6	100	Non-hydric	Not prime farmland
ZmB	Zimmerman fine sand, 1-6% slopes	20.1	2	Predominantly non-hydric	Not prime farmland

The site drains to about 1.5 miles north through Anoka County Ditch 44-7 to Coon Creek. Coon Creek flows west and then south to the Mississippi River. 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 Construction 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 proponent and construction contractor will need to implement Best Management Practices (BMPs) to reduce erosion and sedimentation during construction. The NPDES permit will also require stabilization of exposed soils after construction. Erosion and sedimentation control BMPs related to stormwater runoff are discussed in greater detail under **Item 11.b.ii**.

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 11 must be consistent with the geology, soils *and topography/land forms and potential effects described in EAW Item 10.*

11. 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, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include 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.

Kjolhaug Environmental Services (KES) completed three wetland studies to delineate wetlands and ditches throughout the project area. Wetlands on the northeastern 13.4 acres (Almberg East) were delineated on July 31, 2020. Wetlands on the southwestern 38.6 acres (Koepp and Breen) were delineated on July 8, 2020. The north/northwestern 67.7 acres (Neumann/Almberg) includes sod fields, wetlands, and ditches. Wetlands and ditches on Neumann/Almberg were delineated during a hydrology study that lasted through the 2019 and 2020 growing seasons.

The project area includes 7.98 acres of delineated wetland distributed among 11 basins and 16 ditch segments that were grouped together and considered Wetland 12 (**Tables 5 and 6, Figure 5**). Anoka County Ditch covers an additional 0.12 acre, and is the only ditch on the site that is not considered wetland (**Table 6**).

Table 5. Delineated Wetlands

Wetland ID	Acres Onsite	Classification			Modifier	Dominant Vegetation
		Circ. 39	Cowardin	Eggers and Reed		
1	0.24	2	PEMBdf	Wet meadow	partially drained, farmed (sod field)	Kentucky bluegrass, sedges, crabgrass, mouse-ear chickweed, common purslane, white clover, common plantain
2	0.04	2	PEMBdf	Wet meadow	partially drained, farmed (sod field)	Kentucky bluegrass, softstem bulrush, crabgrass, reed canary grass, swamp milkweed
3	0.09	2	PEMBdf	Wet meadow	partially drained, farmed (sod field)	Kentucky bluegrass, smooth hawk's beard, crabgrass, lady's thumb, mouse-ear chickweed, dwarf St. John's wort
4	0.04	1	PEMA	Seasonally flooded basin	-	Devil's beggarticks, clearweed
5	0.12	1	PEMA	Seasonally flooded basin	-	Reed canary grass, arrow-leaved tearthumb
6	0.19	1	PEMA	Seasonally flooded basin	-	Reed canary grass, arrow-leaved tearthumb
7	0.85	2	PEMB	Wet meadow	-	Reed canary grass
8	4.01	2	PEMBd	Wet meadow	partially drained	Reed canary grass, manna grass, sedges, wool grass, fox sedge, sensitive fern, swamp milkweed
9	0.19	5	PUBGx	Open water	excavated	Open water, duckweed
10	1.02	2/3	PEMB/Cx	Wet meadow / Shallow marsh	excavated	Stinging nettle, manna grass, bugleweed, cattail, dwarf clearweed, blue vervain, sedges
11	0.22	2/3/5	PEMB/C/ PUBGx	Wet meadow / Shallow marsh / Open water	excavated	Open water, duckweed, cattail, willow, giant goldenrod
12	0.97	2/3/5	PEMCdx	Wet meadow / Shallow marsh / Open water	partially drained, excavated	Reed canary grass, cattail, shallow open water (Ditches 1-16)[1]
Total	7.98					

[1]Wetland 12 refers to the total area of Ditches 1-16 as listed in **Table 8**.

The Coon Creek Watershed District (CCWD) reviewed the Almberg East and the Koepp and Breen delineations with the Technical Evaluation Panel (TEP) on September 9, 2020. KES revised the wetland boundaries in three locations based on TEP comments and the CCWD approved both delineations on October 12, 2020.

The CCWD reviewed the Neumann/Almberg delineation with the TEP on September 8, 2020, and reviewed the hydrology study on December 2, 2020. The TEP requested clarifications regarding the hydrology study and revisions to the boundaries of ditches considered wetlands. Wetland boundaries were revised to the satisfaction of the TEP and the CCWD approved the Neumann/Almberg wetland boundaries on February 12, 2021. The Neuman/Almberg Wetland Delineation hydrology study and the CCWD wetland boundary approvals are included in **Appendix B**.

Table 6. Delineated Ditches

Ditch ID[1]	Width (Ft)	Length (Ft)	Area (Sq.Ft.)	Acres Onsite
1	5	1,202	6,010	0.14
2	5	87	435	0.01
3	5	366	1,830	0.04
4	5	270	1,350	0.03
5	5	209	1,045	0.02
6	5	279	1,395	0.03
7	5	601	3,005	0.07
8	5	331	1,655	0.04
9	5	1,098	5,490	0.13
10	5	471	2,355	0.05
11	5	714	3,570	0.08
12	5	714	3,570	0.08
13	5	453	2,265	0.05
14	5	549	2,745	0.06
15	5	1,124	5,620	0.13
16	5	52	260	0.01
ACD 44	5	1,034	5,170	0.12
Total		9,554	47,770	1.09

[1]Total area of Ditches 1-16 is included as Wetland 12 in **Table 7**.

The U.S. Army Corps of Engineers (USACE) reviewed the Neumann/Almberg and Almberg East delineations under regulatory file number MVP-2019-02289-EJW. The USACE wrote Approved Jurisdictional Determination (AJD) letters on August 21 and November 18, 2020, to document their findings that these sites do not contain waters of the United State subject to their jurisdiction. On August 20, 2020, the USACE provided an acknowledgment letter that assigned regulatory file number MVP-2020-01517-DJM to the Koepp and Breen delineation. Although the USACE has not yet made a jurisdictional determination for the Koepp and Breen delineation, wetlands on this site are not adjacent to navigable waters and do not discharge relatively permanent flow to navigable waters. Correspondence from the USACE is included in **Appendix B**.

The project area does not include any DNR public waters, wetlands, or watercourses. There are no known trout streams/lakes, wildlife lakes, migratory waterfowl feeding/resting lakes, or outstanding resource value waters in or near the project area.

The Minnesota Pollution Control Agency (MPCA) Impaired waters viewer shows nearest impaired water is the reach of Coon Creek located 1.45 miles north of the site (07010206-530), which is impaired for aquatic life (AQL) and aquatic recreation (AQR). This reach of Coon Creek has TMDLs (Total Maximum Daily Loads) approved for E.coli and InvertBio.

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.

Depth to groundwater varies across the project area. Surficial groundwater is at or near the surface, in some ditches and wetlands on the site, at elevations of about 893 to 895 feet. Well records for 27 domestic water wells located within about 0.25 mile of the project area were retrieved from the Minnesota Well Index. These wells were drilled to depths ranging from 4 to 366 feet and had static water levels ranging from 1 to 32 feet below the surface. Depth to static groundwater in four onsite wells ranged from 26 to 30 feet, at elevations of 875-879 feet (**Table 7** and **Appendix C**).

Soil borings showed depth to groundwater in the project development area varied from 2.5 to 12.5 feet. Haugo GeoTechnical Services completed 16 soil borings on the site on March 30-31, 2021 and the resulting soil boring logs are included in **Appendix C**. Soil borings were advanced to depths of 21 to 51 feet. Seasonal and annual fluctuations in the groundwater levels are expected.

Table 7. Nearby Registered Groundwater Wells

Well No.	Surface Elevation (feet)	Depth (feet)	Cased Depth (feet)	Depth to		Location (Direction from Site)	Aquifer
				Static Water Level (feet)	Bedrock (feet)		
171094	901	217	210	26	-	Onsite NW	Quaternary buried
164671	907	180	176	30	-	Onsite SW	Quaternary buried
625000	909	185	177	30	-	Onsite SW	Quaternary buried
548501	905	183	179	30	-	Onsite SW	Quaternary buried
735444	899	165	155	20	-	NW	Quaternary buried
182145	910	167	159	29	-	S	Quaternary buried
124077	910	83	79	15	-	W	Quaternary buried
440629	904	61	53	13	-	SE	Quaternary buried
430341	899	90	76	9	-	NW	Quaternary buried
462424	904	275	207	20	185	SE	St. Lawrence-Tunnel City
735494	899	216	196	25	195	NW	Tunnel City Group
441756	911	244	240	32	-	SW	Quaternary buried
526165	902	153	150	24	-	E	Quaternary buried
111264	902	305	null	28	259	W	Tunnel City Group
550805	899	186	180	20	-	W	Quaternary buried
449884	900	90	85	10	-	NW	Quaternary buried
280145	897.8	8.7	8.2	5	-	S	Quaternary buried
573173	901	220	200	-	198	NW	Tunnel City Group

Table 7. Nearby Registered Groundwater Wells

Well No.	Surface Elevation (feet)	Depth (feet)	Cased Depth (feet)	Depth to		Location (Direction from Site)	Aquifer
				Static Water Level (feet)	Bedrock (feet)		
735832	902	94	90	17	-	NW	Quaternary buried
660158	901	196	184	22	180	NW	St. Lawrence-Tunnel City
280144	897.8	3.95	-	1	-	S	Quaternary water table
518067	903	195	187	15	179	W	St. Lawrence
525682	901	366	340	25	330	S	Tunnel City Group
503145	911	202	197	25	-	W	Quaternary buried
435319	901	92	88	20	-	NW	Quaternary buried
155158	911	160	150	30	-	S	Quaternary buried
785315	900	140	136	32	-	E	-

The project area includes the first four registered groundwater wells listed in **Table 7** and **Appendix C**. No unregistered groundwater wells are known to exist onsite. If any unregistered wells are found onsite during future surveying or construction activities, they will need to be abandoned and sealed in compliance with Minnesota Department of Health (MDH) regulations during the early part of the construction process. Well sealing must be conducted by an MDH licensed well contractor.

The site does not overlap with any Wellhead Protection or Drinking Water Supply Management Areas. The project area is located 2.7 miles east of the Blaine Drinking Water Supply Management Area and 2 miles northwest of the Lino Lakes Drinking Water Supply Management Area.

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 is expected to produce normal domestic wastewater that is typical of residential developments. The project will not include industrial wastewater production or onsite wastewater treatment.

Sanitary wastewater production for the project was estimated using methods described in the Sewer Availability Charge (SAC) Procedure Manual (Metropolitan Council 2021). Metropolitan Council has established 274 gallons per day (GPD) as the average daily wastewater production from a typical residential unit. With up to 296 residential units (176 single-family homes, 120 detached townhomes), the project is expected to generate about 81,104 gallons of wastewater per day.

The project will connect to existing sanitary sewers in Lexington Ave NE and Lever Street NE. Wastewater will flow south through the City of Blaine sanitary sewer system beneath Lexington Avenue until it connects to the Metropolitan Council Environmental Services (Met Council)

Interceptor system near Lexington and Circle Pines. The project area is located in Met Council Wastewater District 10 and Met Council has programmed a number of sewer rehabilitation and improvement projects to maintain sanitary sewer service in this district. The project will require a sanitary sewer extension permit, which will need to detail the predicted wastewater flow and be reviewed by Met Council and the MPCA.

The Met Council Interceptor system will route wastewater to the Metropolitan Wastewater Treatment Plant (MWWTP), which is owned and operated by Met Council. The MWWTP is located on the east bank of the Mississippi River, approximately 3 miles south of downtown St. Paul near Pig's Eye Lake. The MWWTP has capacity to treat 251 million gallons of wastewater per day (MGD) and is the largest wastewater treatment facility in Minnesota. Met Council's 2040 Water Resources Policy Plan includes a specific plan to serve the region's projected growth through 2040 and a general plan to serve the region's growth beyond 2040.

The City of Blaine and Met Council have planned for increased capacity to convey and treat sanitary wastewater. The proposed project is not expected to require expansion of wastewater treatment infrastructure or raise wastewater treatment capacity concerns.

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.*

Wastewater will not be discharged to subsurface sewage treatment systems.

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.*

Wastewater will be treated at the MWWTP described above and then discharged to the Mississippi River. The MWWTP is an advanced secondary wastewater treatment plant located on the east bank of the Mississippi River south of downtown St. Paul. Treatment capability is maintained during times of flood by a levee and floodwall that protect the plant treatment area.

The plant uses an activated sludge process to remove phosphorus and ammonia nitrogen from wastewater prior to discharge to the Mississippi River. Sludge is processed by thickening, centrifugal dewatering, and fluidbed incineration with energy recovery (steam and electricity). These processing facilities were completed in 2004 as part of a major rehabilitation and upgrade program at the plant. At that time, outdated facilities were replaced with fluid bed sludge incinerators, state-of-the-art air pollution control systems and an alkaline stabilization system that produces biosolids for agricultural utilization. Ash from incineration is disposed of in a landfill.

ii. Stormwater - Describe the quantity and quality of stormwater runoff at the site prior to and post construction. Include the routes and receiving water bodies for runoff from the site (major downstream water bodies as well as the immediate receiving waters). Discuss any environmental effects from stormwater discharges. Describe stormwater pollution prevention plans including temporary and permanent runoff controls and potential BMP site locations to manage or treat stormwater runoff. Identify specific erosion control, sedimentation control or stabilization measures to address soil limitations during and after project construction.

Pre-Construction Site Runoff

Surface water runoff under existing conditions likely contains some pesticides, fertilizers, and other nutrients that drain from sod fields and other areas into ditches in the northern part of the site. Existing runoff drains overland and through wetlands and ditches, and then north about 1.45 miles through Anoka County Ditch 44 to Coon Creek. Coon Creek then drains west and south through the Cities of Ham Lake, Andover, Coon Rapids to the Mississippi River.

Post-Construction Site Runoff

Compliance with the City of Blaine, Coon Creek Watershed District (CCWD), and NPDES stormwater requirements are required for project development. Project construction will add about 35 acres of impervious surface consisting of streets, homes, driveways, and parking areas. The increased impervious surface area is expected to generate higher runoff rates, volumes, and pollutants. Stormwater management best management practices will be constructed to mitigate stormwater runoff rates, volumes, and pollutant loading.

The project will include about four stormwater basins and one infiltration basin that together will cover about 8 to 10 acres and comply with City of Blaine and CCWD requirements (**Figure 3 and Appendix A**). One of the stormwater basins will be constructed at a future date to serve the Ghost Plat in the northwestern part of the site. In addition to these basins, the project will include a 6-to-9-acre excavated "lake" that will provide earthen borrow material for use in the development, but will not be needed to meet stormwater treatment or water quality requirements. The proposed infiltration basin will be located in the southern part of the site because the depth to groundwater in the northern part of the site is generally too shallow for infiltration basins. Stormwater in the northern part of the site will be pumped from stormwater ponds or the excavated lake and re-used for irrigation in the detached townhome area, which will operate under a homeowners' association. The southern part of the site will be developed to single-family lots that will not be irrigated with water from stormwater ponds.

Stormwater treatment and infiltration will need to comply to municipal, watershed, and state regulations. Overall, the site will be designed and constructed in compliance with the City of Blaine, CCWD and NPDES stormwater management requirements to control, mitigate and treat stormwater runoff. Runoff volume will be reduced to the extent practicable through infiltration and use of stormwater for irrigation. Compliance with City of Blaine and CCWD requirements is expected to limit stormwater runoff rates, volumes, and associated pollutant transport.

Impervious surface runoff from storm events will be retained in stormwater basins until discharged at or below existing peak runoff rates. Temporary sediment basins during construction will meet requirements of the MPCA General NPDES Stormwater Permit for Construction Activity.

Potential adverse effects of runoff volume and quality will be mitigated by construction of stormwater basins designed to reduce peak runoff rates and meet agency requirements. City of Blaine stormwater requirements are listed in Article XI, Division 2 of the City of Blaine City Code (Stormwater Management), which requires:

1. a stormwater management plan designed to reduce or minimize impervious area, control the peak flow rate, and minimize the volume of stormwater runoff from the site in accordance with the local Surface Water Management Plan;
2. stormwater management that follows Minimal Impact Design Standards (MIDS) of the Minnesota Stormwater Manual;
3. best management practices (BMPs) deemed necessary to achieve the goals of the Stormwater Management of Blaine's City Code, including post-construction stormwater management BMPs;
4. hydrologic and hydraulic design calculations for 2-, 10-, and 100-year storm events under pre-development and post-development conditions;
5. stormwater volume management equivalent to infiltrating or retaining the first 1.1 inch of precipitation on impervious surface of the site;
6. no net increase from pre-project conditions in the discharge of stormwater volume, total suspended solids (TSS), and total phosphorus (TP); and
7. buffer strips of natural vegetation at least 15 feet wide surrounding wetlands.

Similarly, CCWD Rules require:

1. stormwater quality treatment consistent with requirements of the current Minnesota Stormwater Design Manual prior to discharge into jurisdictional wetlands or local water bodies;
2. stormwater management practices to control peak flow rates of stormwater discharge associated with the 1, 10, 25 and 100-year design storms;
3. stormwater plans that ensure post-development discharge 100-year peak flow rates do not exceed the predevelopment 25-year peak flow rate in Drainage Sensitive Areas, or the 100-year peak flow rate in non-sensitive areas; and
4. stormwater volume management practices equivalent of infiltrating the first inch of precipitation.

Infiltration is an important practice in design, but its use is limited in areas with high water tables. Stormwater detention systems are preferred for flood storage and rate control. Stormwater basins with open water 4 to 10 feet deep serve to improve water quality. The MPCA found that stormwater ponds designed to Nationwide Urban Runoff Program (NURP) criteria removed up to 90% of total suspended solids (TSS) and significant amounts of other pollutants, such as phosphorus (Protecting

Water Quality in Urban Areas. MPCA 2000). The NURP research projects conducted by the U.S. EPA concluded that Actual sediment and nutrient removal varies with site-specific conditions. However, well-designed wet ponds and constructed wetland treatment systems are effective in removing sediment and associated pollutants, such as trace metals, nutrients and hydrocarbons. Stormwater basins also remove or treat oxygen-demanding substances, bacteria and dissolved nutrients.

The following mitigation measures are expected to minimize potential effects of stormwater runoff of receiving waters:

1. construction of onsite stormwater basins to meet City of Blaine and CCWD requirements; and
2. sediment basins and BMPs that comply with the General NPDES/SDS Permit for Construction Activities, as discussed below.

Stormwater and Erosion Control BMPs

Because project construction will involve disturbance of more than one acre of land, the project proponent will be required to apply for coverage under the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) General Permit to the MPCA prior to initiating construction. This permit process will require a Stormwater Pollution Prevention Plan detailing practices for erosion and sediment control. BMPs will be employed during construction to reduce erosion and sediment loading of stormwater runoff. Inspection of BMPs will be required after each rainfall exceeding 0.5 inch in 24 hours. The NPDES permit also requires perimeter sediment control maintenance and sediment removal. BMPs to be implemented during construction include:

1. Construction of temporary sediment basins during construction and development of proposed stormwater 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, seed mixes, sod, and landscaping to stabilize exposed surface soils after final grading.

Projects disturbing more than 50 acres require Stormwater Pollution Prevention Plan (SWPPP) review and approval from the MPCA prior to obtaining coverage under an NPDES/SDS General Construction Stormwater Permit. Erosion control plans will be reviewed and accepted by the City of Blaine prior to initiation of each phase of construction. Potential adverse effects from construction-related sediment and erosion on water quality will be minimized by the BMPs listed above during and after construction.

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. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.

Surface/Groundwater Appropriation and Dewatering

Project construction may require dewatering and groundwater appropriation to facilitate installation of sanitary sewer and possibly for excavation of stormwater basins or the excavated lake. The project is designed to allow for pumping from stormwater basins or the excavated lake in the northern part of the site to irrigate green spaces.

Dewatering will require a MN DNR water appropriation permit if it exceeds 10,000 gallons/day or 1 million gallons/year. If construction dewatering does not exceed a total of 50 million gallons and one year in duration, it will be eligible for coverage under the amended MN DNR General Permit 1997-0005 for temporary water appropriations. The potential extent and duration of construction dewatering necessary is currently unknown, but construction dewatering is expected to be temporary. Groundwater appropriated for construction dewatering will be discharged to temporary sediment basins in the project area. Construction dewatering is not expected to continue long enough to affect nearby domestic water wells.

Well Abandonment

As indicated under **Item 11.a.ii**, the Minnesota Well Index identifies four registered wells located onsite. The project area includes eight single-family homes, so there may be additional unregistered wells onsite. Existing wells will be abandoned and sealed in compliance with MDH requirements prior to construction as noted under **Item 11.a.ii**. Some wells may be retained for a period of time in existing rural residential lots that are expected to be redeveloped at a later date. These wells will be abandoned and sealed at some point in the future when the large lots are further subdivided as shown on the Ghost Plats in the Site Plan (**Figure 3**). Any wells found onsite during future survey or construction activities will need to be sealed and abandoned in compliance with MDH regulations. Well sealing must be conducted by an MDH licensed well contractor.

Connection to a Public Water Supply

The project will connect to the City of Blaine public water supply at watermains in Lexington Ave and Lever Street. The Blaine public water supply is pumped from 16 wells that range from 244 to 741 feet in depth (**Table 8**). Municipal water is drawn primarily from the Tunnel City-Eau Claire and Tunnel City-Mt. Simon aquifers. Water from these wells is pumped to and treated at three water treatment facilities. A fourth water treatment plant is scheduled to become operational during 2021. Treated water is distributed through 200 miles of water mains.

The 16 municipal wells have a combined permitted capacity to pump 3,337 million gallons of water per year (MGY) based on Minnesota DNR water use data (**Table 8**). During 2013-2018, these wells

used an average of 2,408.8 MGY and a combined maximum of 3,476.8 MGY. Assuming municipal water use is roughly 30% higher than wastewater production (see **Item 11.b.i.1**), the project will use about 105,435 gallons of municipal water per day or 38.5 MGY. Based on past use and permitted capacity, the existing municipal wells have sufficient surplus capacity to serve the proposed project. Water flow, pressure, and storage will be adequate to serve the development area.

Water use in Blaine is nearly three times higher during June-August than during January-March (36,568 vs. 13,030 gallons/household), primarily due to irrigation. National studies show that 30% of the water used by an average household in the summer is to water lawns and gardens. Re-use of stormwater for irrigation in the northern part of the project, noted under **Item 11.b.ii**, is expected to help reduce the summertime municipal water demand.

Table 8. City of Blaine Municipal Water Supply Appropriation Permits

Permit No.	Well No.	Permitted[1] Volume (MGY)	Average Use 2013-2018 (MGY)	Max Use 2013-2018 (MGY)
1976-6227	208629	3,337	9.4	20.4
1976-6227	208643	3,337	35.1	56.8
1976-6227	208633	3,337	152.4	181.7
1976-6227	224698	3,337	470.0	894.6
1976-6227	127270	3,337	374.3	421.6
1976-6227	233109	3,337	40.9	95.5
1976-6227	151587	3,337	23.7	52.0
1976-6227	721815	3,337	265.4	341.7
1976-6227	208628	3,337	26.4	46.4
1976-6227	208646	3,337	336.2	438.2
1976-6227	208645	3,337	264.3	384.5
1976-6227	208615	3,337	25.9	56.6
1976-6227	208634	3,337	324.1	374.4
1976-6227	208616	3,337	6.6	23.5
1976-6227	208630	3,337	35.8	58.3
1976-6227	208618	3,337	18.3	30.6
Total		3,337	2,408.8	3,476.8

[1]Permit No. 1976-6227 allows for pumping of up to a total of 3,337 MGY from all wells combined.

delete Permitted Volume column - add the foot note to Permit No.

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. 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.

Wetlands in the project area are regulated by Coon Creek Watershed District (CCWD) under the Minnesota Wetland Conservation Act (WCA). Some onsite wetlands or waters may be regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Federal Clean Water Act, but the USACE has already determined that water resources over most of the site lack federal jurisdiction (see **Item 11.a.i and Appendix B**). The MPCA regulates waters of the state, which include all surface waters and waters that serve stormwater storage, conveyance, and water quality functions.

Wetland Buffers

The project will need to provide natural vegetation buffers around wetlands that remain after development to comply with Blaine City Code and CCWD guidelines. Blaine City Code Sections 34-488 (Wetlands) and 33.07 (Landscaping) require a protective buffer strip of natural vegetation at least 15 feet wide around all wetlands.

Wetland and Ditch Impacts

Project construction is expected to impact about 1.53 acre of wetland distributed among seven basins and 11 ditch segments (**Tables 9 and 10, Figure 9**). In addition, the project will convert Anoka County Ditch 44 (ACD) to an excavated lake. The proposed wetland and ditch impacts are generally necessary to construct the interconnected residential community, including streets, stormwater systems, and residential areas. Wetland acreages before and after development, as shown under **Item 7**, assume the project will impact or covert 1.65 acres of wetland and ditches and replace wetland impacts with credits to be purchased from acceptable wetland bank(s). As an alternative, some wetland replacement may be provided onsite though excavation and restoration of **Wetland 8**. Avoided wetlands will be protected by buffers that will be seeded to native grasses and forbs.

The project proponent will need to apply for wetland replacement plan approval under the WCA and include design alternatives that avoid and minimize effects on wetlands to the extent practicable, demonstrating compliance with the wetland sequencing process. The proposed project design avoids and minimizes impacts on wetlands and water resources by:

1. avoiding all wetlands larger than 0.25 acre;
2. connecting avoided wetlands to adjacent green spaces;
3. designing water and ground surface elevations and drainage to maintain post-development wetland hydrology;

4. treating stormwater from impervious surfaces to remove sediment and nutrients prior to discharge to wetlands;
5. implementing sedimentation and water quality protection BMPs to reduce and eliminate secondary wetland impacts over time; and
6. providing buffers around avoided wetlands in compliance with the City of Blaine requirements.

Table 9. Estimated Wetland Impacts

Wetland ID	Circ. 39 Type	Size (acres)	Estimated[1] Impact (acres)
1	2	0.24	0.24
2	2	0.04	0.04
3	2	0.09	0.09
4	1	0.04	0.04
5	1	0.12	0.12
6	1	0.19	0.00
7	2	0.85	0.00
8	2	4.01	0.00
9	5	0.19	0.19
10	2/3	1.02	0.08
11	2/3/5	0.22	0.00
12	2/3/5	0.97	0.73
Total		7.98	1.53

[1]Impact to Wetland 12 refers to the total impact to Ditches 1-16 as listed in **Table 10**. Wetland 8 may be excavated and restored, but this restoration is not counted as wetland impact.

The project proponent has obtained Approved Jurisdictional Determinations (AJDs) from the USACE for all wetlands and ditches on the site except the five wetlands located on the Koepp and Breen property (see **Item 11.a.i and Appendix B**). The AJDs indicate wetlands and ditches do not fall under USACE jurisdiction. It is anticipated that the USACE will issue a third AJD to say wetlands on the Koepp and Breen property are non-jurisdictional, as their landscape and drainage characteristics are similar to other nearby non-jurisdictional wetlands.

The project proponent will need to replace wetland impacts by purchasing available wetland credits from approved wetland banks, by increasing wetland functions onsite, or both. Wetland credits are typically expected to come from banks located in the same Major Watershed or Wetland Bank Service Area as the wetland impacts. Credits to be purchased for compensatory mitigation will depend upon credit balances available for sale when wetland impacts are proposed. Avoided wetlands will need to comply with City of Blaine wetland buffer requirements.

Table 10. Estimated Ditch Impacts

Ditch ID	Size (acres)	Estimated Impact (acres)
1	0.14	0.00
2	0.01	0.00
3	0.04	0.00
4	0.03	0.03
5	0.02	0.00
6	0.03	0.00
7	0.07	0.07
8	0.04	0.04
9	0.13	0.13
10	0.05	0.05
11	0.08	0.08
12	0.08	0.08
13	0.05	0.05
14	0.06	0.06
15	0.13	0.13
16	0.01	0.01
ACD 44	0.12	0.12
Total	1.09	0.85

[1]Total impact to Ditches 1-16 is 0.73 acre. This impact is counted as Wetland 12 impact in **Table 9**.

The project proponent will be required to implement BMPs or other management practices that help reduce and eliminate wetland impacts over time. As required under Part 9.17 of the MPCA's General Stormwater Permit for Construction Activity, the project proponent will maintain either 50-foot natural buffers or a double row of silt fence down gradient from construction and adjacent to surface waters and wetlands. Stormwater treatment basins will be designed to treat runoff from impervious surfaces prior to discharge to wetlands.

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. 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 project area does not include any DNR public waters, public waters wetlands, or public watercourses. Effects on wetlands, ditches, and swales are addressed in the preceding **Item 11.b.iv.a**. The proposed project is not expected to affect other surface water features such as lakes,

but the project will convert part of Anoka County Ditch 44 to an excavated lake as discussed in the preceding section.

12. 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.

The site includes six existing homes, sod fields, woodlands, grassland, and wetlands. The homestead in the southwestern corner of the site was constructed prior to 1938. Other homes were constructed between 1963 and 1994. Most existing homes and outbuildings will be demolished prior to project construction and redeveloped into residential lots. Two existing homes will remain as exceptions to initial project construction, but may be demolished and redeveloped at a later date. Locations of these two homes are labelled as Ghost Plats on **Figure 3**. The site does not include any pipelines or overhead powerlines.

The project proponent will need to obtain appropriate permits prior to demolition of the existing homes and outbuildings. Demolition permits may require investigations for potential sources of environmental contamination and building materials that contain asbestos or lead. Contamination sources detected at the site will need to be investigated and handled in compliance with applicable regulations.

Phase I Environmental Site Assessment

Haugo GeoTechnical Services prepared a Phase I Environmental Site Assessment (Phase I ESA) for the project area in April of 2021. **Appendix D** includes a summary from the Phase I ESA. The Phase I ESA identified one Recognized Environmental Condition (REC) associated with an underground storage tank containing a small quantity of fuel. The tank was located on the east side of a home and reportedly contained fuel oil used to heat the home. The Phase I ESA recommended that removal and offsite disposal of the tank and fuel when it will no longer be used.

The Phase I ESA also identified a number of conditions that were not considered RECs:

1. An empty, partially crushed above ground storage tank. The tank showed no evidence of leaks, spills or stressed vegetation. The Phase I ESA recommended removal and proper disposal of tank.
2. Four properties with domestic water wells and septic systems. The Phase I ESA recommended that wells be abandoned/sealed in accordance with MDH requirements, and that septic systems be removed in accordance with regulations.
3. Structures anticipated for demolition. The Phase I ESA suggested proper disposal of demolition debris.

4. The possibility that some of the building material could contain potentially hazardous substances such as lead paint or asbestos. The Phase I ESA suggested testing of suspect materials prior to demolition of the buildings.
5. Several items on the grounds and in outbuildings, including vehicles such as motorcycle(s), truck(s) and boats, farm equipment and machinery, lawn mowers and the associated gas cans, furniture, wood piles, tires and household appliances. The Phase I ESA recommended proper disposal or recycling of these items.

What's in My Neighborhood

Review of MPCA and Minnesota Department of Agriculture (MDA) "What's in My Neighborhood" (WIMN) interactive websites identified five listed sites located within an 0.25-mile radius of the project area (**Table 11**). Four of these area active Construction Stormwater Permit sites listed by the MPCA. An additional site, Lexington Woods, is located south of the project area and has applied for a Construction Stormwater Permit. However, Lexington Woods was not yet listed by the MPCA at the time this EAW was prepared. Construction Stormwater Permit requirements are designed to control erosion and limit pollution of surface waters during and after construction. The three Construction Stormwater Permit sites listed in **Table 11** are nearby residential developments that are still under construction. The fourth site, listed by the MDA, was an investigation of a fertilizer spill that occurred at a farmstead located about 0.25 mile southeast of the proposed project area. The MDA investigated the site and closed the file on this site in 2015.

A listing in the WIMN database, by itself, does not indicate a release or a threat of release of petroleum products or potentially hazardous substances. Available information suggests the WIMN sites identified within an 0.25-mile radius of the proposed project have been properly permitted or investigated and are closed, inactive, or appear to be under appropriate management. As a result, they are not expected to adversely affect the environment of the proposed project. None of these sites are known to pose an environmental contamination threat to the project area. Solid and hazardous wastes generated in connection with demolition and redevelopment are discussed under **Item 12.d**.

Table 11. What's in My Neighborhood MPCA and MDA Sites near Project Area

Agency	Site ID	Type	Name	Status[1]	Direction from Project
MPCA	233451	Construction Stormwater	Lexington Cove	Active	South
MPCA	222450	Construction Stormwater	Woodridge	Active	Southeast
MPCA	231161	Construction Stormwater	Mill Pond	Active	Southeast
MPCA	222143	Construction Stormwater	Oakwood Ponds	Active	Southeast
MDA	PLK101064367	Small Spills and Investigations	Herbst, Russ	Closed	Southeast

[1]Status is according to information on the MPCA and MDA websites.

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.

Project development will require demolition of existing homes and outbuildings. Structures will be demolished after hazardous materials are removed or managed appropriately. To the extent feasible, demolition is expected to segregate recyclable materials such as concrete, blacktop and metals. Materials that are not recycled will be managed by demolition contractors and disposed of at an MPCA permitted demolition landfill facility.

Project construction is expected to generate waste including scraps of wood and other construction materials. Construction contractors will be required to dispose of wastes generated at the site during construction using approved methods and facilities. Onsite construction debris will likely be stored in dumpsters that will be hauled to an MPCA permitted solid waste disposal facility. It is anticipated that contractors will 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 recycled rather than burned on site.

The construction process may also generate limited small quantities of hazardous wastes (e.g., oils, greases, solvents) as a result of routine use and maintenance of construction equipment. Contractors will be responsible for disposing of such wastes in accordance with state requirements as further discussed under **Item 12.d**. below. It is anticipated that site grading will balance the cut and fill quantities of soils, avoiding the need to dispose of excess earthen material.

After development, residents of homes on the site will generate mixed municipal solid waste. Most solid waste is expected to include organics, paper, other waste, and plastic (**Table 12**).

Table 12. Estimated Solid Waste Composition

Waste Type	Estimated %
Organic	31.0
Paper	24.5
Other	18.3
Plastic	17.9
Hazardous	0.4
Metal	4.5
Glass	2.2
Electronics	1.2
Total	100.0

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

Estimates from the U.S. EPA and census data indicate solid waste generation averages 4.9 pounds per capita per day, and households in Blaine have an average of 2.77 people each. These estimates suggest the proposed project will generate about 4,018 pounds of solid waste per day and 1.47 million pounds of solid waste annually. These estimates include solid waste to be generated by residents of the project when they are not at home.

Municipal solid waste generated in Blaine is managed through a routine, scheduled disposal contracted with licensed solid waste hauler(s). The licensed hauler(s) will truck solid waste to approved nearby solid waste disposal facilities. The City of Blaine offers curbside recycling and recycling drop-off is available on the third Saturday of each month. Participation in recycling by future residents of the project area is expected to help mitigate adverse effects of solid waste.

Neither the construction process nor the proposed project is expected to generate substantial hazardous waste, solid animal manure, sludge, or ash.

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 above or below ground tanks to store petroleum or other materials. 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.

Project development is not expected to generate or store substantial amounts of hazardous wastes or materials. Project construction may include some temporary storage of potentially hazardous substances, such as diesel fuel for construction vehicles. Temporary storage of such hazardous materials will need to be secured by contractors. The 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.

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.

The six existing homes and outbuildings will be demolished prior to project development. Asbestos-containing materials (ACM), lead-based paint, or other hazardous building materials may be present in existing structures constructed prior to 1973. The home in the southwest corner of the site was constructed prior to 1938; other homes were constructed between 1963 and 1994. Homes constructed prior to 1973 will need to be investigated for hazardous building materials prior to demolition. Hazardous materials identified will need to be properly managed and removed from the site.

Development of the project area is not expected to generate or require the storing, handling or disposal of substantial volumes of hazardous wastes during or after construction. 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. Contractors will be responsible for proper management and disposal of wastes generated during construction. Residents of the site will be responsible for management and disposal of hazardous waste thereafter. Residents of the area will be able to use the Anoka County Hazardous Waste Drop-off Facility in Blaine.

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

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

Fish and wildlife resources on and near the site are related to the composition of plant communities such as croplands, wetlands, woodlands, and grasslands. Vegetation cover type mapping in the project area was based on aerial photography, the wetland delineation, and field reviews (**Figure 4**). The project area is about 39% sod field, 34% woodland, 17% grassland, 7% wetlands and ditches, and 2% developed. Habitats in the project area are used by a variety of wildlife species common in east-central Minnesota, such as white-tailed deer, songbirds, waterfowl, small mammals, and amphibians.

The project area falls in the Anoka Sand Plain Subsection of the MDNR Ecological Classification System and the Anoka Sand Plain and Mississippi Valley Outwash Level IV Ecoregion of the U.S. EPA. This region generally consists of sandy plains with wetlands, lakes, small grains, row crops, woodlands, and suburban development.

The sod farm on the northern part of the site has limited wildlife habitat value because it consists of short turf grass and ditches. Other habitats the site have more value for wildlife. Wetlands on the northern part of the site are mostly dominated by Kentucky bluegrass, reed canary grass. Wetlands on the southern part of the site are more diverse. Wetland 8 supports a small population of a rare grapefern plant (*Sceptridium rugulosum*, state special concern), described further under **Item 11.b.** below. Similarly, Wetland 10 supports two state-threatened plant species (Toothcup, *Rotala ramosior*; Lance-leaf violet, *Viola lanceolata*), but is overall, Wetland 10 is dominated by stinging nettle, manna grass, bugleweed, cattail, dwarf clearweed, blue vervain, and sedges.

Woodlands include about 35 acres of mixed hardwoods and a roughly 5-acre pine plantation. Hardwoods include aspen, green ash, oaks, red maple, boxelder, American elm, and black cherry. Common buckthorn is abundant in the deciduous woodland understory. The plantation is mostly red pine and white pine, with some spruce. The grassland is mostly dominated by smooth brome, quackgrass, reed canary grass, and Kentucky bluegrass.

*b. Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County 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-989**) and/or correspondence number (**ERDB [none assigned]**) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.*

State

A Natural Heritage Inventory System (NHIS) data request was submitted to the MN DNR to assess whether rare plant or animal species or other significant natural features are known to occur within an approximate 1-mile radius of the project area. In addition, Kjolhaug Environmental Services (KES) queried a licensed copy of the NHIS database to assess rare species and natural features. This EAW reports on the result of the KES NHIS query because the MN DNR had not responded to the data request at the time this EAW was prepared.

The NHIS review identified records of one state threatened reptile, two state endangered plants, and four state threatened plants within a 1-mile radius of the project area. None of these species are listed as Federally threatened and endangered. The NHIS records include:

1. Blanding's turtle (*Emydoidea blandingii*) – A state threatened reptile observed about 1 mile west of the project area. These turtles prefer calm shallow water, rich aquatic vegetation, and select open grassy uplands with sandy soils for nesting. Sandy soils are mapped in project area (see **Item 10.b**).
2. Twisted yellow-eyed grass (*Xyris torta*) – A state endangered grass-like plant with small yellow flowers that occurs primarily on wet, sandy shores of shallow lakes and sandy or peaty meadows or swales of the Anoka Sand Plain.
3. Cross-leaved milkwort (*Polygala cruciata*) – A state endangered, small plant with dense purplish or pink flowers that occurs primarily on wet, sandy shores of shallow lakes and sandy or peaty meadows or swales of the Anoka Sand Plain.
4. Bristle-berry (*Rubus fulleri*) – A state threatened low-growing vine-like shrub found in swales and wet meadows of sand plains.
5. Swamp blackberry (*Rubus semisetosus*) – A state threatened low shrub that grows in open grass or sedge areas with sandy soils near swales, marshes, or are just above the water table.
6. Black huckleberry (*Gaylussacia baccata*) – A state threatened low shrub found on well-drained sandy soils or dry sandstone outcrops in fire-dependent forests.
7. Lance-leaf violet (*Viola lanceolata* var. *lanceolata*) – A state threatened violet with small white flowers stemless leaves that occurs in moist sandy meadows and swales in sand dunes and savannas.

Rare Plant Surveys

Critical Connections Ecological Services (CCES) conducted two field surveys in the project area for state threatened and endangered vascular plant species. CCES surveyed the northern part of the site

on September 11 and 12, 2018, and the southern part of the site during August 1 to September 20, 2020.

CCES found no state threatened, endangered, or special concern plant species on the northern part of the site. They determined there was little potential habitat for rare plants in the northern part of the site.

CCES documented rare plants in two locations on the southern part of the site. A small population of a state special concern listed grapefern (*Sceptridium rugulosum*) was found in Wetland 8. This population included five plants. Wetland 10 supported two state-threatened plant species, seven individual plants of toothcup (*Rotala ramosior*), and about 44 square meters (~ 4,736 sq.ft.) of lance-leaf violet (*Viola lanceolata*), roughly 6,391 plants. Botanical Survey Reports and related agency comments are included in **Appendix E**.

Federal

Online information on rare species information maintained by the U.S. Fish and Wildlife Service (USFWS) was also reviewed for the project area. The U.S. Fish and Wildlife Service (USFWS) listed the northern long-eared bat (*Myotis septentrionalis*) as federally threatened on May 4, 2015. On February 2, 2017, the USFWS listed the rusty patched bumble bee (*Bombus affinis*) as federally endangered.

Review of the USFWS Information for Planning and Consultation (IPaC) website with a polygon encompassing the project area identified the northern long-eared bat as the only threatened or endangered species that may potentially be affected by activities at the project location. The IPaC website also noted that there are no critical habitats at this location.

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. As of June 3, 2020, MN DNR data showed no documented maternity roost trees or hibernacula entrances of the northern long-eared bat in the project vicinity.

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. The nearest High Potential Zones, where rusty patched bumble bees are likely to occupy suitable habitat, as located about 4 miles west of the project and is associated with Bunker Hills Regional Park and smaller parks south of Bunker Hills. Most habitats suitable for rusty patched bumble bees in the Upper Midwest have been converted by agriculture or other land uses. 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). The project area is about is about 39% sod fields and lacks typical pollinator habitat. Site reviews did not identify native prairie plantings or diverse areas of native wildflowers, but flowering plants documented during the wetland delineation include goldenrods, milkweeds, blue vervain, and others.

In addition to the Federally listed species, a nest occupied by a pair of bald eagles (Haliaeetus leucocephalus) was observed east of the northern part of the project in early May of 2021. The USFWS removed the bald eagle from the Federal List of Endangered and Threatened Species in 2007, but bald eagles and their nests are still protected under the Bald and Golden Eagle Protection Act. This species was also removed from the Minnesota threatened and endangered species list in 2013.

The National Bald Eagle Management Guidelines (USFWS, 2007) recommend three practices to avoid disturbance of nesting bald eagles:

1. distance buffers between potential disturbance activities and eagle nests;
2. natural vegetation, preferably trees, between activities and the nest tree; and
3. avoiding certain activities during the breeding season.

Buffers minimize visual and noise impacts that might be associated with human activities near nest bald eagle sites.

c. Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project. 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.

The project will convert about 45.37 acres of sod field, 36.37 acres of woodland, 16.93 acres of grassland, and 1.65 acre of wetlands and ditches to suburban residential development with homes, streets, lawns, landscaping, and stormwater basins.

This habitat conversion is expected affect the number and type of wildlife species in the area, but changes in wildlife abundance are not expected to be regionally significant. Wildlife species that depend on cropland-wetland-woodland habitats could be displaced during project construction. Non-migratory species with small home ranges such as small mammals may experience more adverse effects, including mortality during project construction.

Development of the project area is not expected to have substantial effects on state-listed rare plants that occur in wetlands on the site. The threatened plant species will not be disturbed, as they are located in an area of Wetland 10 that will be completely avoided and Wetland 10 will be placed under a drainage and utility easement. The species listed as special concern and located in Wetland 8 is not protected under the Minnesota Endangered Species Act (MN Stat. 84.0895). Wetland 8 will either be avoided or excavated for wetland restoration and replacement purposes. If Wetland 8 is excavated, the rare plants will be protected during construction and planted into the restored basin when construction is complete.

The project may have minor effects on threatened and endangered wildlife and bald eagles, but it is not expected to have substantial adverse effects on these species. The project will need to avoid and minimize wetland impacts to the extent practicable. Construction practices discussed in the following section are expected to help minimize effects on sensitive wildlife, including the

Blanding's turtle, northern long-eared bat, and bald eagle. The project is not considered likely to adversely affect the northern long-eared bat because there are no known maternity roosts or hibernacula of this species in the project vicinity. However, the project could affect the northern long-eared bat because project construction will remove about 36.37 acres of wooded habitat. About 3.40 acres of wooded habitat will be preserved (**Figure 9**). Tree clearing may affect bat habitat, but it is not expected to substantially affect essential bat behavioral patterns such as breeding or feeding.

Although project construction is expected to slightly increase the potential for the spread of invasive and weedy species, much of the project area has been previously tilled and exposed to agricultural weeds. BMPs for invasive plants can include the cleaning of construction equipment before transport, which can reduce the potential spread of weedy species.

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 the preservation of about 27.66 acres of open space consisting of stormwater basins, an excavated lake, wetlands, woodland, buffers, and a park. The project is expected to provide about 3.25 acres of wetland buffers and preserve about 3.40 acres of woodland.

To minimize potential effects on rare plants and turtles, the project will avoid or restore the largest wetlands on the site. The project will also implement sediment and erosion controls, consider use of surmountable curbs on roadways, and consider using erosion control materials constructed of organic fibers rather than plastic.

To minimize potential effects on bats, migratory birds, and eagles, the project will aim to limit tree clearing to the period between October and April, when migratory songbirds and bats are not nesting or reproducing. The most important practice is to avoid tree clearing during June 1 to August 15 when bats are rearing young. In addition, Section 90-82 of the Blaine City Code requires that pruning of oak trees be avoided during the most susceptible time of oak wilt infection, April 15 to July 1.

The project area is not known to contain highly suitable habitat for the rusty patched bumble bee, and therefore this bee is unlikely to be present in the project area.

Potential effects on the nearby bald eagle nest can be minimized with the timing of construction activities and a nest buffer. The project proponent has agreed to consult with USFWS staff regarding an appropriate buffer and seasonal precautions.

14. 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 request for records related to the history of the site has been submitted to the Minnesota State Historic Preservation Office (SHPO). The response indicated SHPO has no historic records for the project area. SHPO's response is included in **Appendix F**.

The site includes six existing homes, outbuildings, sod fields, woodlands, grassland, and wetlands. The homestead in the southwestern corner of the site was constructed prior to 1938. Other homes were constructed between 1963 and 1994. The northern part of the site was hayfield, wet meadow, and woodland in 1938. Ditches were expanded and hayfields and wet meadows were converted to sod fields in the 1960s. The southern part of the site was hayfield, woodland, and wetland in 1938, but hayfields were converted to cropland by 1947, and pines were planted in the southwestern part of the site in the 1980s.

The site is not known to include archaeological or historic architectural resources. The history of site includes land disturbances, including ditching, draining, cropping, sod farming, and rural homesteads. The site has relatively flat topography, lacks elevated views of surrounding landscapes, and is believed to have relatively low potential for undiscovered intact archaeological resources. The small lake located immediately southeast of the project was excavated between 1997 and 2003. Although the site includes structures over 50 years old, these structures are not known to have been associated with a historically prominent person, event, or time period. The proposed project is therefore considered unlikely to impact historic properties.

15. 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.

Most existing views of the site include sod fields, woodlands, wetlands, open fields, and rural residences. There are no prominent scenic vistas on or near the property, but part of the property has views of the excavated lake and park located immediately to the southeast. Project development is expected to result in routine effects on visual resources and substantial effects on visual resources are not anticipated. The main visual effect will be the transition of views from mostly agricultural land and woodland to views of suburban residential development, an excavated lake, and stormwater basins. The project will not involve installation of intense lights that would cause glare, and the project is not expected to include industries that would emit vapor plumes. Landscape plantings are expected to soften visual transitions and help mitigate effects on views from nearby properties and roads. Some tree preservation along Lexington Ave will provide a visual buffer between travelers on Lexington Ave and proposed nearby homes.

16. 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, and any greenhouse gases. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used 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 homes 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 units are expected to be similar to those of other light industrial buildings in the surrounding area.

The Minnesota EQB is working on a framework for integrating GHG quantification and assessment requirements into the Environmental Review Program, but methods and requirements are not yet final. In light of this constraint and in the absence of official guidance, the GHG assessment presented here is qualitative.

Common GHG emissions include CO2, CH4, N2O. GHG emissions are customarily converted to 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. Use of petroleum fueled equipment during project construction;
2. Use of natural gas and other fossil fuels to heat buildings and water;
3. Fossil fuels burned to generate electricity used at the project during construction and operation;
4. Vehicle and air transportation related to project construction and operation;
5. Transport, treatment, and storage of solid waste and wastewater;
6. Loss of carbon sequestration due to conversion of natural vegetation to developed and paved surfaces; and
7. Refrigeration, air conditioning, and the related manufacturing, service, and leakage of equipment.

GHG emissions from this project, while unquantified, are not expected to cause potential for significant environmental effects because the project does not trip any other mandatory EAW thresholds, and there are no available GHG emission estimates that show a comparably sized Minnesota project with potential to exceed the mandatory EAW threshold of 100,000 tons of CO2e per year (Minnesota Rules Part 4410.4300, Subp. 15.B.).

Mitigation and adaption measures could help the project lessen the impacts of climate change and GHG emissions. Such measures may include:

1. Use energy efficient building materials that reduce the need for heating and cooling.
2. Install programable thermostats (already assumed).
3. Install smart irrigation to reduce outdoor water use.
4. Install high-albedo (reflective) roofing materials that reflect the sun's UV rays and save energy needed to cool buildings.
5. Plant some turf to no-mow fine fescue mixes or native prairie/pollinator gardens to decrease mowing and increase carbon sequestration.
6. Encourage residents to sign up for utility-sponsored renewable energy programs.
7. Consider rooftop solar, electric vehicle charging stations, and/or battery storage to make the project energy autonomous and EV-ready.
8. Consider a microgrid for efficient, automated distribution of energy among participants.
9. Install ground-source or air-source geothermal heat pumps during initial construction when most cost-effective.

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, which will result in a relatively small corresponding increase in carbon monoxide, carbon dioxide and other vehicle-related air emissions. Project development is expected to have a minor effect on air quality. GHG emissions related to traffic and transportation are discussed under **Item 16.a** above. The project does not include air quality monitoring or modeling.

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 16a). 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 the City of Blaine. Dust and odor levels are expected to be slightly higher during project construction than project operation.

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 existing single-family homes along Lexington Ave and in the newer developments south and southeast of the site. 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 exceeds levels typically expected during normal construction practices.

17. 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.

Construction

It is anticipated that local noise levels will temporarily increase during project construction, but 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.

The noise receptors nearest to the project area include existing single-family homes along Lexington Ave and in the newer developments south and southeast of the site. Homes in these areas will experience elevated noise levels at times during construction in comparison 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 comply with Minnesota noise rules and standards. These rules require noise 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 primarily to daylight hours when noise levels are commonly higher than at night. Contractors will be required to minimize noise impacts by maintaining equipment properly, including use of mufflers and other noise controls as specified by manufacturers.

Traffic

Traffic noise may have some effect on the project because the site is located adjacent to Lexington Ave NE (CSAH 17). Lexington Ave has an average annual daily traffic (AADT) count of about 12,000 vehicles. The project design includes a variety of noise mitigation measures that are expected to lessen effects of traffic noise on future residents of the site. These measures are expected to reduce effects of traffic noise on residential areas near Lexington Ave. Noise mitigation measures shown on the Site Plan (**Figure 3**) and under consideration for areas along Lexington Ave include:

1. a low earth berm with landscape plantings;
2. extended backyard buffer zones;
3. tree preservation;
4. fencing; and
5. sound reducing building materials such as upgraded insulation and windows.

18. 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.

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

Existing and Proposed Parking Spaces

The project area includes six existing homes, outbuildings, and a small number of parking stalls in garages, driveways, and residential yards. The proposed 176 single-family homes and 120 detached townhomes will include off-street parking and garages. In addition, the park will include a small parking lot with a few parking stalls.

Estimated Traffic Generation

STS prepared a Traffic Impact Study for 176 single-family homes and 120 detached townhomes (**Figure 3**). The Traffic Study assumed full development of the site by 2026. The complete Traffic Impact Study is included in **Appendix G**.

Trip generation was estimated using the methodology outlined in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition (2017). The proposed project is expected to generate about 2,822 vehicle trips per day. Within the PM peak hour, the project is expected to generate 288 trips, consisting of 181 entering vehicles and 107 exiting vehicles (**Table 13**). The Traffic Study included in **Appendix G** provides a full description and analysis of the peak hour traffic and traffic recommendations.

Table 13. Project Trip Generation Estimates

Land Use	ITE Code	No. of Units	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
				In	Out	Total	In	Out	Total
Single-family homes/Detached Townhomes	210	296	2,822	54	161	215	181	107	288
Total			2,822	54	161	215	181	107	288

Availability of Transit and Alternative Transportation

Metro Transit and Anoka County Transit provide transit services in the City of Blaine. The nearest transit facility is a Park and Ride Lot near 95th Ave and I-35W, 5 miles south of site. The nearest Metro Transit stop is located along Highway 65 south of Highway 610, and a Transit Center is located at the Northtown Mall, about 11 miles southwest of the site.

Anoka County Transit provides Transit Link dial-a-ride transit service in conjunction with Metropolitan Council. This is a public transportation service that operates using accessible buses where regular fixed-route transit is unavailable.

Metro Mobility service is also available in Anoka County. This is a shared public transportation service for certified riders who are unable to used regular fixed-route bus due to a disability or health condition.

Trails and sidewalks provide another alternative approach for local travel. The project will include sidewalks along some residential streets and trails that link to the park located immediately southeast of the site.

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.

STS documented existing conditions of the nearby roadways with a field inventory during the week of April 4, 2021. The study focused on the following intersections:

1. Bunker Lake Boulevard NE (CSAH 116) and Lexington Avenue NE (CSAH 17);
2. 131st Avenue NE and Lexington Avenue NE;
3. 125th Avenue NE (CSAH 14) and Lexington Avenue NE;
4. 109th Avenue NE (CSAH 12) and Lexington Avenue NE; and
5. 125th Avenue NE and Lever Street NE.

Peak hour turning movement counts were conducted at the above intersections on April 6, 2021 and indicate the AM peak hour occurs at 7:15 AM – 8:15 AM, and the PM peak hour occurs at 4:15 PM to 5:15 PM.

STS analyzed intersection operations using Synchro/Simtraffic, 10th Edition for the 2026 Build out year and for the 2040 Planning Horizon year. The Anoka County 2040 Transportation Plan identified improvements to Lexington Avenue NE from I-35W to beyond 125th Avenue NE, and to 125th Avenue NE from Radisson Avenue NE to beyond Lexington Avenue NE. These improvements are identified to occur in 2023 or after. For the analysis of the 2026 No-Build and Build conditions, it was assumed these improvements had not yet occurred, but that they were completed by 2040.

Effects on Traffic and Roadways

The results of the analysis show that all intersections are expected to operate at acceptable LOS C or better with manageable vehicle queues for both the No-Build and Build conditions. However, the

westbound movement at the access intersection of 131st Avenue NE and Lexington Avenue NE will experience long delays during the 2040 PM peak time. The traffic study suggested monitoring of this intersection as the year 2040 approaches to determine if traffic movements should be limited or if a traffic control change may be needed. Preliminary review of traffic signal warrants suggested Peak Hour and 4-Hour signal warrants are not satisfied in the 2040 timeline. Details are included in **Appendix G**.

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

The traffic analysis considered full build out by 2026 and evaluated conditions in 2026 and 2040. Improvements and mitigation measures identified in the Anoka County 2040 Transportation Plan are sufficient to provide adequate operations at the study area intersections. The site access is already provided with left and right turn lanes from Lexington Avenue NE. The transportation system serving the area will have sufficient capacity to include traffic from the proposed project as well as other anticipated projects.

19. 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 proposed project covers 115.45 acres and will include up to 296 residential units expected to be constructed over the next 3 to 5 years. The northeastern part of Blaine is mostly guided for residential development and has municipal sewer and water staged for development. Several properties located within 1 mile of the proposed project have recently developed or started construction (**Table 14**). Some of these projects will be under construction at the same time as the proposed project, and the operational timing of all of these projects will overlap, raising the potential for cumulative effects.

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.

Reasonably foreseeable future projects include 11 projects recently been developed, under construction, or proposed within 1 mile of the proposed project (**Table 14**). These include five residential developments, an elementary school, and a retail center. Neither the City of Blaine nor the project proponent are aware of other projects proposed in the geographic vicinity of the proposed project in the foreseeable future. These projects are in close proximity to Lexington Waters and could potentially interact with the proposed project to result in cumulative effects.

Table 14. Recent and Future Developments within 1 mile of Proposed Project

Name	Description	Status	Distance from Project
Lexington Cove Residential	97 single-family lots	Under construction	Immediately S
Lexington Woods	66 single-family lots	Proposed	0.25 mile S
Anoka-Hennepin Elementary School	New Elementary School	Constructed	0.75 mile S
Revere Park	44 townhomes	Under construction	0.75 mile S
Kwik Trip	Convenience Store	Constructed	1.0 mile S
KinderCare	Child Care Learning Center	Constructed	1.0 mile S
Mill Pond Residential	93 single-family lots	Under construction	Immediately SE
Oakwood Ponds Residential	167 single-family lots, 44 detached townhomes	Under construction	Immediately SE
Woodridge Residential	56 single-family lots	Under construction	Immediately SE
Parkside North Residential	129 single-family lots, 50 detached townhomes	Constructed	0.5 mile S
Preserve at Legacy Creek	32 single-family lots	Constructed	1 mile W

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.

Potential cumulative effects on public infrastructure relate to municipal water supply systems, sanitary sewer systems, stormwater management systems, and traffic and transportation systems. The City of Blaine has planned for continued growth and expanded infrastructure system capacity to address these effects and serve anticipated future projects. The City of Blaine 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 anticipated future projects on natural resources depend on the type, density, and location of future developments. Potential effects on natural resources such as wetlands and wildlife habitat typically vary with project location and the extent of habitat diversity. Effects of the project on wetlands, vegetation communities, and wildlife resources may combine with effects of nearby concurrent projects to result in local and subtle cumulative effects.

Cumulative effects of suburban development on natural resources can include the loss of agricultural land and the loss and fragmentation of wildlife habitat. Surface water runoff from the project area will flow to Coon Creek and ultimately to the Mississippi River. Requirements for stormwater management and erosion and sediment control are expected to minimize cumulative effects of post-development runoff on downstream waters. Regulations of the City of Blaine and other government agencies require the stormwater mitigation measures discussed in this EAW. These mitigation

measures are expected to minimize cumulative effects of post-development runoff on downstream waters.

The project will contribute to and be affected by cumulative effects related to climate change. In Minnesota, climate change has caused increased heat, precipitation events, flooding, and growing season days. These trends will continue and increase until climate change is reversed. Effects of climate change on future residents of the project area could include flooding; increased maintenance of roads, storm sewers, and drainage routes; increased human heat stress and health issues; high pollen counts; and decreased need for irrigation. Increased heat could also affect construction practices such as roofing. Undesirable pests such as deer ticks and fungal infections could increase due to climate change. Some climate change impacts, such as extreme drought, coastal flooding, and shortages of food and water, are not expected to severely affect the proposed project.

Climate change impacts are incremental and cumulative in nature. Just as the project will be impacted by climate change, the project will also contribute to climate change impacts through emission of greenhouse gases (GHG). GHG emissions are discussed under **Item 16.a.** of this EAW.

20. 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 the 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 development of the project area. Potential environmental effects have been addressed in **Items 1** through **19**.

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 _____

Title _____

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Figures 1 – 9

Lexington Waters Residential Development EAW

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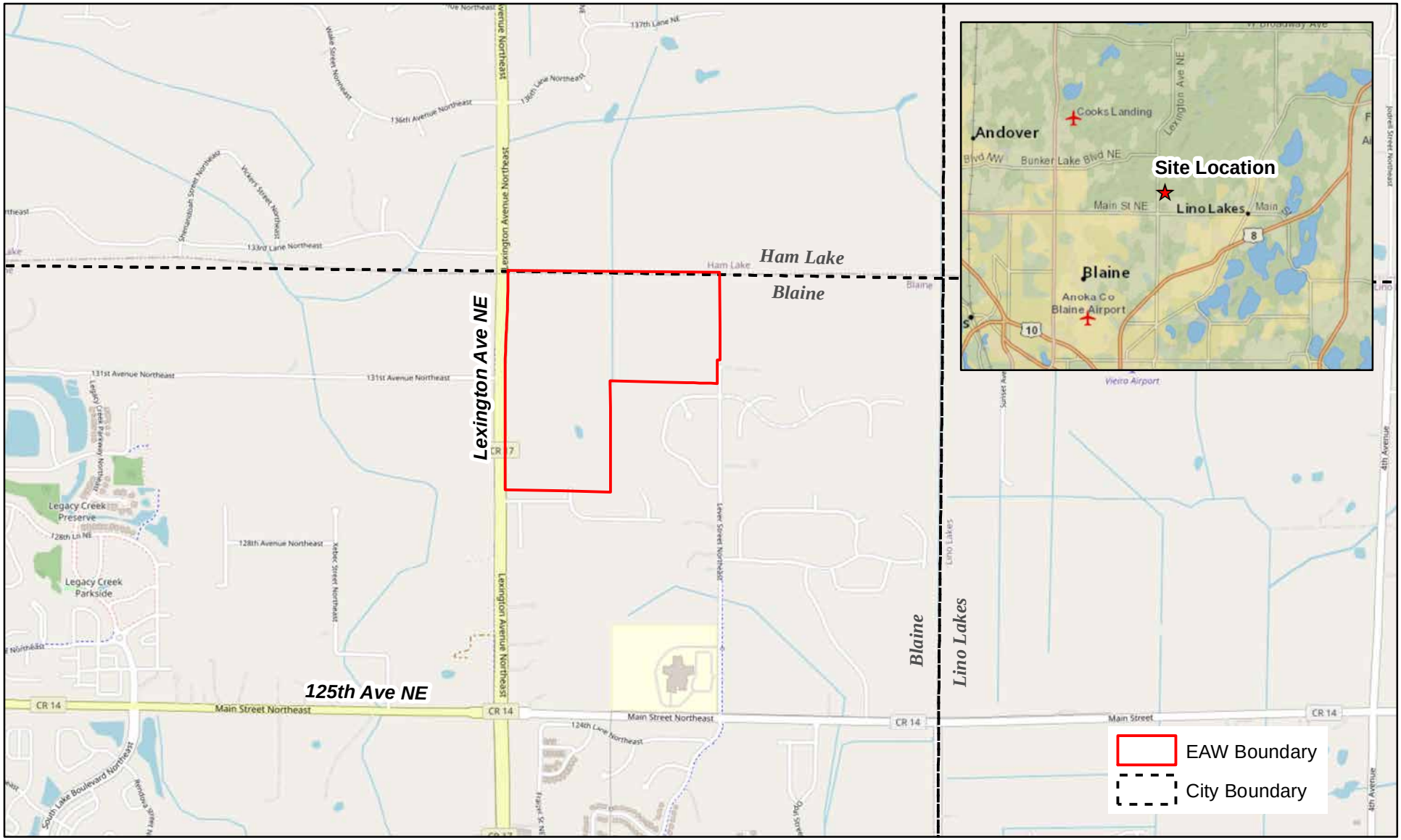

Figure 1 - Project Location

N

0 1,650 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: ESRI Open Streets Basemap, National Geographic

Lexington Waters Residential Development (KES 2021-174)
Blaine, Minnesota

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

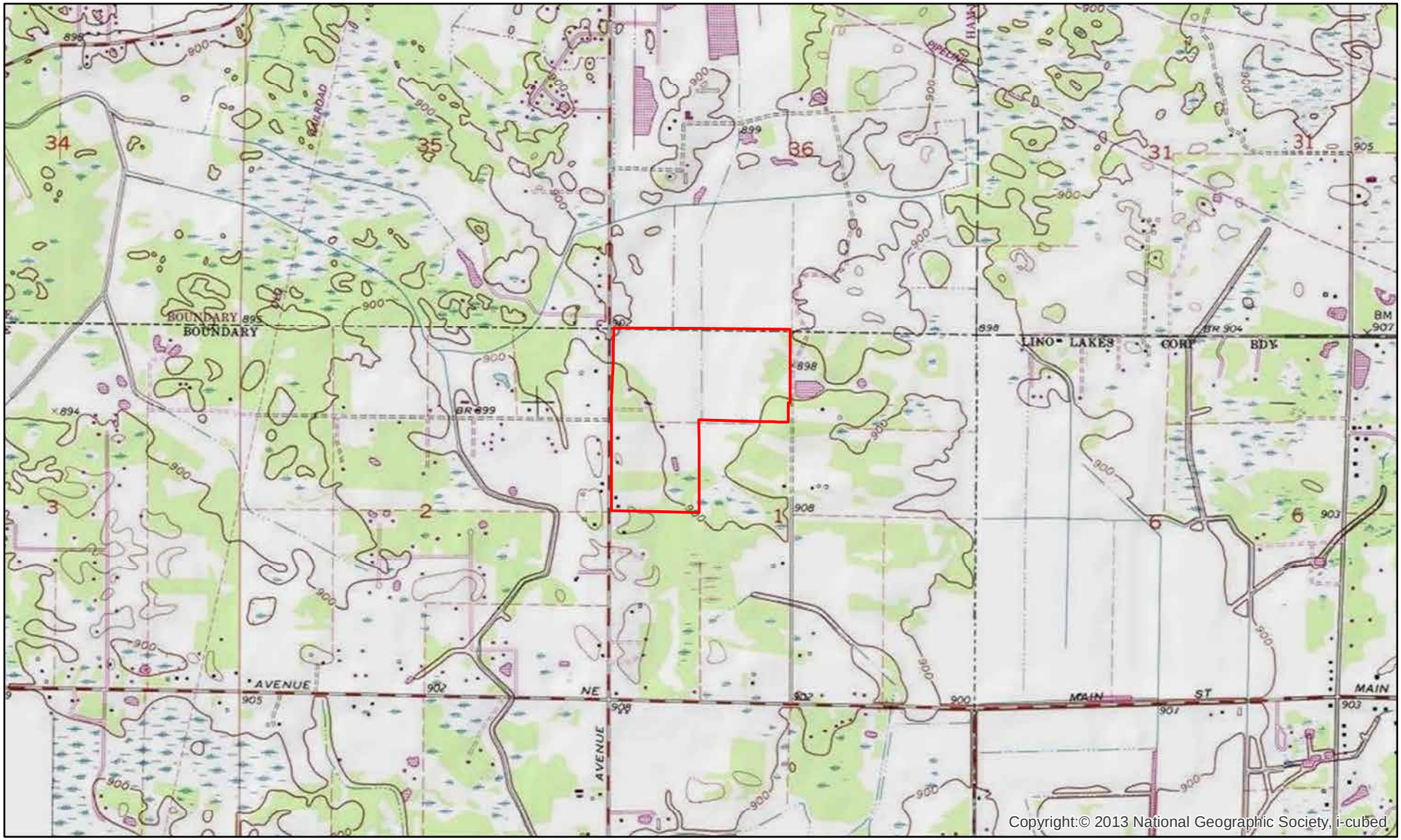

Figure 2 - USGS Topography

N

0 2,000 Feet

EAW Boundary

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: USGS

Lexington Waters Residential Development (KES 2021-174)
Blaine, Minnesota

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

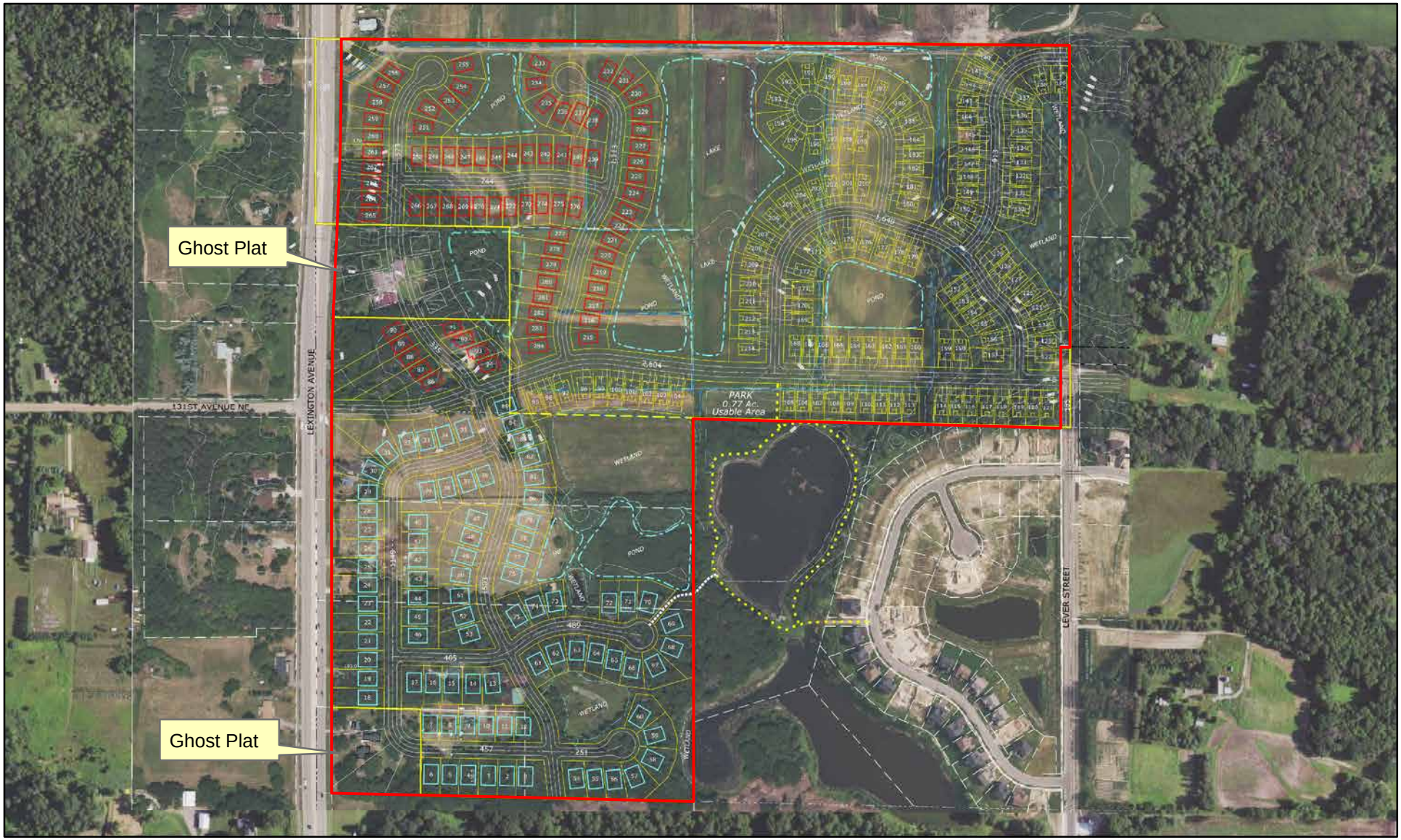

Figure 3 - Proposed Site Plan

N

0 485 Feet

EAW Boundary

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: Carlson McCain

Lexington Waters Residential Development (KES 2021-174)
Blaine, Minnesota

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

Figure 4 - Existing Cover Types

N

0 480 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: Carlson McCain, Kjolhaug Environmental

Lexington Waters Residential Development (KES 2021-174)
Blaine, Minnesota

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

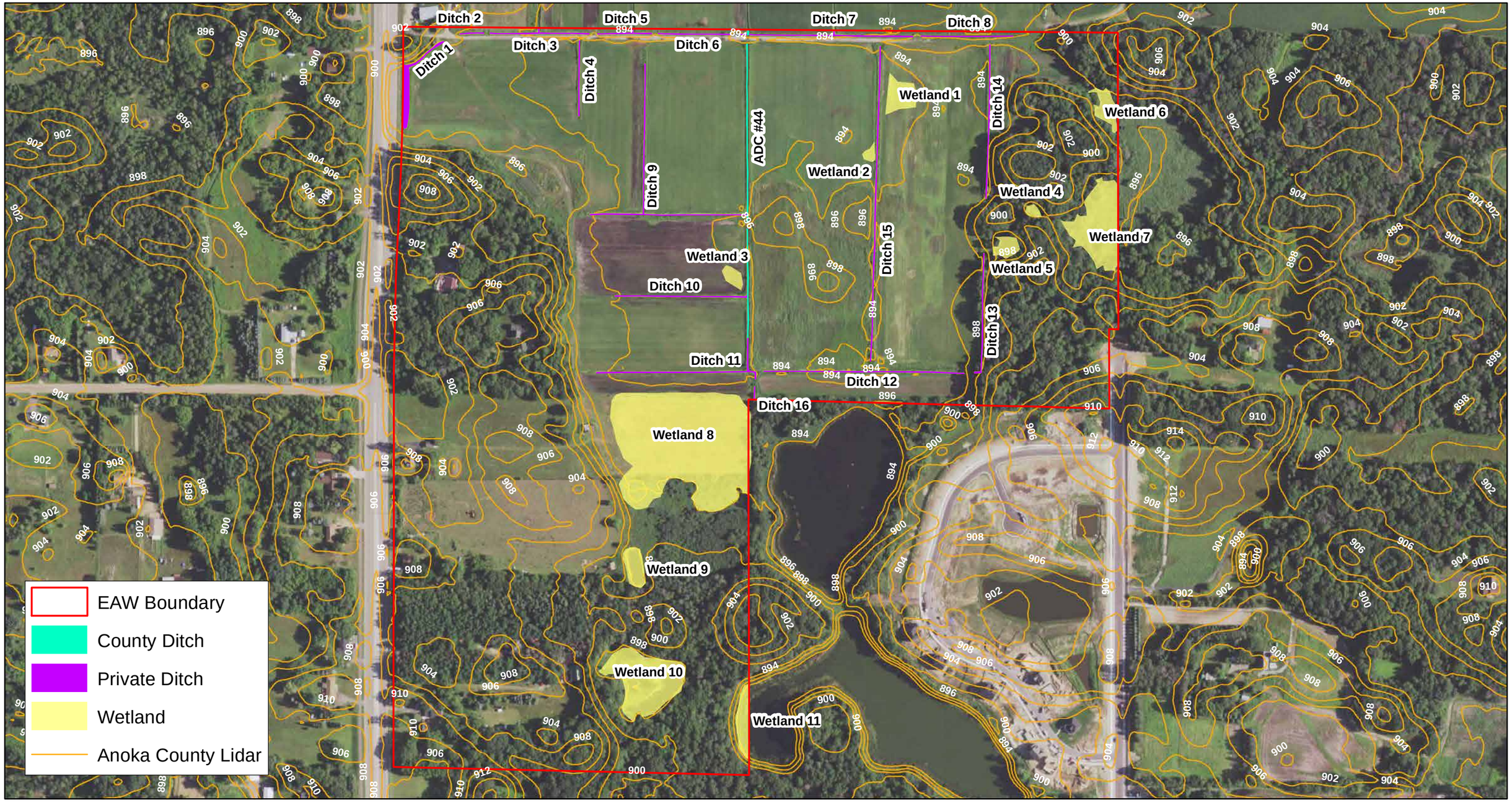

Figure 5 - Wetlands and Ditches

N

0 480 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: Carlson McCain, Kjolhaug Environmental

Lexington Waters Residential Development (KES 2021-174)
Blaine, Minnesota

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

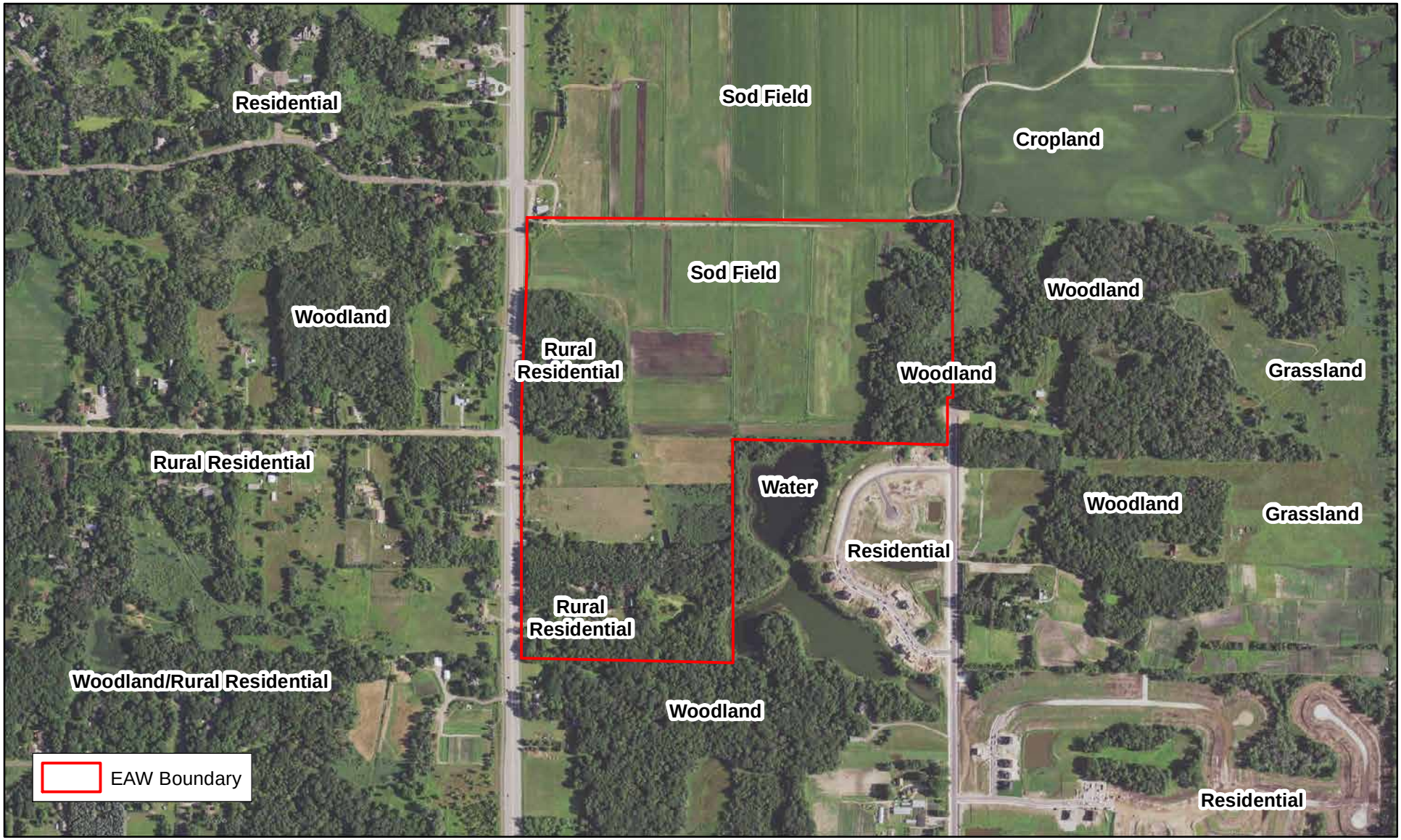

Figure 6 - Existing Land Use

N

0 830 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: Mn GeoCommons

Lexington Waters Residential Development (KES 2021-174)
Blaine, Minnesota

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

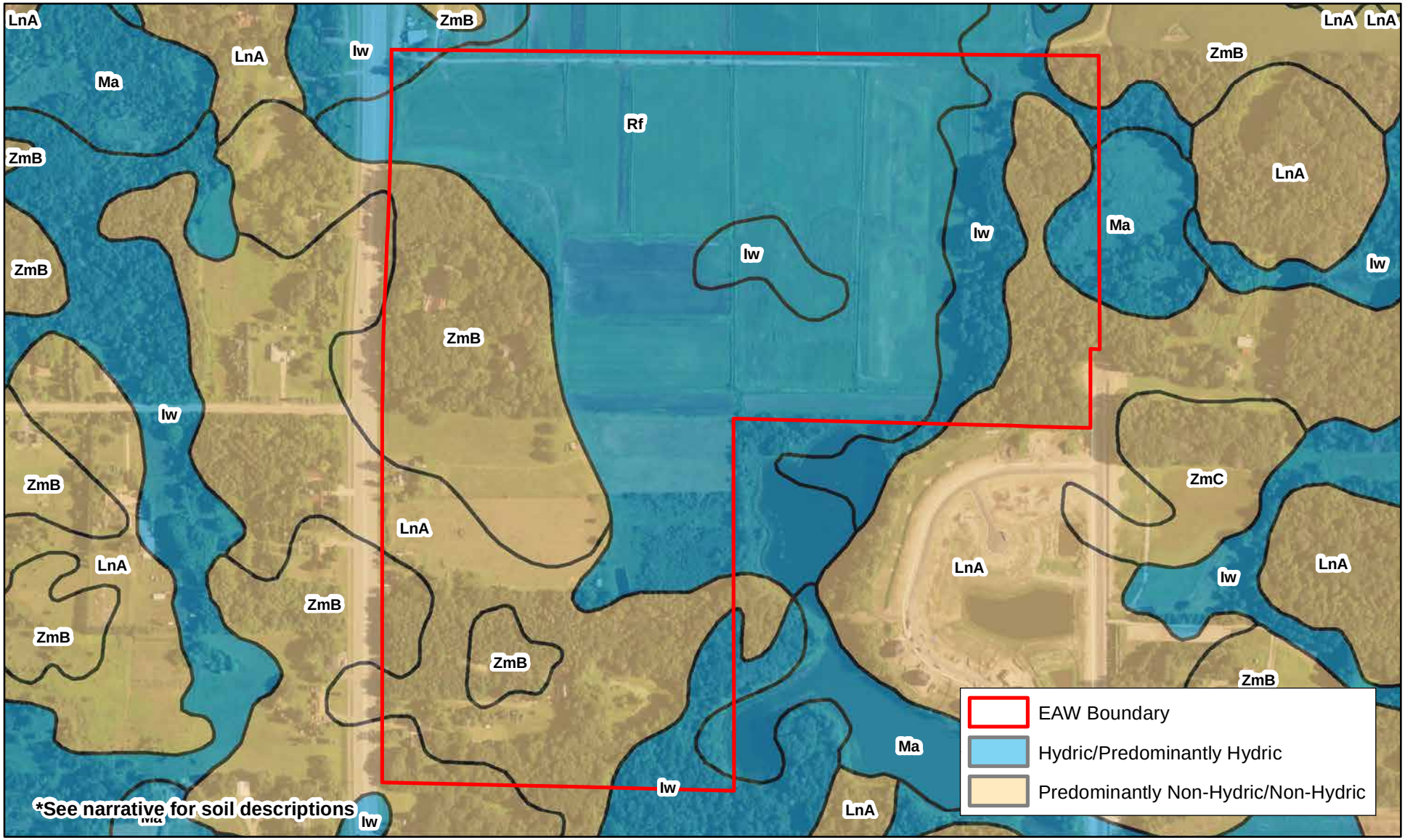

Figure 7 - Soil Survey

N

0 500 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USDA, NRCS

Lexington Waters Residential Development (KES 2021-174)
Blaine, Minnesota

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

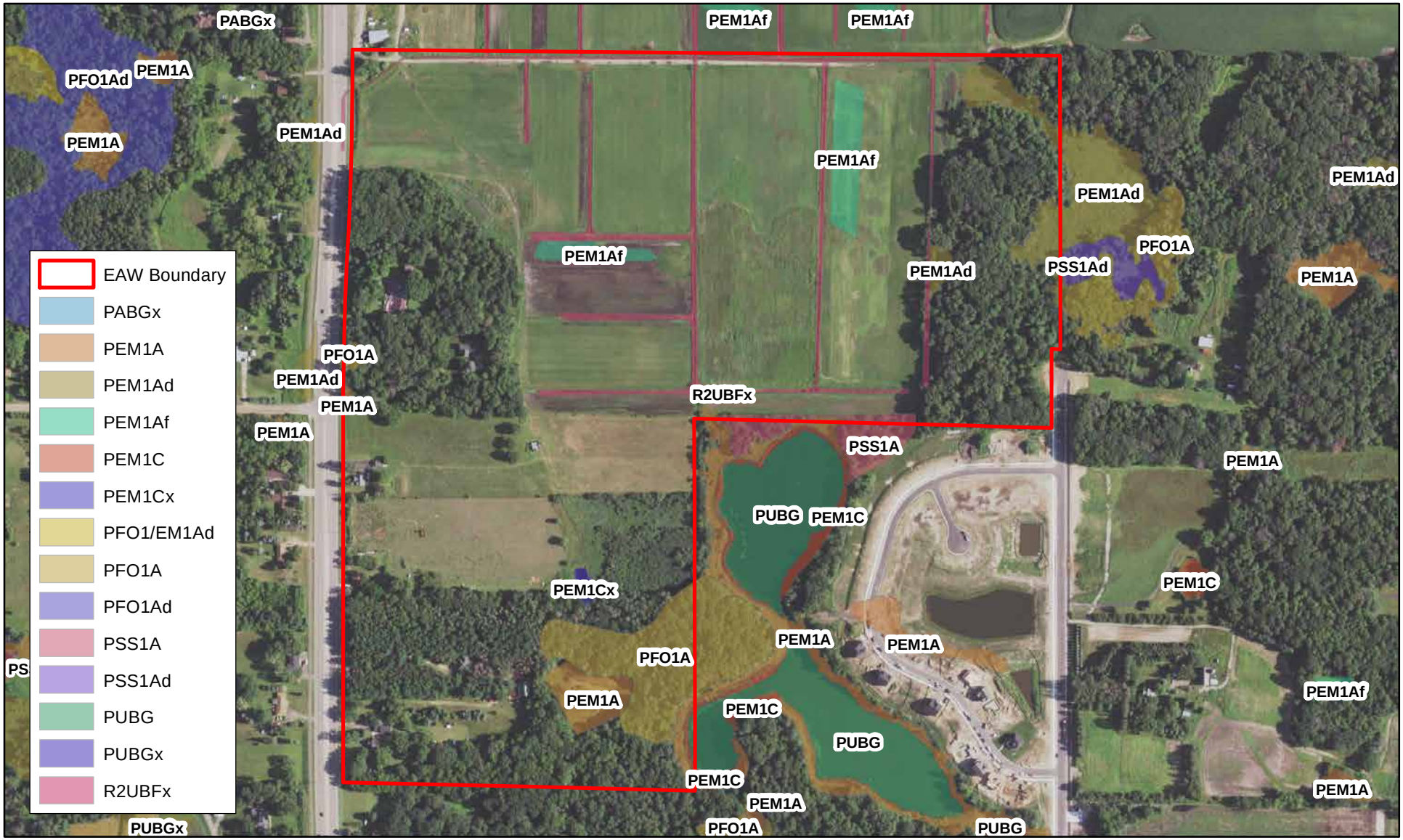

Figure 8 - National Wetlands Inventory

N

0 500 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USFWS

Lexington Waters Residential Development (KES 2021-174)
Blaine, Minnesota

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

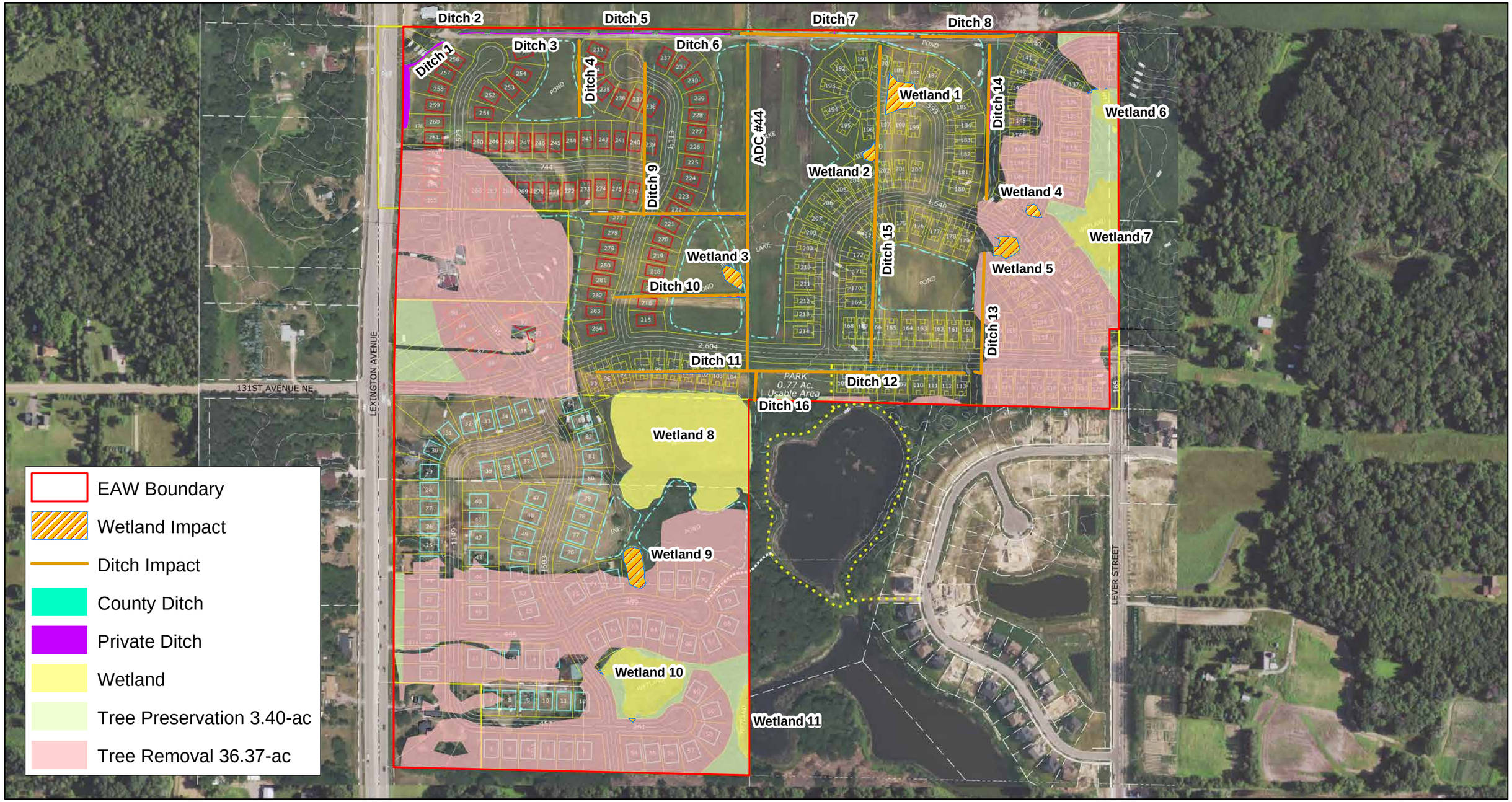

Figure 9 - Wetland Impacts and Tree Removal

N

0 480 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: Carlson McCain, Kjolhaug Environmental

Lexington Waters Residential Development (KES 2021-174)
Blaine, Minnesota

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

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Appendix A
Site Plan

Lexington Waters Residential Development EAW

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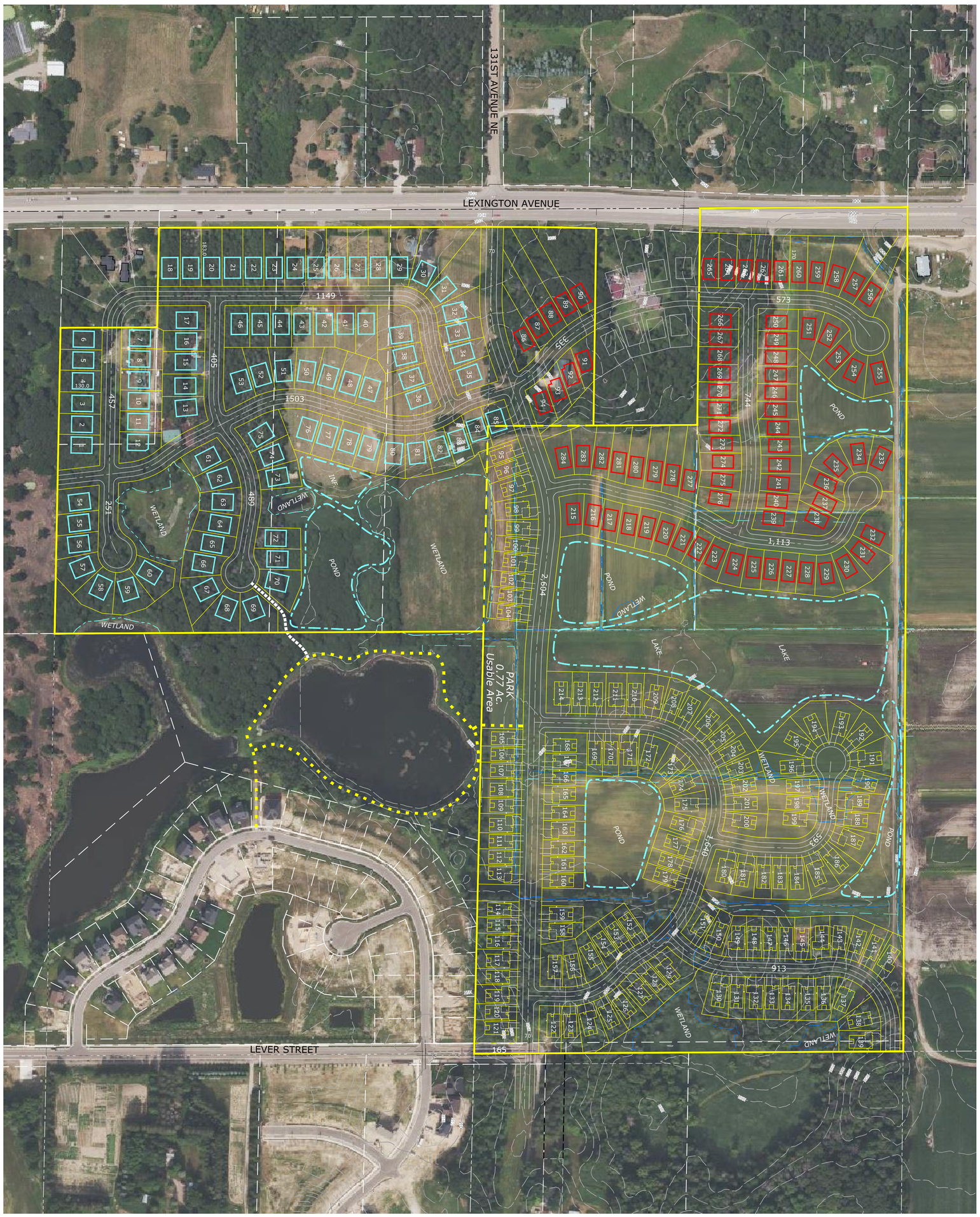

SETBACK DETAILS

	25' SINGLE FAMILY LOTS	65' SINGLE FAMILY LOTS	50' & 60' DETACHED TOWNHOMES
FRONT:	25 FT.	25 FT.	25 FT.
SIDE:	7.5 FT./7.5 FT.	7.5 FT./7.5 FT.	5 FT./5 FT.
REAR:	30 FT.	30 FT.	30 FT.
CORNER:	20 FT.	20 FT.	20 FT.

SITE DATA

TOTAL SITE AREA	±110.38 AC.
TOTAL NUMBER OF LOTS	284
55' SINGLE FAMILY LOTS	70
65' SINGLE FAMILY LOTS	94
50' DETACHED TOWNHOME LOTS	81
60' DETACHED TOWNHOME LOTS	39
TOTAL CENTERLINE LENGTH	12,934 LF.

1 of 1

REVIEW COPY

REVISIONS
1. 02/19/2021 City Comments:
2. 03/11/2021 Rev'd layout:
3.
4.
5.
6.

DRAWN BY: C#
ISSUE DATE: 02/18/2021
FILE NO: XXX

THE EXCELSIOR GROUP
1660 Hwy 100 South, Suite 400
St. Louis Park, Minnesota 55416

CONCEPT PLAN

LEXINGTON WATERS
Blaine, Minnesota

CARLSON McCAIN
ENGINEERING
SURVEYING
ENVIRONMENTAL

3890 PHEASANT RIDGE DRIVE NE, SUITE 100, BLAINE, MN 55449
TEL 763.489.7900 \ FAX 763.489.7959 \ CARLSONMCCAIN.COM

Save Date: 03/11/21 | F:\jobs\8661 - 8680\8664 - breen site - blaine\cad c3d\survey\teg blaine dev cpt plan2.dwg

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Appendix B

Wetland Hydrology Study and Wetland Boundary Approvals

Lexington Waters Residential Development EAW

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Neumann / Almberg Site

Blaine, Anoka County, Minnesota

Wetland Delineation Report

Coon Creek Watershed District Comment Summary

On September 8, 2020, comments were provided by Coon Creek Watershed District on the Neumann/Almberg Site Wetland Delineation Report (submitted August 21, 2020). Those comments have been included below, with responses shown in blue.

1. We are missing the data from 2019.
    a. Data from 2019 has been provided in Appendix E.
2. We are missing the data from 6/12/20 through the end of the 2020 growing season.
    a. The graphs shown in this revised report include the data through the end of the 2020 growing season.
3. Well 22 data is missing from Figure G2.
    a. Figure G2 has been revised to include the data for Well 22.
4. The report does not contain an Offsite Hydrology review. We requested antecedent precipitation for the aerials from the 2/4/19 proposal.
    a. Recent aerial images with precipitation information have been included as Appendix C.
5. I don't have record that we received the well diagram/schematic.
    a. A well diagram has been included as Appendix B.
6. It's unclear which wells have a max depth of 15".
    a. Well pipe riser heights and screen lengths are shown in **Table 3** of the report.
7. Did you install stilling wells at the staff gauge locations and at the outlet as discussed on 2/13/19?
    a. Hydrology within the County Ditch onsite was monitored throughout the growing season with an electronic water level logger (Well 5).
8. Determination Data Form locations are not depicted on the wetland delineation exhibit.
    a. Determination Data Form locations have been included on the revised exhibit.
9. Localized drought conditions were present in the spring when water tables and wetland hydrology typically meet the hydrology standards. Normal spring precipitation is needed for wetland hydrology determination 5 of 10 years.
    a. Seasonal precipitation conditions for the Neumann/Almberg Site have been discussed and compared with reference wetland data in **Section 4.5** of the report.

Neumann / Almberg Site

Blaine, Anoka County, Minnesota

Wetland Delineation Report

Prepared for

The Excelsior Group

by

Kjolhaug Environmental Services Company, Inc.
(KES Project No. 2018-176)

November 6, 2020

Neumann / Almberg Site

Blaine, Anoka County, Minnesota

Wetland Delineation Report
TABLE OF CONTENTS

FIGURES

APPENDICES

Neumann / Almberg Site

Blaine, Anoka County, Minnesota

Wetland Delineation Report

1. WETLAND DELINEATION SUMMARY

- A hydrology study to delineate the extent of wetland within a drained peatland was performed on the 67.7-acre Neumann / Almberg Site during the 2019 and 2020 growing seasons. Electronic and manual water table readings were collected and evaluated to determine whether the Wetland Hydrology Technical Standard was met.
- The National Wetlands Inventory (NWI) map showed two PEM1Af wetlands within the sod fields, R2UBFx wetlands corresponding to the excavated ditches, two PEM1Ad wetlands on the eastern portion of the property outside of the sod fields, and one PSS1A/PEM1A wetland present along the southern property boundary.
- The soil survey showed Rifle Mucky Peat (Hydric) as the main hydric soil type mapped on the property. Isanti (Predominantly Hydric) and Markey (Hydric) soil units were present in lesser amounts.
- The DNR Public Waters Inventory showed no DNR Public Waters, DNR Public Wetlands or DNR Public Waterways within 1000’ of the site boundaries.
- The National Hydrography Dataset showed numerous Canal/Ditch features corresponding to private lateral ditches as well as Anoka County Ditch No. 44.
- Five wetlands were identified on the Neumann / Almberg Site based upon hydrology monitoring data and onsite fieldwork. Namely, 3 monitoring wells (7, 13 and 16) met the wetland hydrology technical standard. A site visit on July 8, 2020 delineated the extent of hydrophytic vegetation surrounding these wells, as well as slightly depressional topography. Characteristics of delineated wetlands are summarized in **Table 1** on the following page.

Table 1. Wetlands delineated on the Neumann / Almberg Site

Wetland ID	Wetland Type			Dominant Vegetation
	Circular 39	Cowardin	Eggers and Reed	
1	Type 2	PEM1Bd	Partially drained wet meadow	Disturbed vegetation due to sod farming. Kentucky bluegrass with a lesser amount of sedges, crabgrass, mouse-ear chickweed, common purslane, white clover, common plantain, lady's thumb, red clover, rough cinquefoil and dwarf St. John's wort
2	Type 2	PEM1Bd	Partially drained wet meadow	Disturbed vegetation due to sod farming. Kentucky bluegrass with a lesser amount of softstem bulrush, crabgrass, reed canary grass, swamp milkweed, blue vervain and cattail
3	Type 2	PEM1Bd	Partially drained wet meadow	Disturbed vegetation due to sod farming. Kentucky bluegrass with a lesser amount of smooth hawk's beard, crabgrass, lady's thumb, mouse-ear chickweed, dwarf St. John's wort, fowl bluegrass, sedges and annual ragweed
4	Type 2	PEM1Bd	Partially drained wet meadow	Disturbed vegetation due to sod farming, however this area was tilled and sparsely vegetated with smartweed, reed canary grass, lesser amount of woolgrass and foxtail barley.
5 (Ditches)	Type 3	PEM1Cx	Shallow marsh	Linear, excavated ditches with side slopes dominated by reed canary grass.

2. OVERVIEW

The 67.7-acre Neumann / Almberg Site was monitored throughout the 2019 and 2020 growing seasons to assess the hydrology of a sod field comprising the central portion of the site. The site was located in Section 1, Township 31 North, Range 23 West, City of Blaine, Anoka County, Minnesota. The site was situated east of Lexington Avenue Northeast and north of 125th Avenue Northeast (**Figure 1**). The site corresponded to Anoka County PID#s: 01-31-23-21-0001, 01-31-23-22-0001 and 01-31-23-22-0004. ***Wetlands on the eastern portion of the site were described in a separate report (Almberg Site East, copies available upon request).***

The site consisted of drained sod fields in the center with areas of woodland on the western and eastern portions of the site. The topography sloped from an elevation of 910 ft MSL in the southeastern portion of the site down to a low of 894 ft MSL within the central portion of the site. Surrounding land use consisted of single-family housing developments and sod fields. The site is currently used as a sod field, with adjacent sod fields, housing developments, woodland and agricultural uses present surrounding the site. The existing conditions of the site are shown on **Figure 2**.

The purpose of this report is to provide the results of hydrology monitoring during 2020, and apply for wetland delineation concurrence on the Neumann / Almberg Site. **Appendix A** of this report includes a Joint Application Form for Activities Affecting Water Resources in Minnesota, which is submitted in request for a wetland boundary and type determination under the Minnesota Wetland Conservation Act (WCA).

This report utilizes the methods described in the 2019 Neumann / Almberg Site – Proposed Hydrology Study for Delineation Concurrence Memorandum submitted by Kjolhaug Environmental Services (KES) on February 4, 2019 (Copies available upon request). This additional information has been prepared at the request of the Technical Evaluation Panel and US Army Corps of Engineers staff to capture early season hydrology conditions with electronic water level data loggers. Monitoring methods and monitoring well locations were approved by the Coon Creek Watershed District and US Army Corps of Engineers staff prior to the start of 2019 monitoring.

Five wetlands were identified and delineated within the site boundaries. The wetland boundaries and existing conditions are shown on **Figure 2.**

3. METHODS

3.1 Wetland Hydrology Monitoring Methods

Monitoring Well Construction and Installation Methods

Hydrology monitoring locations were established in representative areas of the drained peatland onsite (**Figure 2**). Monitoring wells were installed by auguring to a depth of 50 inches (or shorter depending on peat depth) using a 3-inch diameter auger. Soils characteristics were evaluated and documented at each borehole location.

Monitoring Well Construction Materials

- Well pipes were constructed from schedule 40, 2-inch inside diameter PVC pipe, with an unslotted riser on the upper portion and a slotted PVC well screen on the lower portion. A monitoring well diagram has been included as **Appendix B**.
- Monitoring well pipes were wrapped with geotextile fabric to prevent sand or organic matter from bypassing the well screens.
- The top of the pipe risers (above ground portion) were covered by a loosely fitted, vented well cap.

- The bottom of well screen (below ground portion) was capped, and a drain hole was provided to prevent the cap from retaining water.
- Electronic water level loggers (HOBO MX 2001) were deployed within constructed monitoring wells at the specified locations at the start of the growing season.

Manual monitoring wells were created using the same construction methods as the electronic wells. Water table depths at manual monitoring well locations were measured throughout the spring season using a Solinst (Model 102M) water level meter.

Well construction methods were based on supplemental guidance documents provided by the Minnesota Board of Water and Soil Resources (2013 BWSR Hydrologic Monitoring of Wetlands) and the US Army Corps of Engineers St. Paul District (2006 Guidance on Design, Installation and Interpretation of Monitoring Wells for Wetland Hydrology Determinations).

Monitoring Well Installation Methods

- A 3-inch diameter auger was used to bore 50-inch deep (or shorter, depending on peat depth) holes to accommodate installation of monitoring wells.
- Monitoring wells were installed, and holes were backfilled with peat from the auger borehole and capped with bentonite.
- Monitoring wells were installed to a depth of 48 inches, with a 48-inch riser present above ground, except in areas where a 48-inch well would pierce through a textural change in soils. At those locations, monitoring wells were constructed in the field to be 2-3 inches shallower than the maximum depth of the peat soils in order to avoid piercing into the underlying sandy soils.
- Electronic water level loggers were configured to record water levels twice per day. Data from electronic water level loggers was periodically checked for accuracy by comparison with adjacent manual monitoring well readings.

Hydrology Study and Survey Information

- Water level data was collected from 22 electronic data loggers and 8 manual monitoring wells at the locations shown on **Figure 2**.
- Manual monitoring well readings were taken weekly or biweekly from the start of the growing season through mid-June at the locations shown on **Figure 2**.
- Staff gauges were installed at the locations shown on **Figure 2**, with gauges reading 0.0 at the soil surface in the bottom of the ditch. Measurements were taken weekly or biweekly from the start of the growing season through mid-June.
- Vegetation communities present within the future project limits, as well as the remainder of the site, were identified and mapped.
- Water level measurements were compared with the Wetland Hydrology Technical Standard, which requires a water table within 12 inches of the soil surface for a minimum of 14 consecutive days during the growing season. Areas meeting the Wetland Hydrology Technical standard were determined to be wetland.

Daily well readings (2 per day) stored within data loggers were periodically downloaded using the Bluetooth feature in combination with the HOBOmobile application. KES conducted monitoring visits during 2020 on March 31st, April 7th, April 21st, April 29th, May 6th, May 14th,

May 21st, May 29th, June 12th, June 18th and July 8th to collect electronic monitoring well data and check manual monitoring wells.

Weir Installation

As required by CCWD, two weirs were fully installed by May 20, 2019 within ACD 44 and also a private ditch to the west of ACD 44 (**Figure 2**) by Dirtworks. Surveyors with Carlson McCain subsequently confirmed the top elevations for both structures to be 891.3-ft.

3.2 Wetland Delineation

Wetlands were identified based on the Wetland Hydrology Technical Standard utilizing monitoring well data collected in accordance with supplemental guidance documents provided by the Minnesota Board of Water and Soil Resources (2013 BWSR Hydrologic Monitoring of Wetlands) and the US Army Corps of Engineers St. Paul District (2006 Guidance on Design, Installation and Interpretation of Monitoring Wells for Wetland Hydrology Determinations).

Wetland boundaries were identified as the upper-most extent of wetland that met criteria for hydric soils, hydrophytic vegetation, and wetland hydrology. The wetland-upland boundaries were located using a Trimble R1 GNSS Receiver GPS unit. Wetland boundaries will be added to the Existing Conditions Survey pending regulatory confirmation.

Soils, vegetation, and hydrology were documented at a representative location along the wetland-upland boundary. Plant species dominance was estimated based on the percent aerial or basal coverage visually estimated within a 30-foot radius for trees and vines, a 15-foot radius for the shrub layer, and a 5-foot radius for the herbaceous layer within the community type sampled.

Soils were characterized to a minimum depth of 24 inches (unless otherwise noted) using a Munsell Soil Color Book and standard soil texturing methodology. Hydric soil indicators used are from Field Indicators of Hydric Soils in the United States (USDA Natural Resources Conservation Service (NRCS) in cooperation with the National Technical Committee for Hydric Soils, Version 7, 2010).

Mapped soils are separated into five classes based on the composition of hydric components and the Hydric Rating by Map Unit color classes utilized on Web Soil Survey. The five classes include Hydric (100 percent hydric components), Predominantly Hydric (66 to 99 percent hydric components), Partially Hydric (33 to 65 percent hydric components), Predominantly Non-Hydric (1 to 32 percent hydric components), and Non-Hydric (less than one percent hydric components).

Plants were identified using standard regional plant keys. Taxonomy and indicator status of plant species was taken from the 2017 National Wetland Plant List (U.S. Army Corps of Engineers 2017. National Wetland Plant List, version 3.3, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH).

4. RESULTS

4.1 Review of NWI, Soils, Public Waters and NHD Information

The National Wetlands Inventory (NWI) (Minnesota Geospatial Commons 2009-2014 and U.S. Fish and Wildlife Service) showed two PEM1Af wetlands within the sod fields, R2UBFx wetlands corresponding to the excavated ditches, two PEM1Ad wetlands on the eastern portion of the property outside of the sod fields, and one PSS1A/PEM1A wetland present along the southern property boundary (**Figure 3**).

The Soil Survey (USDA NRCS 2015) showed Rifle Mucky Peat (Hydric) as the main hydric soil type mapped on the property. Isanti (Predominantly Hydric) and Markey (Hydric) soil units were present in lesser amounts. Soil types mapped on the property are listed in **Table 2** below and a map showing soil types is included in **Figure 4**.

Table 2. Soil types mapped on the Neumann / Almberg Site

Symbol	Soil Name	Acres	% of Area	% Hydric	Hydric Category
Rf	Rifle mucky peat	46.63	68.87	100	Hydric
Iw	Isanti fine sandy loam	9.95	14.70	93	Predominantly Hydric
LnA	Lino loamy fine sand, 0 to 4 percent slopes	7.23	10.68	5	Predominantly Non-Hydric
ZmB	Zimmerman fine sand, 1 to 6 percent slopes	2.47	3.65	2	Predominantly Non-Hydric
Ma	Markey muck, occasionally ponded, 0 to 1 percent slopes	1.45	2.14	100	Hydric

The Minnesota DNR Public Waters Inventory (Minnesota Department of Natural Resources 2015) showed no DNR Public Waters, DNR Public Wetlands or DNR Public Waterways within 1000' of the site boundaries (**Figure 5**).

The National Hydrography Dataset (U.S. Geological Survey 2015) showed numerous Canal/Ditch features corresponding to Anoka County Ditch No. 44 and private lateral ditches (**Figure 6**).

4.2 Offsite Hydrology Review

Discussion

Recent aerial imagery with antecedent precipitation conditions has been included as **Appendix C**. Section 2. (Applicability) of the BWSR/USACE 2016 Guidance for Offsite Hydrology/Wetland Determinations states the following:

"Although the procedures and data sources described in this document can be used in a variety of situations, they are most useful for interpreting wetland hydrology in agricultural areas. In general, review of aerial imagery for assessing wetland hydrology is more accurate in agricultural fields that are

regularly planted with annually seeded row crops. The soil is bare early in the growing season and crops such as corn and soybeans are intolerant of poor soil drainage. These fields will often show signs of crop stress, standing water or drowned out crops in summer aerial imagery when wetland hydrology is present. An aerial imagery review for signs of crop stress due to wetness is typically not as reliable for fields planted in perennial forage crops compared to those planted to annual row crops, depending on a number of factors discussed later. There are also some situations where aerial imagery review can provide useful information in areas that are not cropped or hayed, such as pastures and naturally vegetated seasonally flooded/saturated wetlands (with appropriate caution). However, greater emphasis should be placed on other data sources (e.g. those listed in the 87 Manual and Regional Supplements) in these situations."

Given that the Neumann / Almberg Site has been utilized for sod farming and not farming of conventional row crops, greater reliance was placed on other data sources including hydrology monitoring data to evaluate wetland hydrology.

4.3 Hydrology Monitoring Results

2020 Monitoring Summary

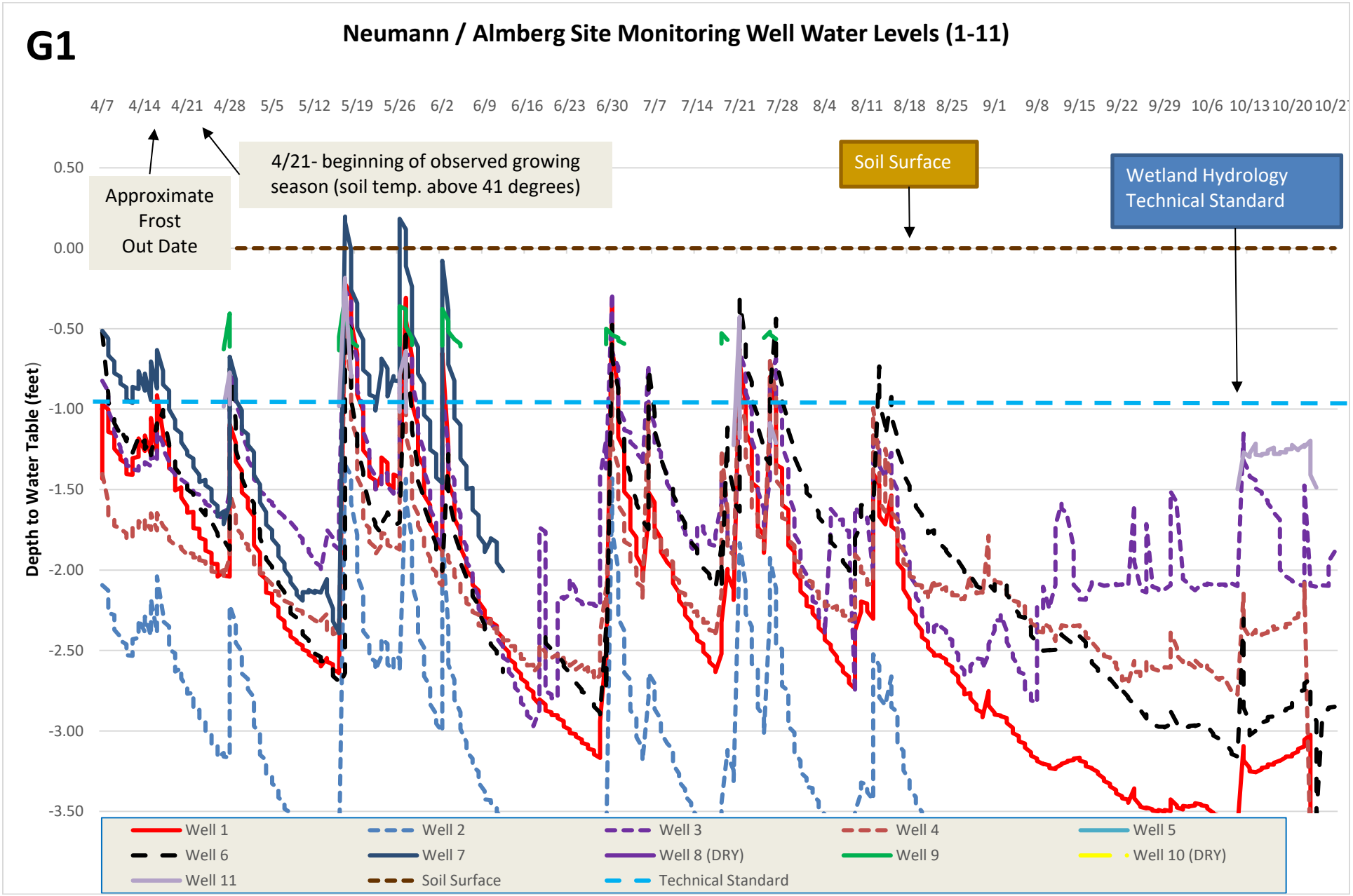
The monitoring well locations on the Neumann / Almberg Site are shown on **Figure 2**. Monitoring well data has been aggregated and summarized for the spring and early summer of 2020. Measurement results are illustrated **Graphs 1, 2 and 3** on the following pages, with early season precipitation conditions included for reference in **Graph 4**. A summary of precipitation information, as well as the Precipitation from Gridded Database method are included in **Appendix D**. A summary table of Precipitation from Gridded Database Method (3-month antecedent) has been included below in **Table 3**.

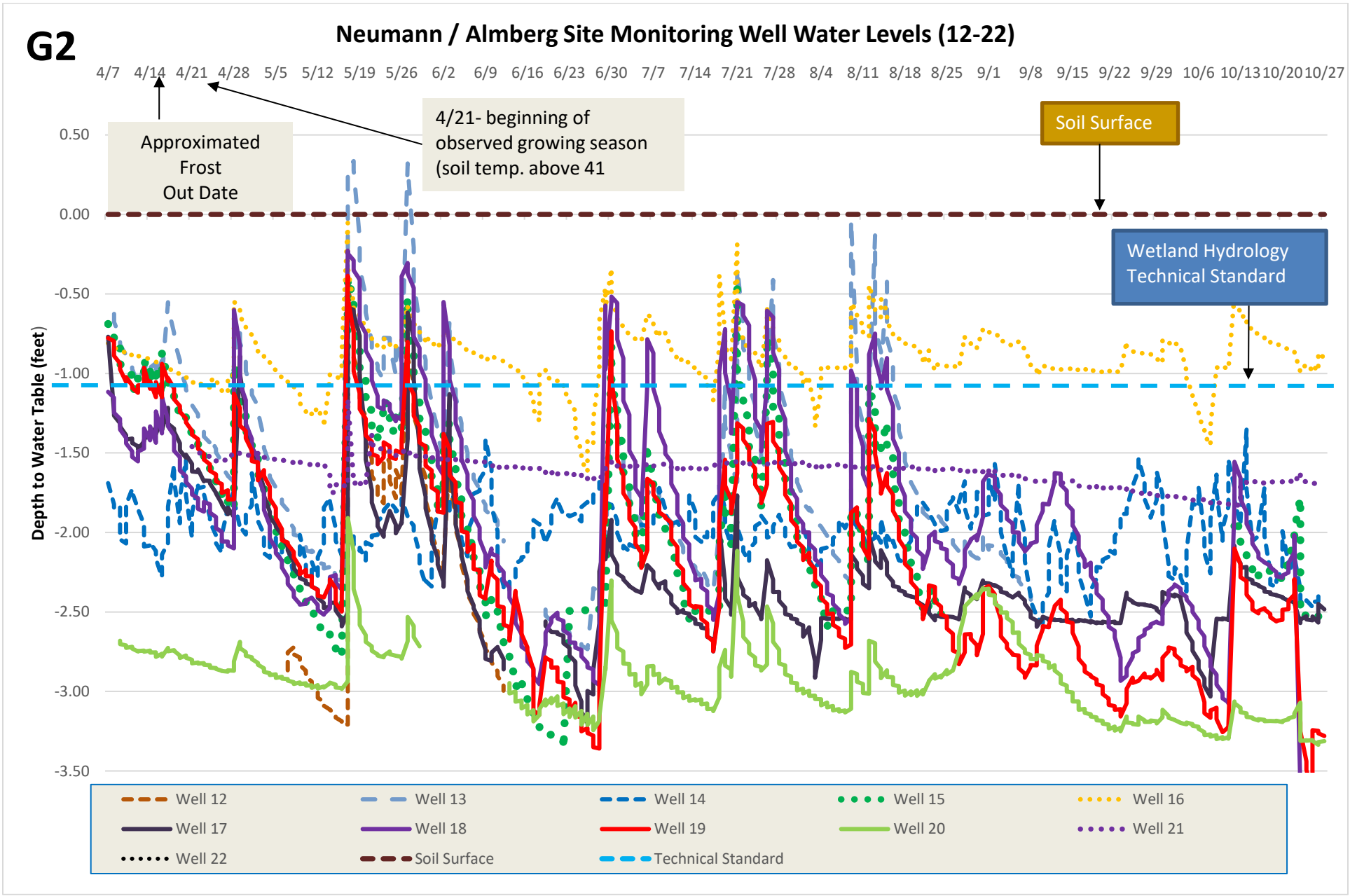
Table 3. Precipitation from Gridded Database 2019 and 2020 Summary

Neumann/Almberg Site Precipitation Analysis Using Gridded Database		
Month	**2019 Gridded Database Result**	**2020 Gridded Database Result**
April	WET	NORMAL
May	WET	NORMAL
June	WET	NORMAL
July	NORMAL	NORMAL
August	NORMAL	NORMAL
September	NORMAL	NORMAL
October	WET	DRY
November	WET	NORMAL

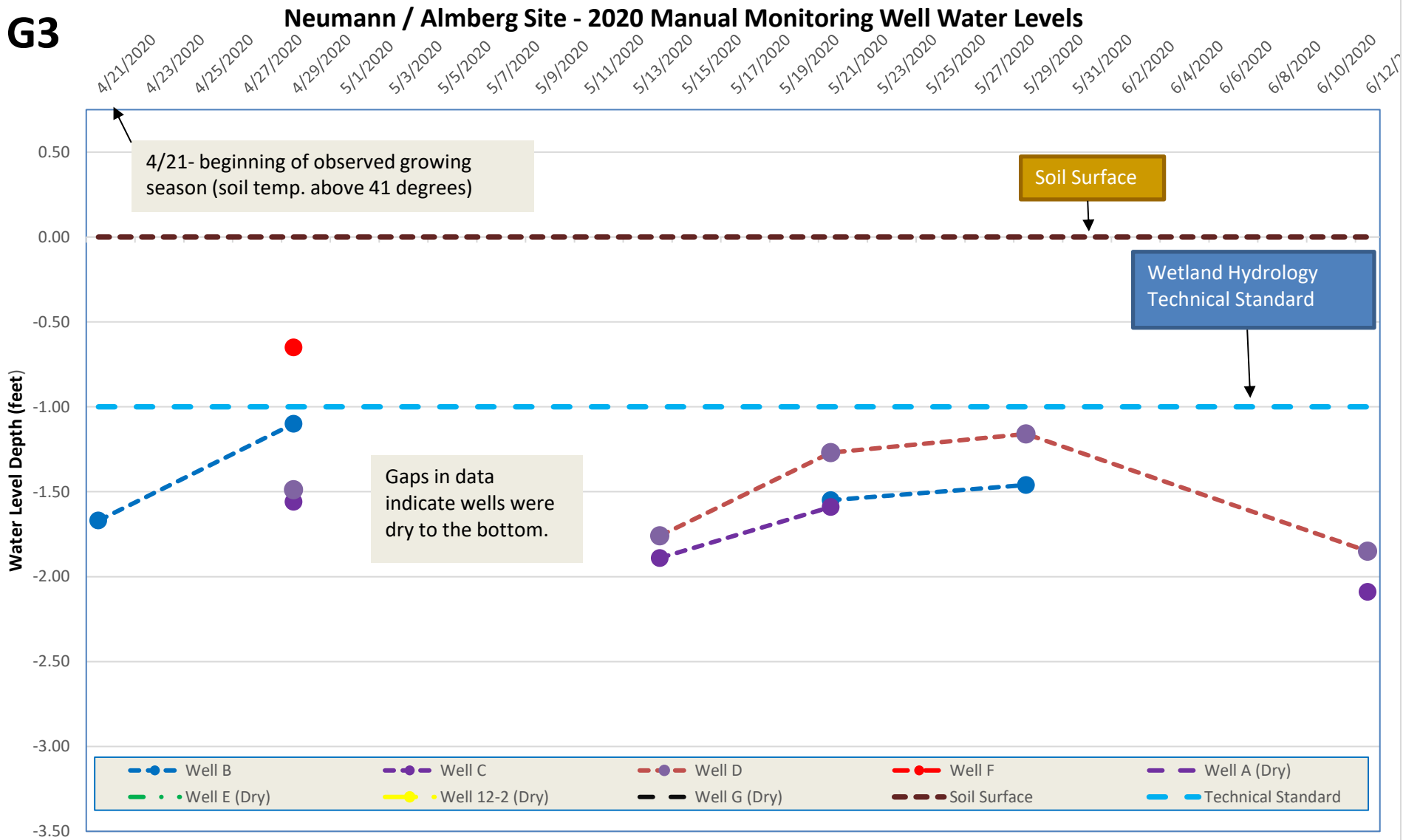
As shown in **Table 3** above, 3-month antecedent precipitation conditions were normal for every month to date during 2020 except October. Therefore, 2020 appears to represent typical precipitation conditions for Neumann / Almberg Site.

G1

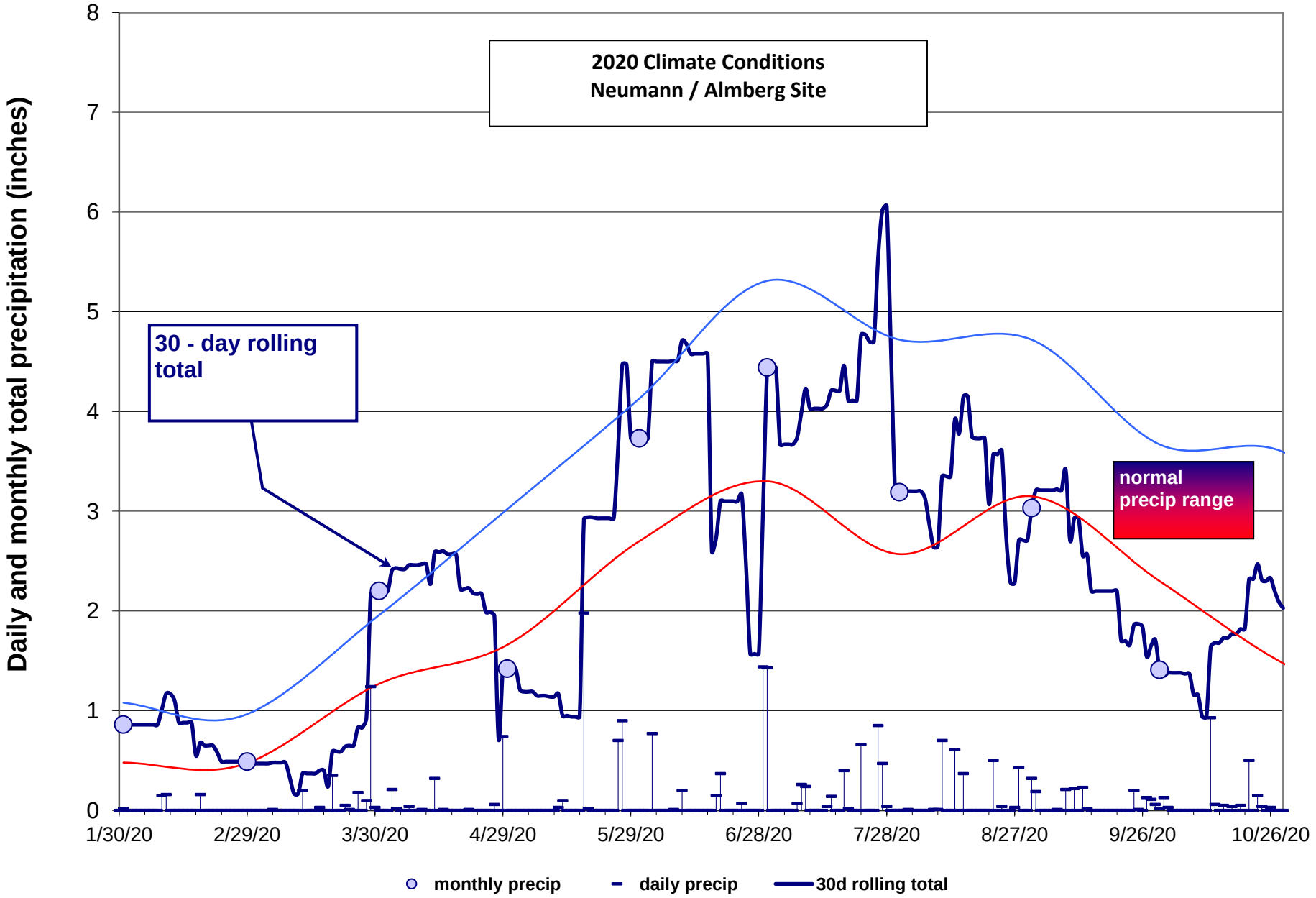

Neumann / Almberg Site Monitoring Well Water Levels (1-11)
4/7 4/14 4/21 4/28 5/5 5/12 5/19 5/26 6/2 6/9 6/16 6/23 6/30 7/7 7/14 7/21 7/28 8/4 8/11 8/18 8/25 9/1 9/8 9/15 9/22 9/29 10/6 10/13 10/20 10/27
0.50
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
Depth to Water Table (feet)
Approximate Frost Out Date
4/21- beginning of observed growing season (soil temp. above 41 degrees)
Soil Surface
Wetland Hydrology Technical Standard
Well 1
Well 2
Well 3
Well 4
Well 5
Well 6
Well 7
Well 8 (DRY)
Well 9
Well 10 (DRY)
Well 11
Soil Surface
Technical Standard


G2
Neumann / Almberg Site Monitoring Well Water Levels (12-22)
4/7 4/14 4/21 4/28 5/5 5/12 5/19 5/26 6/2 6/9 6/16 6/23 6/30 7/7 7/14 7/21 7/28 8/4 8/11 8/18 8/25 9/1 9/8 9/15 9/22 9/29 10/6 10/13 10/20 10/27
Approximated Frost Out Date
4/21- beginning of observed growing season (soil temp. above 41
Soil Surface
Wetland Hydrology Technical Standard
Depth to Water Table (feet)
0.50
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
Well 12
Well 13
Well 14
Well 15
Well 16
Well 17
Well 18
Well 19
Well 20
Well 21
Well 22
Soil Surface
Technical Standard

G3


Neumann / Almberg Site - 2020 Manual Monitoring Well Water Levels
4/21/2020
4/23/2020
4/25/2020
4/27/2020
4/29/2020
5/1/2020
5/3/2020
5/5/2020
5/7/2020
5/9/2020
5/11/2020
5/13/2020
5/15/2020
5/17/2020
5/19/2020
5/21/2020
5/23/2020
5/25/2020
5/27/2020
5/29/2020
5/31/2020
6/2/2020
6/4/2020
6/6/2020
6/8/2020
6/10/2020
6/12/
4/21- beginning of observed growing season (soil temp. above 41 degrees)
Soil Surface
Wetland Hydrology Technical Standard
Gaps in data indicate wells were dry to the bottom.
Water Level Depth (feet)
0.50
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
Well B
Well C
Well D
Well F
Well A (Dry)
Well E (Dry)
Well 12-2 (Dry)
Well G (Dry)
Soil Surface
Technical Standard

G4


2020 Climate Conditions
Neumann / Almberg Site
30 - day rolling total
normal precip range
Daily and monthly total precipitation (inches)
0
1
2
3
4
5
6
7
8
1/30/20
2/29/20
3/30/20
4/29/20
5/29/20
6/28/20
7/28/20
8/27/20
9/26/20
10/26/20
monthly precip
daily precip
30d rolling total

The 2020 water level monitoring data is summarized as follows:

- As of March 31, 2020, ice was still present at approximately 6-inches depth throughout the site. Electronic water level loggers were installed on April 7th, 2020 (within existing monitoring wells from 2019), which was determined to be before the start of the growing season based on frozen soils within the upper 12" of the soil surface, as well as a lack of actively growing vegetation present onsite. The 2020 growing season was estimated to begin onsite on April 21st based upon soil temperature data and observed vegetation growth.
- As shown on **Graphs 1 and 2**, electronic water level loggers 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 19, 20, 21, and 22 did not exhibit a water table for 14 consecutive days within 12" of the surface during 2020. Those areas were therefore determined to be upland based upon a lack of hydrology. Wells 13 and 16 did exhibit a water table for 14 (or more) consecutive days, met the Wetland Hydrology Technical Standard, and were therefore determined to be located within wetlands.
- As shown on **Graph 3**, manual monitoring wells A, B, C, D, E, G and 12-2 did not exhibit a water table within 12" of the surface during any of the 2020 site visits. The water table within 12" was present within Well F during the April 29, 2020 site visit, however it was dry during the preceding and following site visits and did not meet the Wetland Hydrology Technical Standard. Those areas were therefore determined to be upland based upon a lack of hydrology.
- As shown on **Graph 4**, the 30-day Precipitation Rolling Total was within the normal range during the month of April, dry to normal during the month of May, and normal to wetter-than-normal during June.

The monitoring well installation depths, soil profile descriptions and early season soil temperature readings are summarized in **Table 4** on the following page.

2019 Monitoring Summary

Wetter than normal conditions were present for much of the 2019 growing season, and the site did not experience an extended period of time where precipitation conditions were within the 70/30 percentiles. Data collected during 2020 was within the 70/30 precipitation percentiles for an extended period of time, and was therefore relied upon for determining the extent of wetland onsite. Hydrology and precipitation data from 2019 have been included as **Appendix E**.

4.4 Peat Depth and Soils Descriptions

Peat Depth and Soil Descriptions

Based upon field observations, soils consist of black peat underlain by sand throughout the majority of the hydrology study area. Decomposing peat was observed throughout the site indicating effective long-term drainage. A hand augured peat/top soil depth survey was performed on October 19th, 2018 by Haugo Geotechnical Services (**Appendix F**). As described in the Table 1 of the geotechnical report, topsoil and peat depth ranged from 0.5 feet to greater than 13 feet. The majority of the site was determined to have shallower top soil/peat ranging from 0.5 feet to 1.5 feet, with small areas of moderate depth (HAP-28, HAP-11, HAP-10, HAP-

9). The borings that revealed a peat depth greater than 13 feet (HAP-22, HAP-30, HAP-31 and HAP-32) were located in the southwestern portion of the site.

Table 4. Neumann / Almberg Site Monitoring Well Screen Lengths, Data Logger Installation Data, Soil Temperature Readings and Soil Profile Descriptions

Neumann / Almberg Site - Monitoring Well Data							
Well Number	**Data Logger Installation Date**	**Logger Serial Number**	**Well Screen Length (ft)**	**Pipe Riser Height (ft)**	**4/21 Soil Temp (f)**	**4/29 Soil Temp (f)**	**Soil Profile Description**
1	4/7/2020	20578429	4.0	4.3	39.6	45.9	N2.5/ Peat 0-48"
2	4/7/2020	20106765	4.0	4.1	40.1	44.5	N2.5/ Peat 0-48"
3	4/7/2020	20319949	2.7	3.3	39.8	46.0	N2.5/ Peat 0-38", 10YR 4/2 Sand 38-42"
4	4/7/2020	20578432	4.0	4.1	39.3	45.8	N2.5/ Peat 0-48"
5	4/7/2020	20106766	N/A	N/A	N/A	N/A	N/A, Ditch Well
6	4/7/2020	20578426	4.0	4.1	39.7	46.6	N2.5/ Peat 0-45", 10YR 4/2 Sand 45-48"
7	4/7/2020	20106806	3.0	2.3	38.4	45.9	N2.5/ Peat 0-46", 90% N2.5/ Peat & 10% 10YR 2/1 Sand 46-48"
8	4/7/2020	10906887	1.3	2.2	40.3	45.5	10YR 2/1 Mucky Clay Loam 0-12", 10YR 3/3 Sandy Clay Loam 12-20", 10YR 2/1 Loamy Sand 20-24"
9	4/7/2020	20297841	1.1	2.2	40.6	46.2	10YR 2/1 Loam 0-16", 10YR 4/2 Sand 16-24"
10	4/7/2020	10906889	1.7	3.1	40.1	46.1	N2.5/Peat 0-24", 10YR 3/2 Loam with 10" 10YR 4/2 Sand Inclusions 24-36"
11	4/7/2020	20578433	1.3	3.4	40.3	45.9	N2.5/ Peat 0-20", 10YR 4/2 Sand 20-06"
12	4/7/2020	20578431	3.5	3.0	40.1	46.9	N2.5/ Peat 0-48"
13	4/7/2020	20578428	3.0	4.2	40.5	47.1	N2.5/ Peat 0-42", 10YR 4/2 Silt Loam 42-48"
14	4/7/2020	10906888	3.0	3.3	40.0	45.9	N2.5/ Peat 0-20", Brown Fibric Peat 20-44", 10YR 4/1 Sand 44-48"
15	4/7/2020	20578423	3.0	4.1	38.6	44.0	N2.5/ Peat 0-42", 10YR 3/2 Loamy Sand 42-48"
16	4/7/2020	20578430	1.3	2.4	38.9	45.2	N2.5/ Peat 0-9", 10YR 3/1 Loamy Sand 9-13", 50%10YR 5/3 & 50% 10YR 3/2 Sand
17	4/7/2020	20578427	4.0	4.3	38.1	44.5	N2.5/ Peat 0-14", Brown Fibric Peat 14-48"
18	4/7/2020	20578425	4.0	4.2	37.7	45.2	N2.5/ Peat 0-48"
19	4/7/2020	20578424	4.0	4.8	40.1	44.3	N2.5/ Peat 9-13", Brown Fibric Peat 13-24", N2.5/ Peat 24-44", Brown Fibric Peat 44-48"
20	4/7/2020	20342444	4.0	4.4	39.4	45.3	N2.5/ Sandy Loam 0-6", 53% 10YR 5/3 & 40% 10YR 3/2 & 5% 10YR 2/1 &2%10YR 4/6 Sand 6-24"
21	4/7/2020	20319947	2.0	3.3	41.0	46.6	N2.5/ Peat 0-9", 10YR 4/1 Sand 9-14"
22	4/7/2020	20319945	4.0	4.3	38.6	46.3	N2.5/ Peat 0-48"
A	N/A	N/A	0.8	2.3	39.7	46.5	10YR 2/1 Sandy Loam 0-13", 90% 10YR 5/3 & 10% 10YR 4/6 Sand 13-24"
B	N/A	N/A	1.8	3.3	39.9	45.6	N2.5/ Peat 0-24", 10YR 4/2 Loamy Sand 24-36"
C	N/A	N/A	4.0	4.5	39.1	45.5	10YR 2/1 Sandy Loam 0-9", 50% 10YR 5/3 & 45% 10YR 3/2 & 5% 10YR 4/6 Sand 9-16", 10YR 5/3 Sand 16-24"
D	N/A	N/A	2.0	3.1	40.8	45.4	10YR 2/1 Sandy Loam 0-6", 10YR 4/2 Sand 6-9", 10YR 2/1 Sandy Loam 9-12", 10YR 4/2 Sand 12-17", 10YR 4/3 Sand 17-24"
E	N/A	N/A	1.3	2.2	39.7	45.8	10YR 2/1 Loam 0-15", 90%10YR 4/1 & 10% 10YR 4/4 Sand 15-24"
F	N/A	N/A	1.2	2.3	39.1	46.0	10YR 2/1 Loam 0-17", 90%10YR 4/1 & 10% 10YR 4/4 Sand 17-24"
G	N/A	N/A	3.0	4.4	37.5	45.9	N2.5/ Peat 0-48"
12-2	N/A	N/A	1.3	3.1	39.8	46.1	N2.5/ Peat 0-23", N2.5/ Sandy Loam 23-36"

4.5 Staff Gauge Readings

Table 5. Staff Gauge Readings

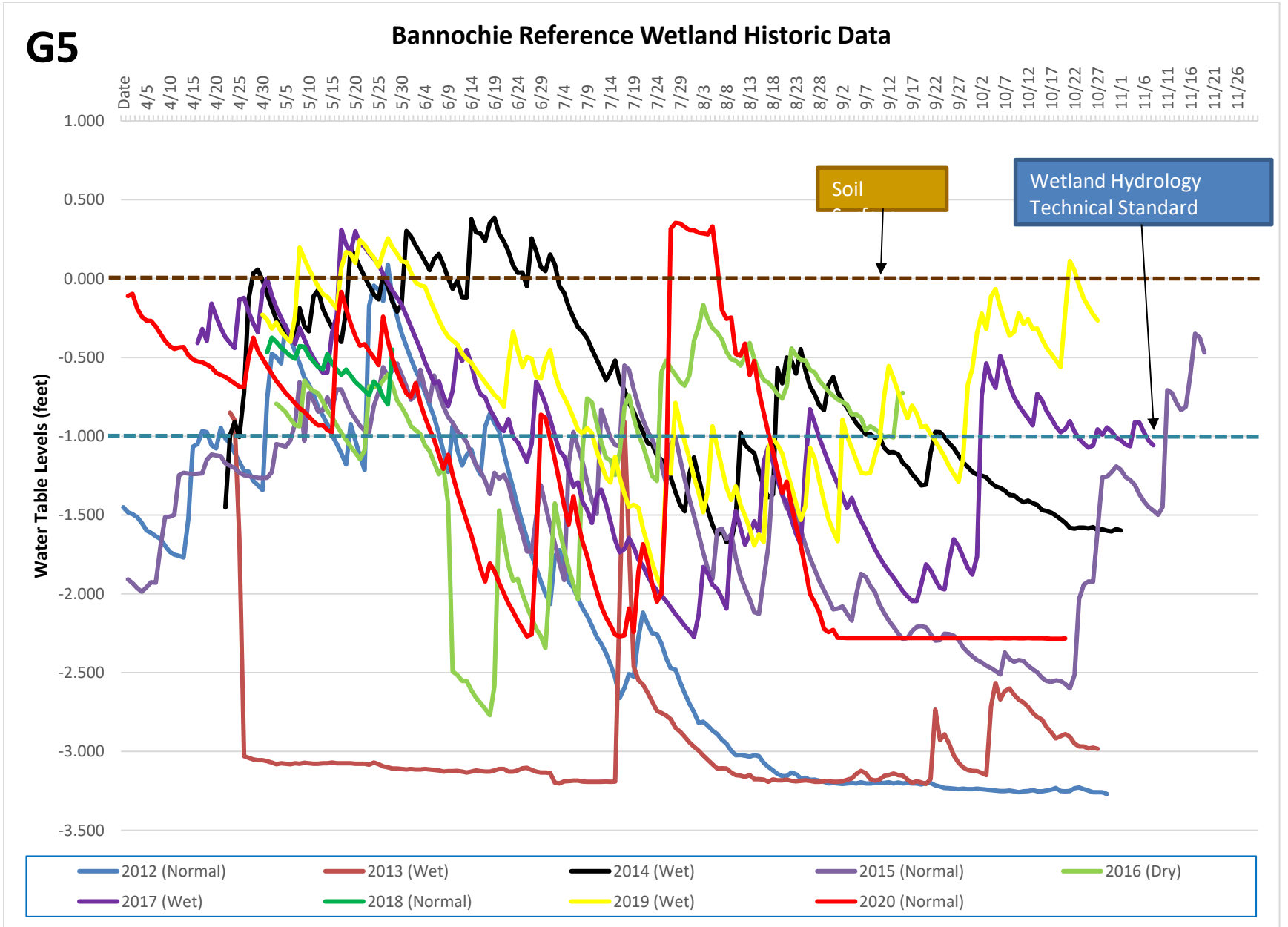
2020 Staff Gauge Readings (feet above ditch bottom)					
Date	**Staff Gauge 1**	**Staff Gauge 2**	**Staff Gauge 3**	**Staff Gauge 4**	**Staff Gauge 5**
4/21/2020	2.32	2.01	2.32	1.95	1.77
4/29/2020	2.32	2.04	2.38	1.92	1.78
5/6/2020	2.32	1.96	2.28	1.82	1.72
5/14/2020	2.33	1.91	2.29	1.82	1.68
5/21/2020	2.35	2.06	2.39	1.96	1.79
5/29/2020	2.46	2.07	2.42	1.90	1.80
6/12/2020	2.28	1.88	2.28	1.82	1.66
6/18/2020	2.32	1.82	2.19	1.74	1.58

Overall, staff gauge readings were stable throughout the 2020 spring season. The weirs within ACD# 44 and the private ditch to the west of ACD# 44 were inspected throughout the growing season and continue to function.

4.6 Bannochie Reference Well Comparison

Bannochie Reference Well Comparison

The Anoka Conservation District has regularly monitored the water table levels of reference wetlands in Anoka County. This data is gathered using electronic water level loggers deployed during the growing season to capture annual variability in water table elevation. The recent water table data from the Bannochie reference wetland adjacent to the Neumann / Almberg Site was assessed to determine whether the data collected on the Neumann / Almberg Site during 2020 is representative of typical water levels. The Bannochie reference wetland is located 2.8 miles west of the Neumann / Almberg Site. The Bannochie Reference Wetland water table monitoring data for 2020 was compared with prior years including 2012, 2013, 2014, 2015, 2016, 2017, 2018 and 2019 to assess whether the water table data gathered in 2020 represents typical early season conditions. Precipitation for the Bannochie reference wetland is included in **Appendix G**. *As shown on **Graph 5** on the following page, the water table at Bannochie reference wetland during 2020 was normal to wetter-than-normal compared with prior years. The water table at the Bannochie reference wetland was within 12 inches of the surface through April and May, dropping below 12 inches in early June, consistent with other normal years. While Bannochie was within 12 inches of the surface for 40 days during the growing season, no wells at the Neumann / Almberg site met the wetland hydrology technical standard, with the exception of the areas delineated as wetland. Based on this information, 2020 can reasonably be used as a typical year of water table monitoring during the spring and early summer seasons.*


G5
Bannochie Reference Wetland Historic Data
Date
4/5
4/10
4/15
4/20
4/25
4/30
5/5
5/10
5/15
5/20
5/25
5/30
6/4
6/9
6/14
6/19
6/24
6/29
7/4
7/9
7/14
7/19
7/24
7/29
8/3
8/8
8/13
8/18
8/23
8/28
9/2
9/7
9/12
9/17
9/22
9/27
10/2
10/7
10/12
10/17
10/22
10/27
11/1
11/6
11/11
11/16
11/21
11/26
1.000
0.500
0.000
-0.500
-1.000
-1.500
-2.000
-2.500
-3.000
-3.500
Water Table Levels (feet)
Soil
Wetland Hydrology Technical Standard
2012 (Normal)
2013 (Wet)
2014 (Wet)
2015 (Normal)
2016 (Dry)
2017 (Wet)
2018 (Normal)
2019 (Wet)
2020 (Normal)

4.7 Wetland Determinations and Delineations

The extent of wetland onsite was evaluated during field observations on July 8, 2020. Five wetlands were was identified and delineated on the property using standard procedures informed by wetland hydrology monitoring data (**Figure 2**). Corresponding data forms are included in **Appendix H**. The following descriptions of the wetland and adjacent upland reflects conditions observed during the July 8, 2020 site visit.

Wetland 1
Wetland 1 was a partially-drained, Type 2 (PEM1Bd) wet meadow wetland located on the northeastern portion of the property. The wetland was dominated by Kentucky bluegrass with a lesser amount of sedges, crabgrass, mouse-ear chickweed, common purslane, white clover, common plantain, lady's thumb, red clover, rough cinquefoil and dwarf St. John's wort. Vegetation was disturbed due to sod farming. Hydrology was not observed at the surface, however this area was determined to meet the Wetland Hydrology Technical standard based upon electronic water level data gathered during 2020. Wetland 1 corresponded with electronic monitoring Well 7.

The upland surrounding Wetland 1 consisted of sod field dominated by Kentucky bluegrass, with a lesser amount of crabgrass, dwarf St. John's wort, white clover, wood sorrel and scattered sedges. Primary and secondary hydrology indicators were not observed on the upland.

The delineated boundary followed a change in vegetation from sod field containing some hydrophytes to sod field dominated by Kentucky bluegrass with a lesser amount of weedy species, as well as a slight rise in topography and a transition to areas that did not meet the Wetland Hydrology Technical Standard. Wetland 1 was shown as a PEM1Af wetland on the NWI map, and fell in an area mapped as Rifle Mucky Peat (Hydric) on the soil survey. Wetland 1 was partially drained by adjacent private ditches, however no inlets or outlets were observed within the wetland.

Wetland 2
Wetland 2 was a partially-drained, Type 2 (PEM1Bd) wet meadow wetland located on the north-central portion of the property. The wetland was dominated by Kentucky bluegrass with a lesser amount of softstem bulrush, crabgrass, reed canary grass, swamp milkweed, blue vervain and cattail. Vegetation was disturbed due to sod farming. Hydrology was not observed at the surface, however this area was determined to meet the Wetland Hydrology Technical standard based upon electronic water level data gathered during 2020. Wetland 2 corresponded with electronic monitoring Well 13.

The upland surrounding Wetland 2 consisted of sod field dominated by Kentucky bluegrass, with a lesser amount of Canada thistle, curly dock, sow thistle and reed canary grass. Primary and secondary hydrology indicators were not observed on the upland.

The delineated boundary followed a change in vegetation from sod field containing some hydrophytes to sod field dominated by Kentucky bluegrass with a lesser amount of weedy species, as well as a slight rise in topography and a transition to areas that did not meet the

Wetland Hydrology Technical Standard. Wetland 2 was not shown as a wetland on the NWI map, but fell in an area mapped as Rifle Mucky Peat (Hydric) on the soil survey. Wetland 2 was partially drained by adjacent private ditches, however no inlets or outlets were observed within the wetland.

Wetland 3

Wetland 3 was a partially-drained, Type 2 (PEM1Bd) wet meadow wetland located on the southwestern portion of the property. The wetland was dominated by Kentucky bluegrass with a lesser amount of softstem bulrush, crabgrass, reed canary grass, swamp milkweed, blue vervain and cattail. Vegetation was disturbed due to sod farming. Hydrology was not observed at the surface, however this area was determined to meet the Wetland Hydrology Technical standard based upon electronic water level data gathered during 2020. Wetland 3 corresponded with electronic monitoring Well 16.

The upland surrounding Wetland 3 consisted of sod field dominated by Kentucky bluegrass, with a lesser amount of crabrass, dwarf St. John's wort, quack grass, common plantain, mouse-ear chickweed, amaranth and Canada thistle. Primary and secondary hydrology indicators were not observed on the upland.

The delineated boundary followed a change in vegetation from sod field containing some hydrophytes to sod field dominated by Kentucky bluegrass with a lesser amount of weedy species, as well as a slight rise in topography and a transition to areas that did not meet the Wetland Hydrology Technical Standard. Wetland 3 was not shown as a wetland on the NWI map, but fell in an area mapped as Rifle Mucky Peat (Hydric) on the soil survey. Wetland 3 was partially drained by adjacent private ditches and Public Ditch #44, however no inlets or outlets were observed within the wetland.

Wetland 4

Wetland 4 was a partially-drained, Type 2 (PEM1Bd) wet meadow wetland located on the southwestern portion of the property. The wetland was dominated by Kentucky bluegrass with a lesser amount of softstem bulrush, crabgrass, reed canary grass, swamp milkweed, blue vervain and cattail. Vegetation was disturbed due to sod farming. Electronic monitoring Well 19 was used to delineate the northern-most extent of Wetland 4, which extended offsite to the south.

The upland surrounding Wetland 4 consisted of tilled sod field that was sparsely vegetated with amaranth. Primary and secondary hydrology indicators were not observed on the upland.

The delineated boundary followed a change in vegetation from reed canary grass and tilled sod field sparsely vegetated with smartweed, reed canary grass and foxtail barley to tilled sod field that did not meet the Wetland Hydrology Technical Standard. Wetland 4 was not shown as a wetland on the NWI map, but fell in an area mapped as Rifle Mucky Peat (Hydric) on the soil survey. Wetland 4 was partially drained by adjacent private ditches, however no inlets or outlets were observed within the wetland.

Wetland 5
Wetland 5 was delineated at the request of the Technical Evaluation Panel, and consisted of excavated ditches within the drained peatland onsite that were observed to be 4-6 feet wide with steep sideslopes. The wetland boundary was determined based upon aerial imagery and topography (See **Figure 2**).

4.8 Conclusions

Based upon hydrology monitoring data collected throughout the 2020 growing season, the majority of the peatland onsite does not meet the wetland hydrology technical standard. As shown on **Graphs 1 and 2**, electronic water level loggers 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 19, 20, 21, and 22 did not exhibit a water table for 14 consecutive days within 12" of the surface during 2020. Those areas were therefore determined to be upland based upon a lack of hydrology. Wells 13 and 16 did exhibit a water table for 14 (or more) consecutive days, met the Wetland Hydrology Technical Standard, and were therefore determined to be located within wetlands.

The Bannochie reference wetland water level data for 2020 was compared with prior years to determine whether water levels were typical in the local region surrounding the Neumann / Almberg Site. As shown on **Graph 4**, water levels were wetter than typical during April, May and early June. Given that the Bannochie reference wetland has exhibited wet to typical water table elevations compared with prior years, hydrology monitoring on the Neumann / Almberg Site during 2020 was collected under normal and representative conditions. The 3-month antecedent precipitation conditions were normal for the entirety of 2020 to date with the exception of October. Additionally, the water table at the start of the 2020 growing season was elevated due to the exceptionally wet precipitation conditions of 2019. *The water table at the Bannochie reference wetland was closer to the soil surface at the start of 2020 monitoring than any of the other years assessed.*

Wetland boundaries have been identified based upon field observations as well as the water table monitoring data collected during 2020 (**Figure 2**). The proposed boundaries of Wetland 1, 2, 3, 4 and 5 are intended to encompass the entire area of potential wetland present on within the drained peatland onsite.

4.9 Request for Wetland Boundary and Jurisdictional Determination

Appendix A of this report includes a Joint Application Form for Activities Affecting Water Resources in Minnesota, which is submitted in request for a wetland boundary and type determination under the Minnesota Wetland Conservation Act (WCA).

5. CERTIFICATION OF DELINEATION

The procedures utilized in the described delineation are based on the U.S. Army Corps of Engineers 1987 Wetlands Delineation Manual as required under Section 404 of the Clean Water Act and the Minnesota Wetland Conservation Act. This wetland delineation and report were prepared in compliance with the regulatory standards in place at the time the work was performed.

Site boundaries indicated on figures within this report are approximate and do not constitute an official survey product.

Delineation Completed by:

Adam Cameron, Wetland Ecologist
Minnesota Certified Wetland Delineator No. 1321

Melissa Lauterbach-Barrett, Wetland Specialist
Minnesota Certified Wetland Delineator No. 1085

Will Effertz, Natural Resource Technician

Mark Kjolhaug, Professional Wetland Scientist No. 000845

Report Prepared by:

Adam Cameron, Wetland Ecologist
Minnesota Certified Wetland Delineator No. 1321

Will Effertz, Natural Resource Technician

Report reviewed by: _____ Date: November 6, 2020

Mark Kjolhaug, Professional Wetland Scientist No. 000845

Neumann / Almberg Site

Wetland Delineation Report

FIGURES

1. Site Location
2. Existing Conditions
3. National Wetlands Inventory
4. Soil Survey
5. DNR Protected Waters Inventory
6. National Hydrography Dataset

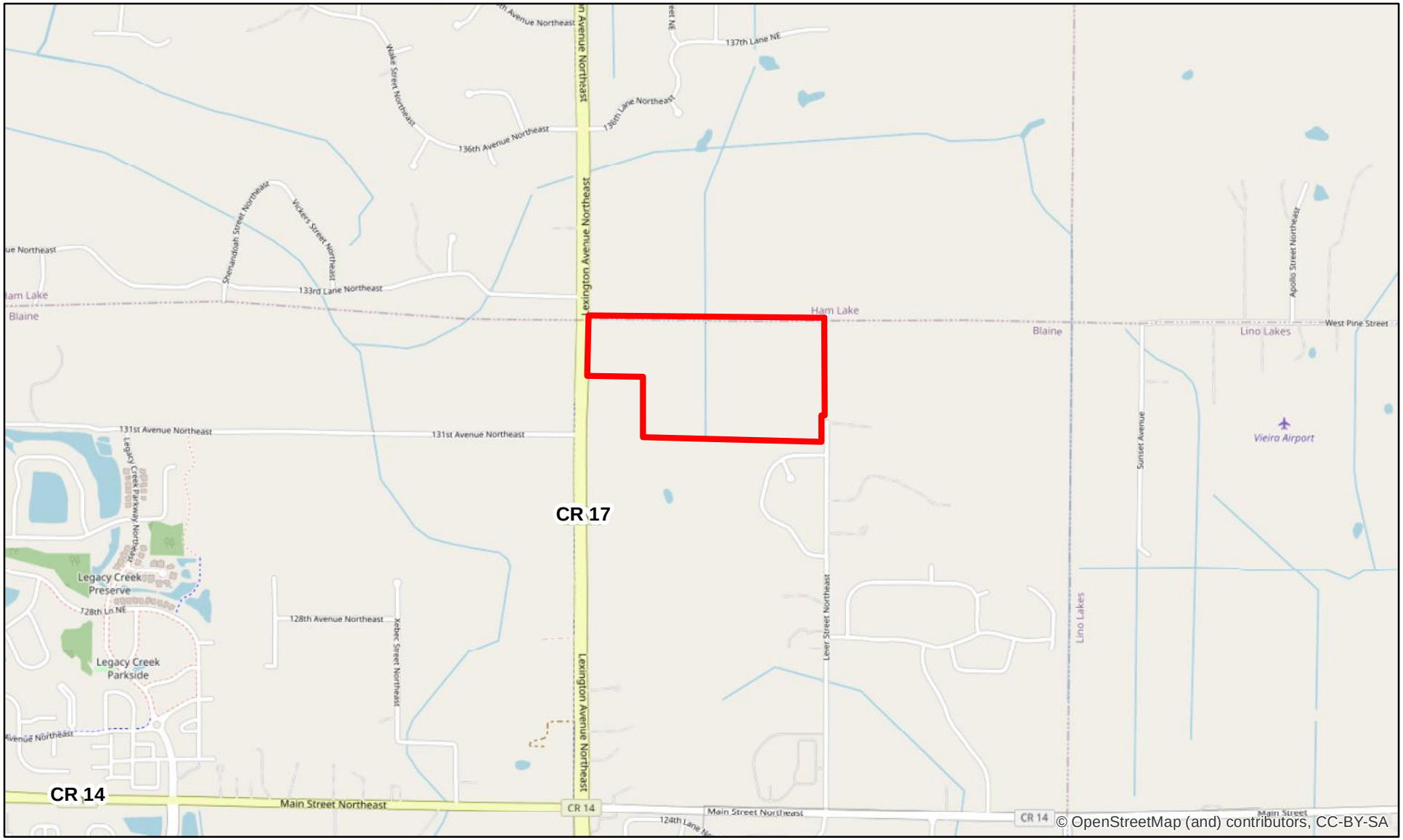


Figure 1 - Site Location

N

0 1,500 Feet

Site Boundary

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: ESRI Streets Basemap

Newmann/Almberg Site (KES 2018-176)
Blaine, Minnesota

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

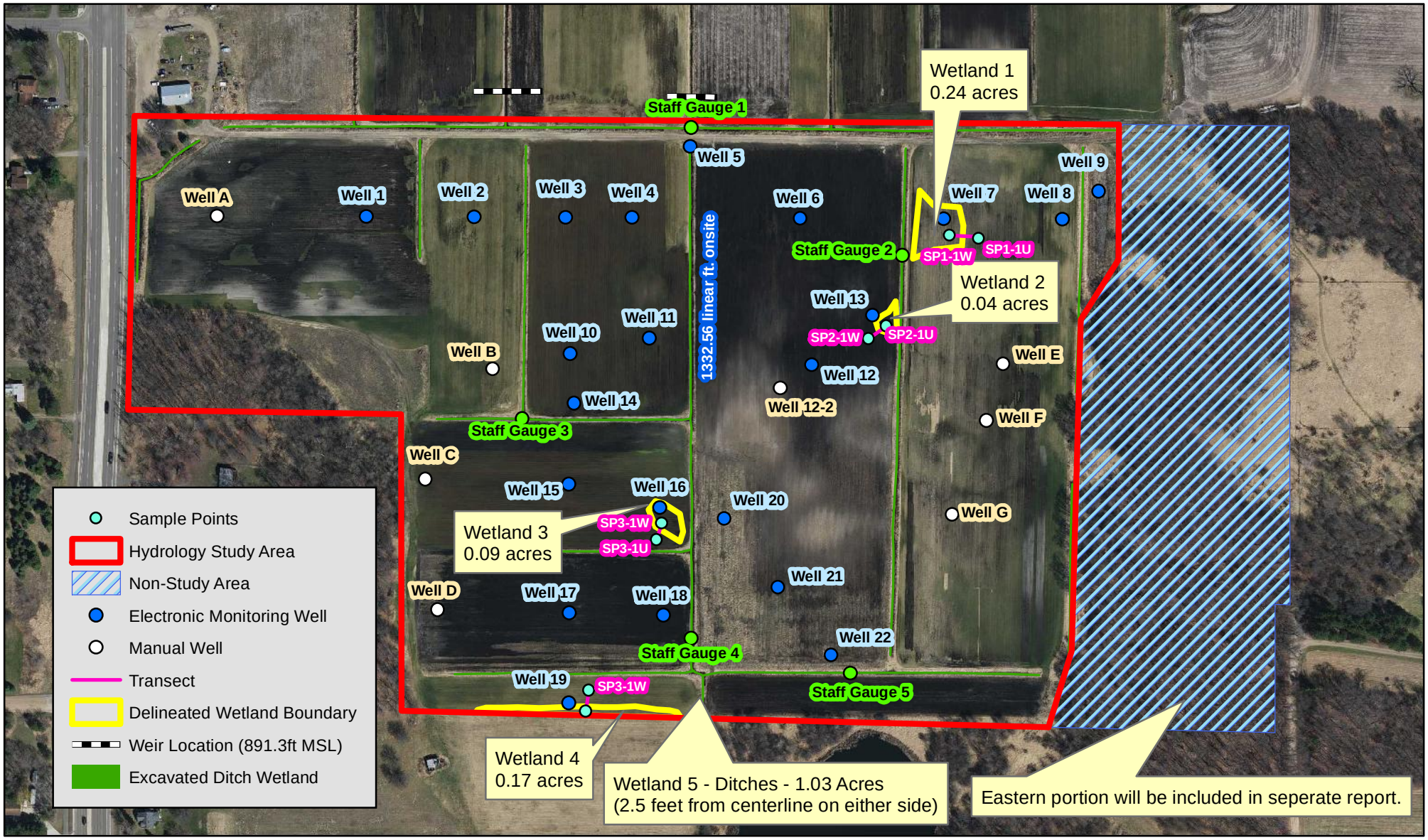


Figure 2 - Existing Conditions

N

0 300 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Neumann/Almberg Site (KES 2018-176)
Blaine, Minnesota

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

Figure 3 - National Wetlands Inventory

N

0 300 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USFWS

Newmann/Almberg Site (KES 2018-176)
Blaine, Minnesota

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

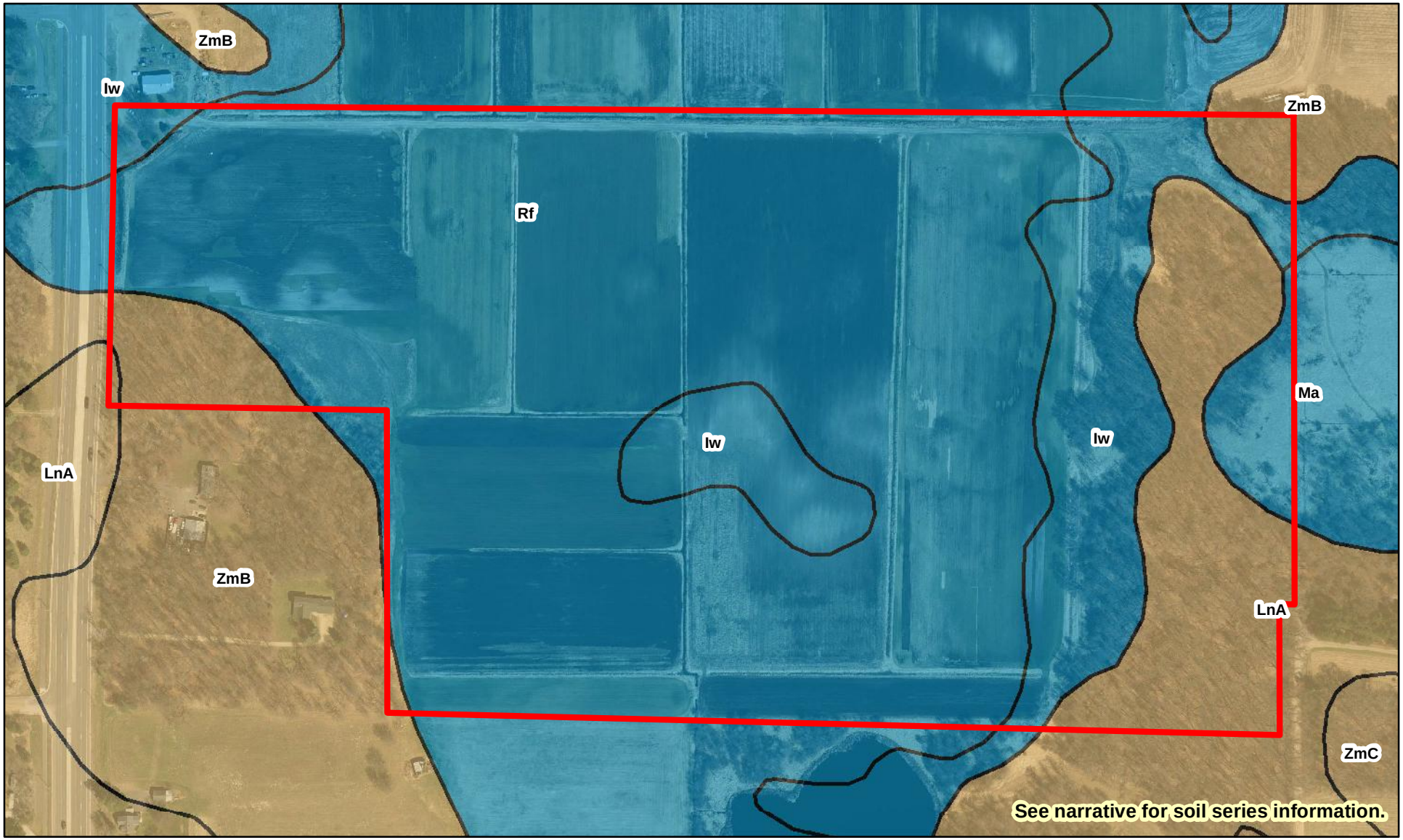


Figure 4 - Soil Survey

N

0 300 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USDA, NRCS

Site Boundary

Hydric/Predominantly Hydric

Predominantly Non-Hydric/Non-Hydric

Newmann/Almberg Site (KES 2018-176)
Blaine, Minnesota

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

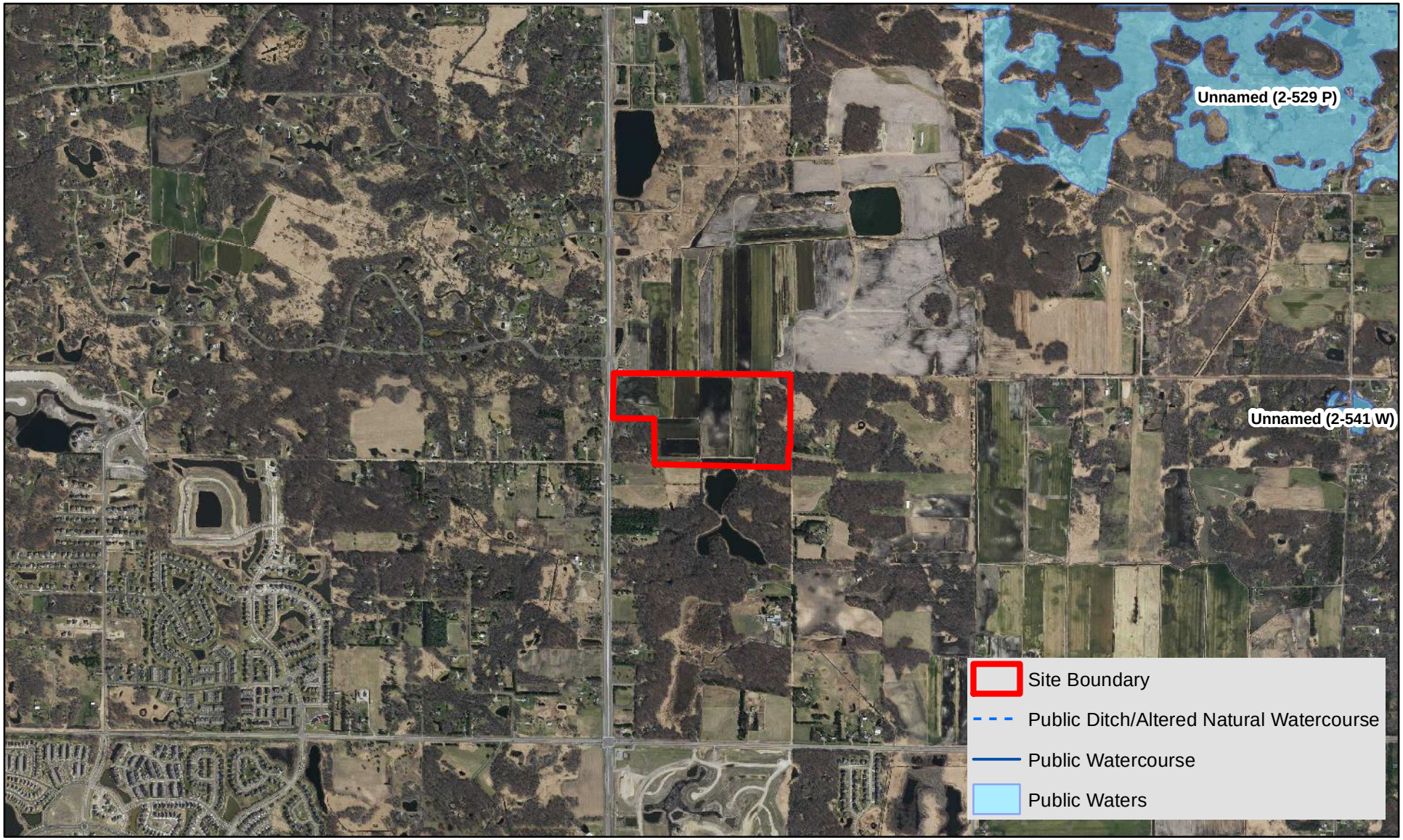


Figure 5 - DNR Public Waters Inventory

N

0 2,000 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, MN DNR

Newmann/Almberg Site (KES 2018-176)
Blaine, Minnesota

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

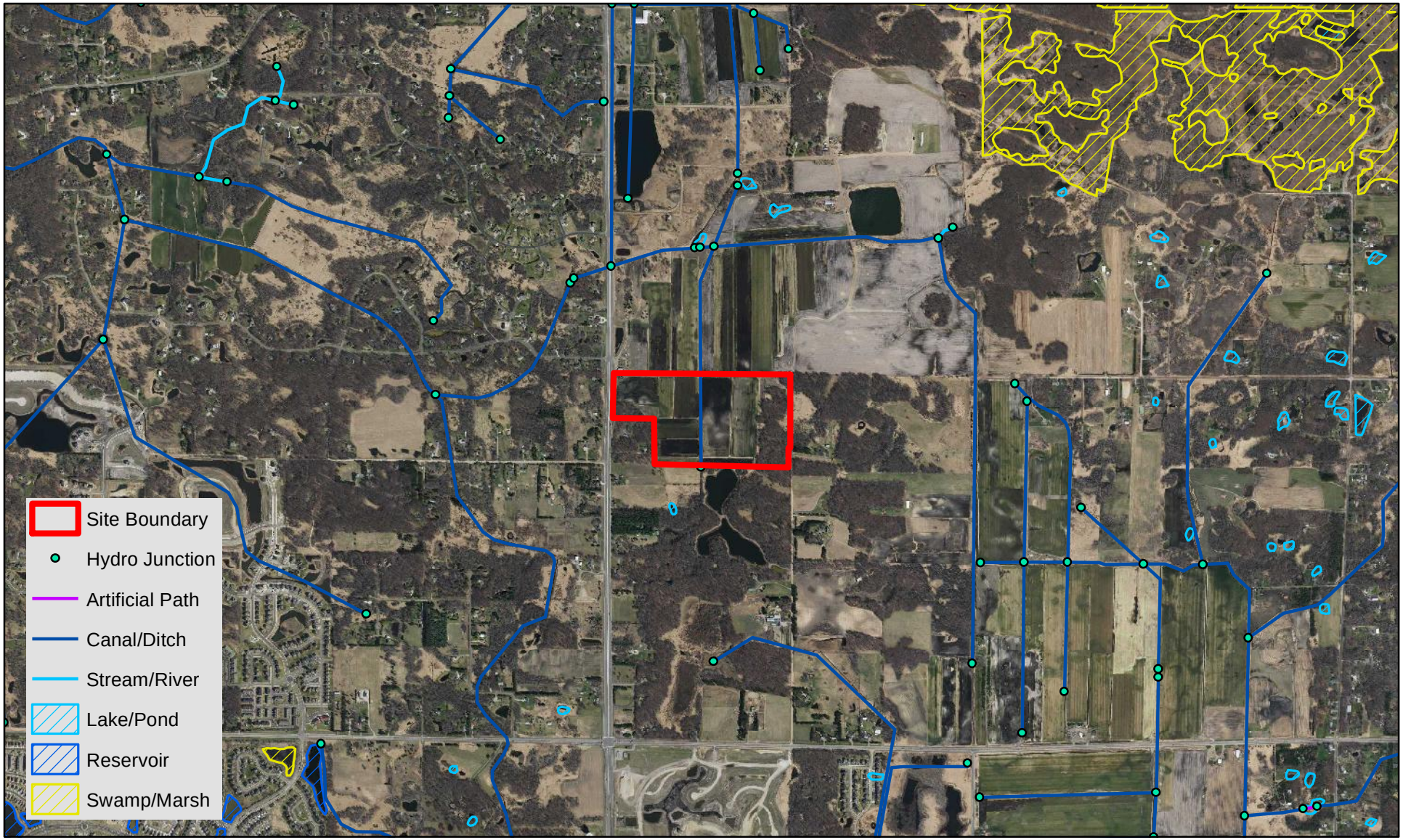


Figure 6 - National Hydrography Dataset

N

0 2,000 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USGS

Newmann/Almberg Site (KES 2018-176)
Blaine, Minnesota

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

BOARD OF WATER AND SOIL RESOURCES

Minnesota Wetland Conservation Act
Notice of Decision

Local Government Unit:	Coon Creek Watershed District (CCWD)	**County:**	Anoka
Applicant Name:	The Excelsior Group	**Applicant Representative:**	Kjolhaug Environmental
Project Name:	Almberg East Site – Wetland Delineation	**LGU Project No. (if any):**	19-045
Date Complete Application Received by LGU:	8/21/2020		
Date of LGU Decision:	10/12/2020		
Date this Notice was Sent:	10/12/2020		

WCA Decision Type - check all that apply

☒ Wetland Boundary/Type ☐ Sequencing ☐ Replacement Plan ☐ Bank Plan (not credit purchase)
☐ No-Loss (8420.0415) ☐ Exemption (8420.0420)
Part: ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G ☐ H Subpart: ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9

Replacement Plan Impacts (replacement plan decisions only)

Total WCA Wetland Impact Area:
Wetland Replacement Type: ☐ Project Specific Credits: ☐ Bank Credits:
Bank Account Number(s):

Technical Evaluation Panel Findings and Recommendations (attach if any)

☒ Approve ☐ Approve w/Conditions ☐ Deny ☐ No TEP Recommendation

LGU Decision

☒ Approved with Conditions (specify below)[1] ☐ Approved[1] ☐ Denied
List Conditions: **Please submit GIS shapefiles of wetland boundaries.**

Decision-Maker for this Application: ☒ Staff ☐ Governing Board/Council ☐ Other:

Decision is valid for: ☒ 5 years (default) ☐ 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 decision[1].

☒ Attachment(s) (specify): Site Location, Revised Existing Conditions

☒ Summary: The site is located in the Northwest ¼ of Section 01, Township 31 North, Range 23 West, City of Blaine, Anoka County, Minnesota. The site is situated northwest of 131st Lane Northeast and Lever Street Northeast, and covers the eastern portion of Anoka County parcel number 01-31-23-21-0001. According to the application, the area reviewed covered approximately 13.4 acres.

A field investigation was performed on July 31, 2020. The following wetlands were delineated:

Wetland 1: Type 1, 0.18 acres
Wetland 2: Type 1, 0.04 acres

Wetland 3: Type 1, 0.12 acres
Wetland 4: Type 2, 0.91 acres

The TEP met to review the boundaries on September 9, 2020. The boundary of the project area was modified on the west side to exclude a drainage ditch feature. This decision approves the wetland boundaries as shown in the revised delineation figure provided 9/17/2020, which is attached.

[1] *Findings must consider any TEP recommendations.*

Attached Project Documents

☒ Site Location Map ☐ Project Plan(s)/Descriptions/Reports (specify):

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?

☐ Yes[1] ☒ No

[1]*If 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:

☒ SWCD TEP Member: Becky Wozney (becky.wozney@anokaswcd.org) ☒ BWSR TEP Member: Ben Meyer (ben.meyer@state.mn.us)
☐ LGU TEP Member (if different than LGU contact):
☒ DNR Representative: Melissa Collins (melissa.collins@state.mn.us); Julie Siems (Julie.Siems@state.mn.us)
☐ Watershed District or Watershed Mgmt. Org.:
☒ Applicant: Tracey Rust (tracey.rust@excelsiorllc.com) ☒ Agent/Consultant: Melissa Barrett (melissa@kjolhaugenv.com)

Optional or As Applicable:

☒ Corps of Engineers: Melissa Jenny (Melissa.M.Jenny@usace.army.mil)
☐ BWSR Wetland Mitigation Coordinator (required for bank plan applications only):
☐ Members of the Public (notice only): Rebecca Haug (rhaug@blainemn.gov) ☐ Other:

Signature: 	**Date:** 10/12/2020

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.

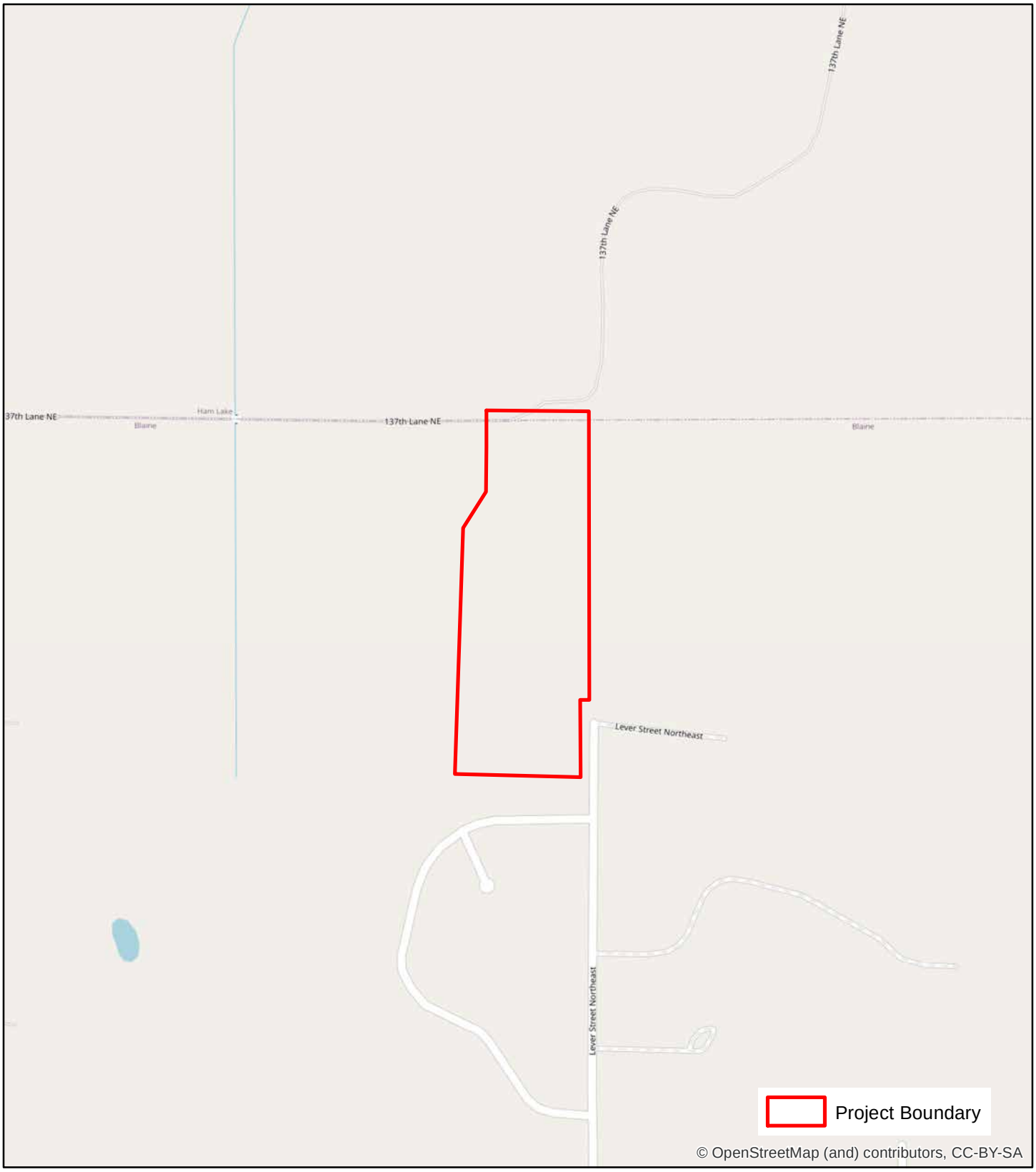


Figure 1 - Site Location Map

N

0 500 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: ESRI Streets Basemap

Almberg Site - East (KES 2018-176)
Blaine, Minnesota

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

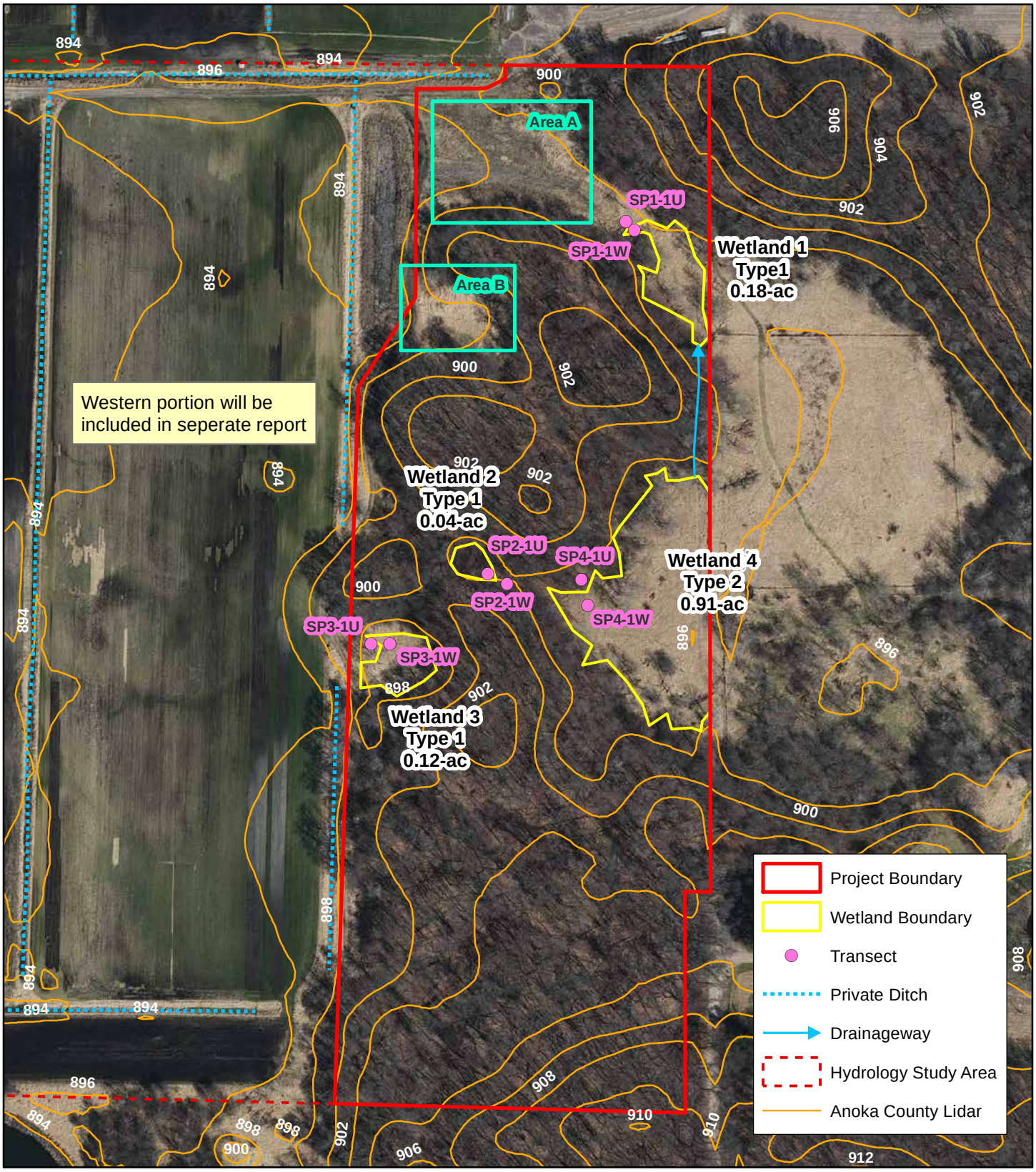


Figure 2 - Existing Conditions (Updated 9/9/2020)

N

0 175 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MnGEO Spatial Commons, MnTopo, Anoka County

Almberg Site - East (KES 2018-176)
Blaine, Minnesota

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

BOARD OF WATER AND SOIL RESOURCES

Minnesota Wetland Conservation Act
Notice of Decision

Local Government Unit:	Coon Creek Watershed District (CCWD)	**County:**	Anoka
Applicant Name:	The Excelsior Group	**Applicant Representative:**	Kjolhaug Environmental
Project Name:	Koepp & Breen Parcels	**LGU Project No. (if any):**	20-126
Date Complete Application Received by LGU:	8/19/2020		
Date of LGU Decision:	10/12/2020		
Date this Notice was Sent:	10/12/2020		

WCA Decision Type - check all that apply

☒ Wetland Boundary/Type ☐ Sequencing ☐ Replacement Plan ☐ Bank Plan (not credit purchase)
☐ No-Loss (8420.0415) ☐ Exemption (8420.0420)
Part: ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G ☐ H Subpart: ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9

Replacement Plan Impacts (replacement plan decisions only)

Total WCA Wetland Impact Area:
Wetland Replacement Type: ☐ Project Specific Credits: ☐ Bank Credits:
Bank Account Number(s):

Technical Evaluation Panel Findings and Recommendations (attach if any)

☒ Approve ☐ Approve w/Conditions ☐ Deny ☐ No TEP Recommendation

LGU Decision

☒ Approved with Conditions (specify below)[1] ☐ Approved[1] ☐ Denied
List Conditions: **Please submit GIS shapefiles of wetland boundaries.**

Decision-Maker for this Application: ☒ Staff ☐ Governing Board/Council ☐ Other:

Decision is valid for: ☒ 5 years (default) ☐ 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 decision[1].

☒ Attachment(s) (specify): Site Location, Revised Existing Conditions

☒ Summary: The site is located in Section 1, Township 31 North, Range 23 West, City of Blaine, Anoka County, Minnesota. The site was situated north of Main Street Northeast/County Road 14, east of Lexington Avenue Northeast/County Road 7, and covers Anoka County parcel numbers 01-31-23-23-0001, 01-31-23-23-0002, 01-3123-23-0003, 01-31-23-22-0002. According to the application, the area reviewed covered approximately 38.6 acres.

A field investigation was performed on July 8, 2020. The following wetlands were delineated:

Wetland 1: Type 3/2, 1.03 acres

Wetland 2: Type 5/3/2, 0.22 acres
Wetland 3: Type 5, 0.19 acres
Wetland 4: Type 2, 4.00 acres

The TEP met to review the boundaries on September 9, 2020. The boundaries of Wetland 1 and Wetland 4 were revised per TEP comments. This decision approves the wetland boundaries as shown in the revised delineation figure provided 9/25/2020, which is attached.

[1] *Findings must consider any TEP recommendations.*

Attached Project Documents

☒ Site Location Map ☐ Project Plan(s)/Descriptions/Reports (specify):

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?

☐ Yes[1] ☒ No

[1]*If 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:

☒ SWCD TEP Member: Becky Wozney (becky.wozney@anokaswcd.org) ☒ BWSR TEP Member: Ben Meyer (ben.meyer@state.mn.us)
☐ LGU TEP Member (if different than LGU contact):
☒ DNR Representative: Melissa Collins (melissa.collins@state.mn.us); Julie Siems (Julie.Siems@state.mn.us)
☐ Watershed District or Watershed Mgmt. Org.:
☒ Applicant: Tracey Rust (tracey.rust@excelsiorllc.com) ☒ Agent/Consultant: Adam Cameron (adam@kjolhaugenv.com)

Optional or As Applicable:

☒ Corps of Engineers: Melissa Jenny (Melissa.M.Jenny@usace.army.mil)
☐ BWSR Wetland Mitigation Coordinator (required for bank plan applications only):
☐ Members of the Public (notice only): Rebecca Haug (rhaug@blainemn.gov) ☐ Other:

Signature: 	**Date:** 10/12/2020

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.

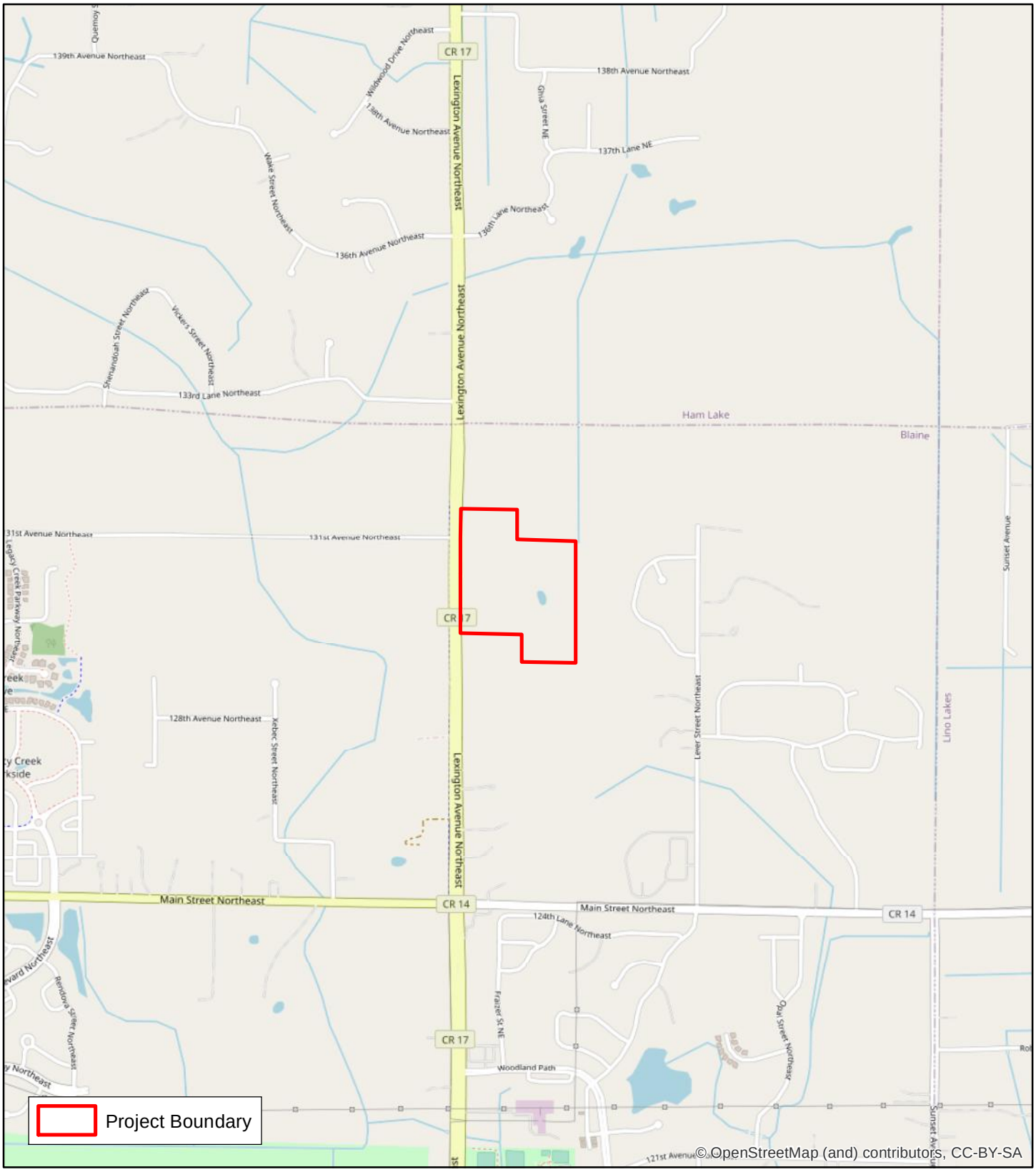


Figure 1 - Site Location Map

N

0 1,500 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: ESRI Streets Basemap

Koepp and Breen Parcels (KES 2020-070)
Blaine, Minnesota

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

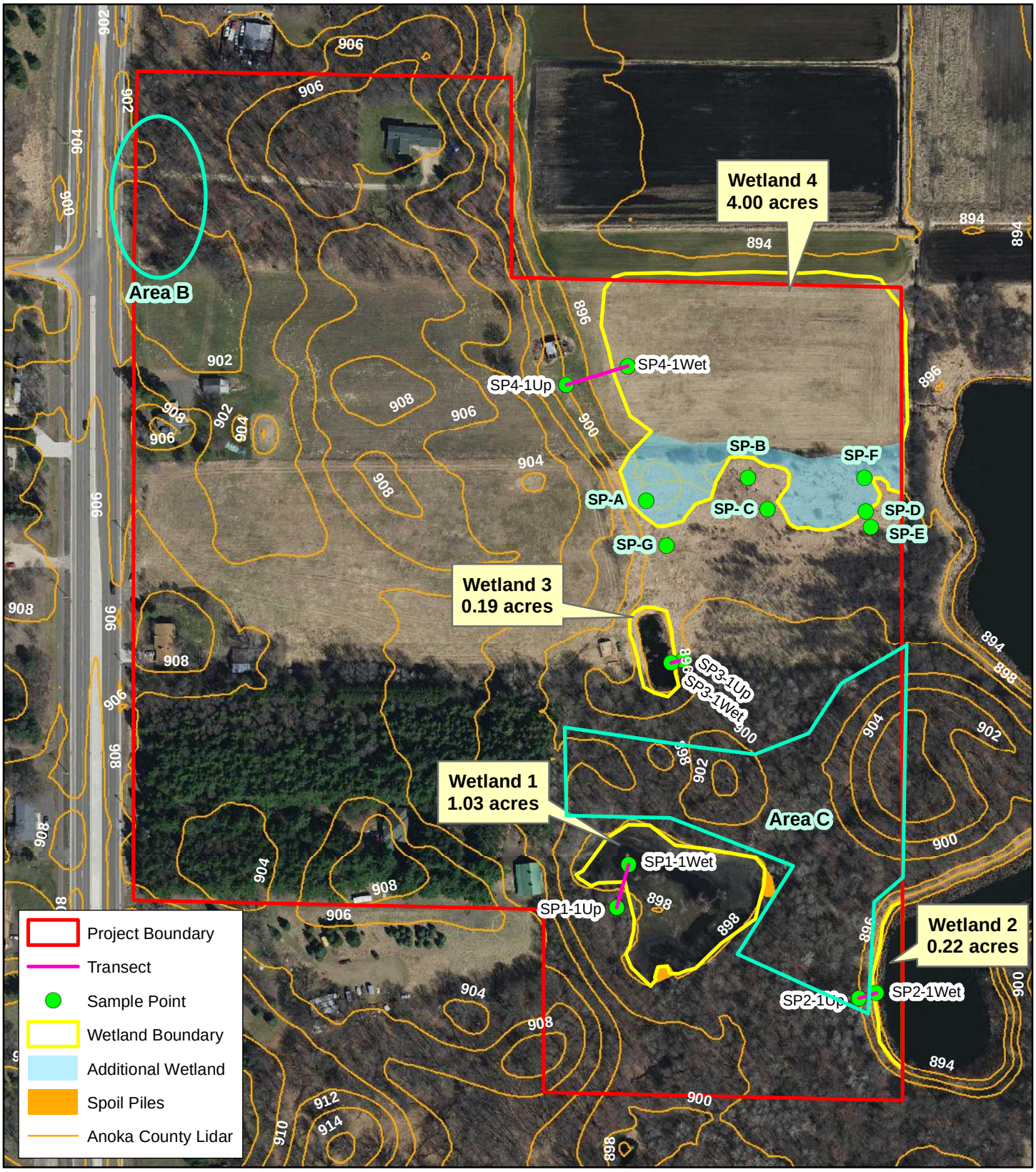


Figure 2 - Existing Conditions (2016 MNGEO Photo)

N

0 225 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

Koepp and Breen Parcels (KES 2020-070)
Blaine, Minnesota

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

BOARD OF WATER AND SOIL RESOURCES

Minnesota Wetland Conservation Act
Notice of Decision

Local Government Unit: Coon Creek Watershed District (CCWD)	**County:** Anoka
Applicant Name: The Excelsior Group – Tracey Rust & Ben Schmidt **Applicant Representative:** Kjolhaug Environmental – Melissa Barrett	
Project Name: Almberg Site – Hydrology Study Wetland Delineation	**LGU Project No. (if any):** 19-045
Date Complete Application Received by LGU: 11/6/2020	
Date of LGU Decision: 2/12/2021	
Date this Notice was Sent: 2/12/2021	

WCA Decision Type - check all that apply

☒ Wetland Boundary/Type ☐ Sequencing ☐ Replacement Plan ☐ Bank Plan (not credit purchase)
☐ No-Loss (8420.0415) ☐ Exemption (8420.0420)
Part: ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G ☐ H Subpart: ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9

Replacement Plan Impacts (replacement plan decisions only)

Total WCA Wetland Impact Area:
Wetland Replacement Type: ☐ Project Specific Credits: ☐ Bank Credits:
Bank Account Number(s):

Technical Evaluation Panel Findings and Recommendations (attach if any)

☒ Approve ☐ Approve w/Conditions ☐ Deny ☐ No TEP Recommendation

LGU Decision

☒ Approved with Conditions (specify below)[1] ☐ Approved[1] ☐ Denied
List Conditions: **Please submit GIS shapefiles of wetland boundaries.**

Decision-Maker for this Application: ☒ Staff ☐ Governing Board/Council ☐ Other:

Decision is valid for: ☒ 5 years (default) ☐ 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 decision[1].

☒ Attachment(s) (specify): Site Location, Revised Existing Conditions

☒ Summary: The site is located in Section 1, Township 31 North, Range 23 West, City of Blaine, Anoka County, Minnesota. The site was situated east of Lexington Avenue Northeast and north of 125th Avenue Northeast. The site corresponded to Anoka County PID#s: 01-31-23-21-0001, 01-3123-22-0001 and 01-31-23-22-0004. According to the application, the area reviewed covered approximately 67.7 acres. The site is primarily active sod fields with associated drainage ditches.

A field investigation was performed on July 8, 2020 to evaluate the extent of hydrophytic vegetation and microtopography, along with hydrologic monitoring during the 2019 and 2020 growing seasons to determine the extent of wetland hydrology. The following wetlands were delineated:

Wetland 1: Type 2, 0.24 acres
Wetland 2: Type 2, 0.04 acres
Wetland 3: Type 2, 0.09 acres
Wetland 4: Type 2, 0.17 acres
Wetland 5: Type 3, 0.977 acres

The TEP met to review the boundaries on September 8, 2020 and the hydrology report on December 2, 2020. Clarifications to the hydrology study were requested, as well as modifications to Wetland 5. This decision approves the wetland boundaries as shown in the revised delineation figure provided 2/12/2021, which is attached.

[1] *Findings must consider any TEP recommendations.*

Attached Project Documents

☒ Site Location Map ☒ Project Plan(s)/Descriptions/Reports (specify): Existing Conditions

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?

☐ Yes[1] ☒ No

[1] *If 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:

☒ SWCD TEP Member: Becky Wozney (becky.wozney@anokaswcd.org) ☒ BWSR TEP Member: Ben Meyer (ben.meyer@state.mn.us)
☐ LGU TEP Member (if different than LGU contact):
☒ DNR Representative: Melissa Collins (melissa.collins@state.mn.us); Julie Siems (Julie.Siems@state.mn.us)
☐ Watershed District or Watershed Mgmt. Org.:
☒ Applicant: Tracey Rust (tracey.rust@excelsiorllc.com)

☒ Agent/Consultant: Melissa Barrett (melissa@kjolhaugenv.com)

Optional or As Applicable:

☒ Corps of Engineers: Samantha Coungeris (Samantha.S.Coungeris@usace.army.mil)		
☐ BWSR Wetland Mitigation Coordinator (required for bank plan applications only):		
☐ Members of the Public (notice only):	Rebecca Haug (rhaug@blainemn.gov)	☐ Other:

Signature: 	**Date:** 2/12/2021

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.

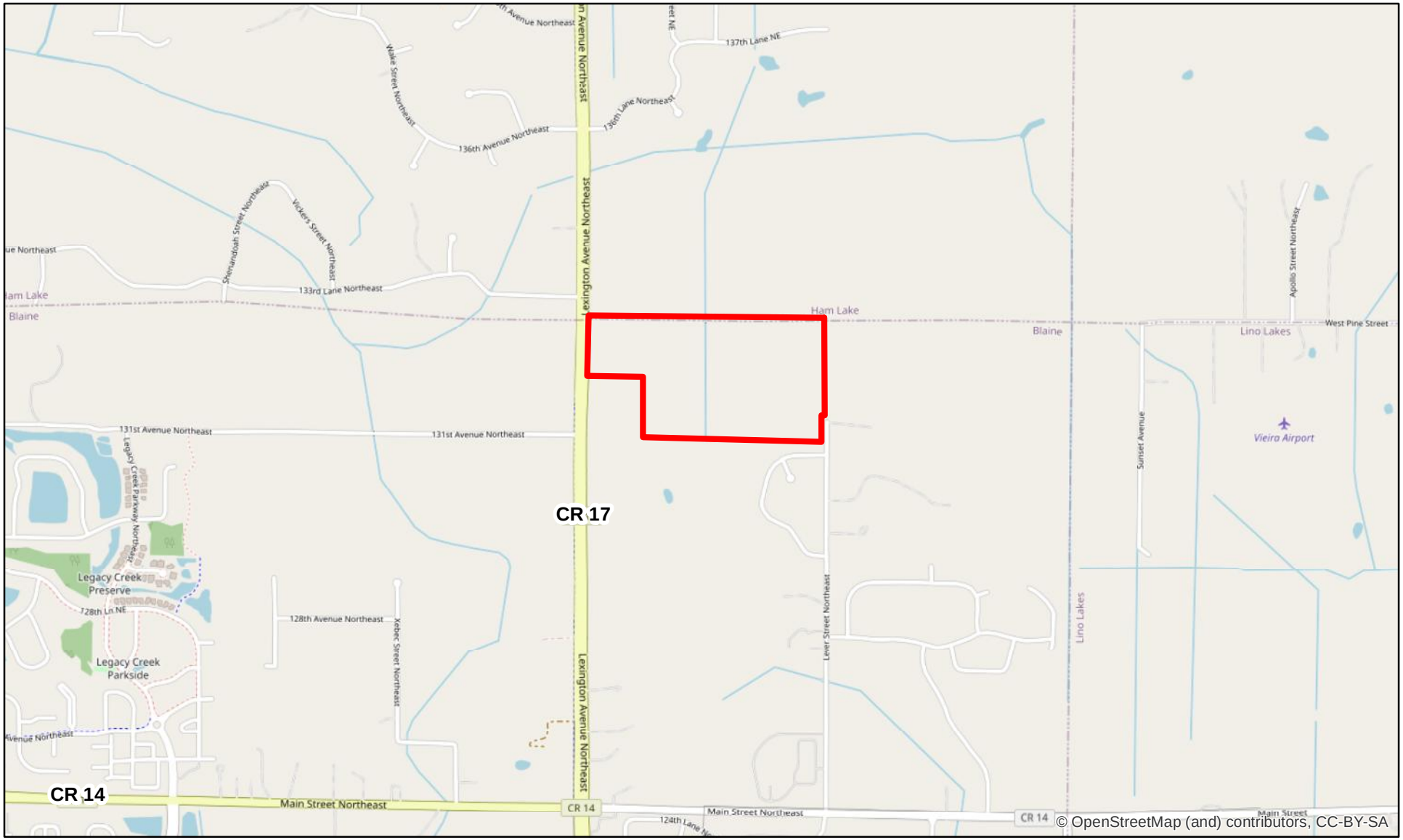


Figure 1 - Site Location

N

0 1,500 Feet

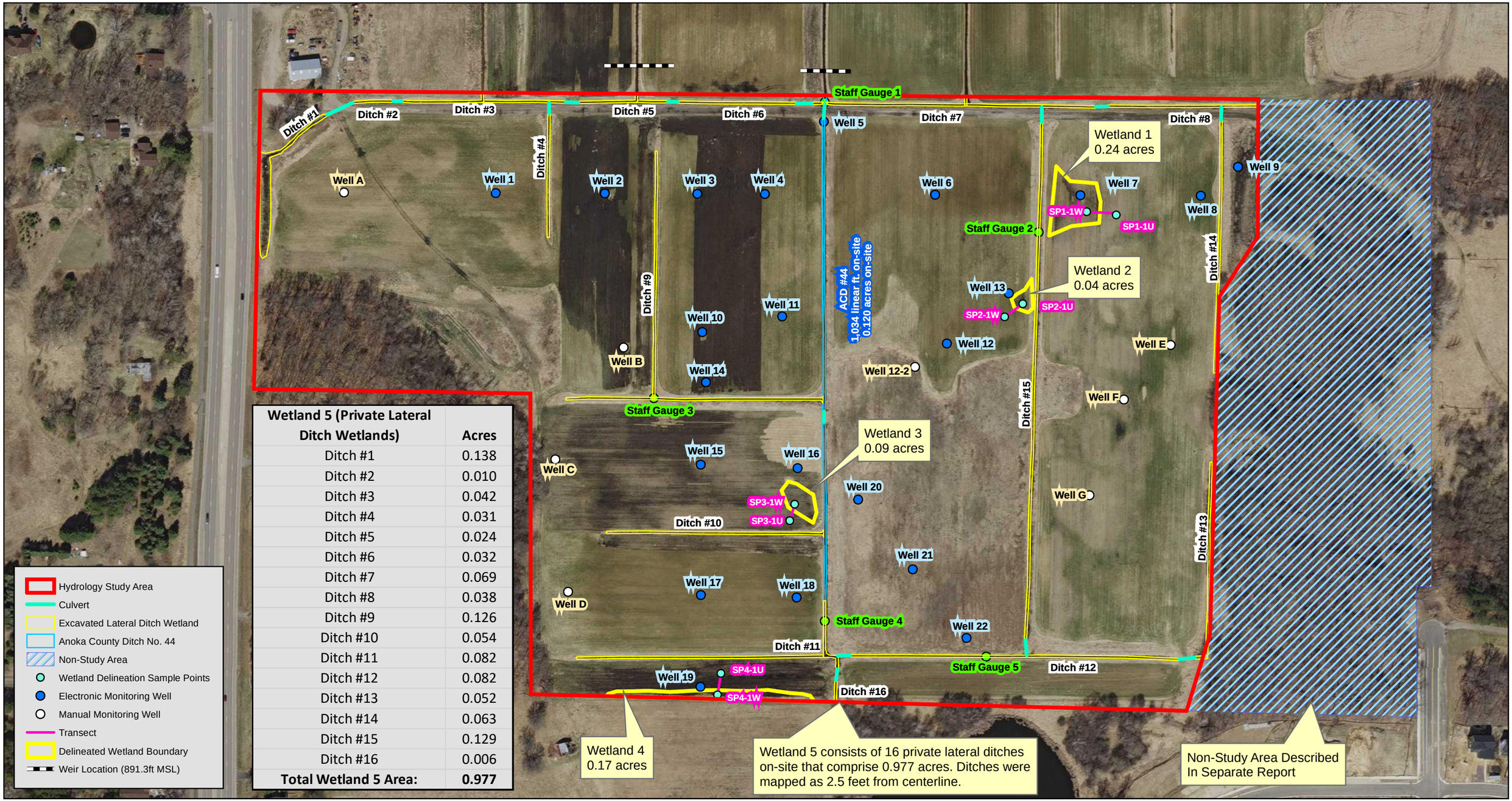
Site Boundary

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: ESRI Streets Basemap

Newmann/Almberg Site (KES 2018-176)
Blaine, Minnesota

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



Wetland 5 (Private Lateral Ditch Wetlands)	Acres
Ditch #1	0.138
Ditch #2	0.010
Ditch #3	0.042
Ditch #4	0.031
Ditch #5	0.024
Ditch #6	0.032
Ditch #7	0.069
Ditch #8	0.038
Ditch #9	0.126
Ditch #10	0.054
Ditch #11	0.082
Ditch #12	0.082
Ditch #13	0.052
Ditch #14	0.063
Ditch #15	0.129
Ditch #16	0.006
Total Wetland 5 Area:	**0.977**

Figure 2 - Existing Conditions (2020 MNGEO Photo)

N

0 200 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Neumann/Almberg Site (KES 2018-176)
Blaine, Minnesota

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

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

November 18, 2020

Regulatory File No. MVP-2019-02289-EJW

The Excelsior Group
c/o Tracey Rust & Ben Schmidt
1660 HWY 100, Ste 400
St. Louis Park, Minnesota 55416

Dear Ms. Rust & Mr. Schmidt:

This letter supersedes our previous AJD issued on August 21, 2020. This letter regards an approved jurisdictional determination for 13.4-acre Almberg Site East in the City of Blaine. The project site is in Section 1, Township 31 North, Range 23 West, Anoka County, Minnesota. The review area for our jurisdictional determination is identified as Drainageway 1 and Wetlands 1, 2, 3, and 7 on the enclosed figures, labeled MVP-2019-02289-EJW Page 1 of 2 through Page 2 of 2.

Drainageway 1, and Wetlands 1, 2, 3, and 7 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 determination 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.

If you have any questions, please contact me in our St. Paul office at (651) 290-5357 or Eric.j.white@usace.army.mil. In any correspondence or inquiries, please refer to the Regulatory file number shown above.

Sincerely,

Eric White
Project Manager

Enclosures

cc:
Tim Kelly (LGU)
Ben Meyer (BWSR)
Anna Hotz (MPCA)
Melissa Barrett (Agent)

U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE

I. ADMINISTRATIVE INFORMATION

Completion Date of Approved Jurisdictional Determination (AJD): 11/18/2020
ORM Number: MVP-2019-00289-EJW
Associated JDs: MVP-2019-00289-EJW
Review Area Location[1]:
State/Territory: MN City: Blaine County/Parish/Borough: Anoka County
Center Coordinates of Review Area: Latitude 45.209516 Longitude -93.157094

II. FINDINGS

A. Summary: Check all that apply. At least one box from the following list MUST be selected. Complete the corresponding sections/tables and summarize data sources.

- ☐ The review area is comprised entirely of dry land (i.e., there are no waters or water features, including wetlands, of any kind in the entire review area). Rationale: N/A or describe rationale.
- ☐ There are "navigable waters of the United States" within Rivers and Harbors Act jurisdiction within the review area (complete table in section II.B).
- ☐ There are "waters of the United States" within Clean Water Act jurisdiction within the review area (complete appropriate tables in section II.C).
- ☒ There are waters or water features excluded from Clean Water Act jurisdiction within the review area (complete table in section II.D).

B. Rivers and Harbors Act of 1899 Section 10 (§ 10)[2]

§ 10 Name	§ 10 Size	§ 10 Criteria	Rationale for § 10 Determination
N/A	N/A	N/A	N/A

C. Clean Water Act Section 404

Territorial Seas and Traditional Navigable Waters ((a)(1) waters)[3]

(a)(1) Name	(a)(1) Size	(a)(1) Criteria	Rationale for (a)(1) Determination
N/A	N/A	N/A	N/A

Tributaries ((a)(2) waters):

(a)(2) Name	(a)(2) Size	(a)(2) Criteria	Rationale for (a)(2) Determination
N/A	N/A	N/A	N/A

Lakes and ponds, and impoundments of jurisdictional waters ((a)(3) waters):

(a)(3) Name	(a)(3) Size	(a)(3) Criteria	Rationale for (a)(3) Determination
N/A	N/A	N/A	N/A

Adjacent wetlands ((a)(4) waters):

(a)(4) Name	(a)(4) Size	(a)(4) Criteria	Rationale for (a)(4) Determination
N/A	N/A	N/A	N/A

[1] Map(s)/Figure(s) are attached to the AJD provided to the requestor.
[2] If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.
[3] A stand-alone TNW determination is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where independent upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD form.
[4] Some excluded waters, such as (b)(2) and (b)(4), may not be specifically identified on the AJD form unless a requestor specifically asks a Corps district to do so. Corps Districts may, in case-by-case instances, choose to identify some or all of these waters within the review area.
[5] Because of the broad nature of the (b)(1) exclusion and in an effort to collect data on specific types of waters that would be covered by the (b)(1) exclusion, four sub-categories of (b)(1) exclusions were administratively created for the purposes of the AJD Form. These four sub-categories are not new exclusions, but are simply administrative distinctions and remain (b)(1) exclusions as defined by the NWPR.

D. Excluded Waters or Features

Excluded waters ((b)(1) – (b)(12))[4]:

Exclusion Name	Exclusion Size	Exclusion[5]	Rationale for Exclusion Determination
Drainageway 1	166 linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	An email from the agent states that drainageway 1 is a narrow, unvegetated, ephemeral trench with no evidence of flow in the field (washouts, erosion, etc.) While it provides an ephemeral surface water connection onsite between Wetlands 1 and 2 as confirmed by aerial imagery and the provided delineation report. The agent who performed the delineation describes it as a dry upland ditch. Drainageway 1 does not contribute surface water flow directly or indirectly to an (a)(1) water in a typical year. It appears to have been formed in upland as historic aerial imagery does not show a relocated tributary within the site and does not meet the definition of an (a)(1) or (a)(2) water and is not a water of the US.
Wetland 1	0.18 acre	(b)(1) Non-adjacent wetland	The nearest (a)(3) water is Marshan Lake (approximately 3.2 miles southeast of the review area). Wetlands 1, 2, 3, and 7 do not abut a TNW or a lake, pond, tributary, or impoundment of a jurisdictional water. Wetland 3 is adjacent to a private ditch to the west, but the ditch does not meet the definition of a tributary as Drainageway 1 is ephemeral and tributaries must be perennial or intermittent in a typical year as per the NWPR, therefore Wetland 3 does not meet the definition of an adjacent wetland. Wetlands 1 and 2 connect to form one larger wetland complex offsite to the east, but aerial imagery does not show any surface water connection to Marshan Lake or any other water of the US. Topographic maps with LiDAR and the soil survey map show the wetlands surrounded by uplands. The USFWS NWI map does not show any wetlands continuing offsite that could render the wetlands in this review as adjacent to a WOUS. There are no tributaries providing a surface connection to a jurisdictional water of the US to the wetlands in review. Wetlands 1, 2, 3, and 7 do not have a surface water connection to Marshan Lake, do not meet the definition of adjacent wetlands, and are not waters of the US.
Wetland 2	0.91 acre	(b)(1) Non-adjacent wetland	
Wetland 3	0.12 acre	(b)(1) Non-adjacent wetland	
Wetland 7	0.04 acre	(b)(1) Non-adjacent wetland	

III. SUPPORTING INFORMATION

A. Select/enter all resources that were used to aid in this determination and attach data/maps to this document and/or references/citations in the administrative record, as appropriate.

_X_ Information submitted by, or on behalf of, the applicant/consultant: Almberg Site East Wetland Delineation Report August 20, 2020.
This information (is) sufficient for purposes of this AJD.
Rationale: *N/A*

[1] Map(s)/Figure(s) are attached to the AJD provided to the requestor.
[2] If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.
[3] A stand-alone TNW determination is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where independent upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD form.
[4] Some excluded waters, such as (b)(2) and (b)(4), may not be specifically identified on the AJD form unless a requestor specifically asks a Corps district to do so. Corps Districts may, in case-by-case instances, choose to identify some or all of these waters within the review area.
[5] Because of the broad nature of the (b)(1) exclusion and in an effort to collect data on specific types of waters that would be covered by the (b)(1) exclusion, four sub-categories of (b)(1) exclusions were administratively created for the purposes of the AJD Form. These four sub-categories are not new exclusions, but are simply administrative distinctions and remain (b)(1) exclusions as defined by the NWPR.

___ Data sheets prepared by the Corps: *Title(s) and/or date(s).*
_X_ Photographs: *(*aerial) Google Earth 1991-2020.
___ Corps Site visit(s) conducted on: *Date(s).*
_X_ Previous Jurisdictional Determinations (AJDs or PJDs): MVP-2019-00289-EJW (August 21, 2020)
___ Antecedent Precipitation Tool: *provide detailed discussion in Section III.B.*
_X_ USDA NRCS Soil Survey: Anoka County Soil Survey
_X_ USFWS NWI maps: USFWS National Wetlands Inventory
_X_ USGS topographic maps: 1:24K Circle Pines

Other data sources used to aid in this determination:

Data Source (select)	Name and/or date and other relevant information
USGS Sources	N/A.
USDA Sources	N/A.
NOAA Sources	N/A.
USACE Sources	N/A.
State/Local/Tribal Sources	N/A.
Other Sources	N/A.

B. Typical year assessment(s): N/A

C. Additional comments to support AJD:

[1] Map(s)/Figure(s) are attached to the AJD provided to the requestor.
[2] If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.
[3] A stand-alone TNW determination is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where independent upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD form.
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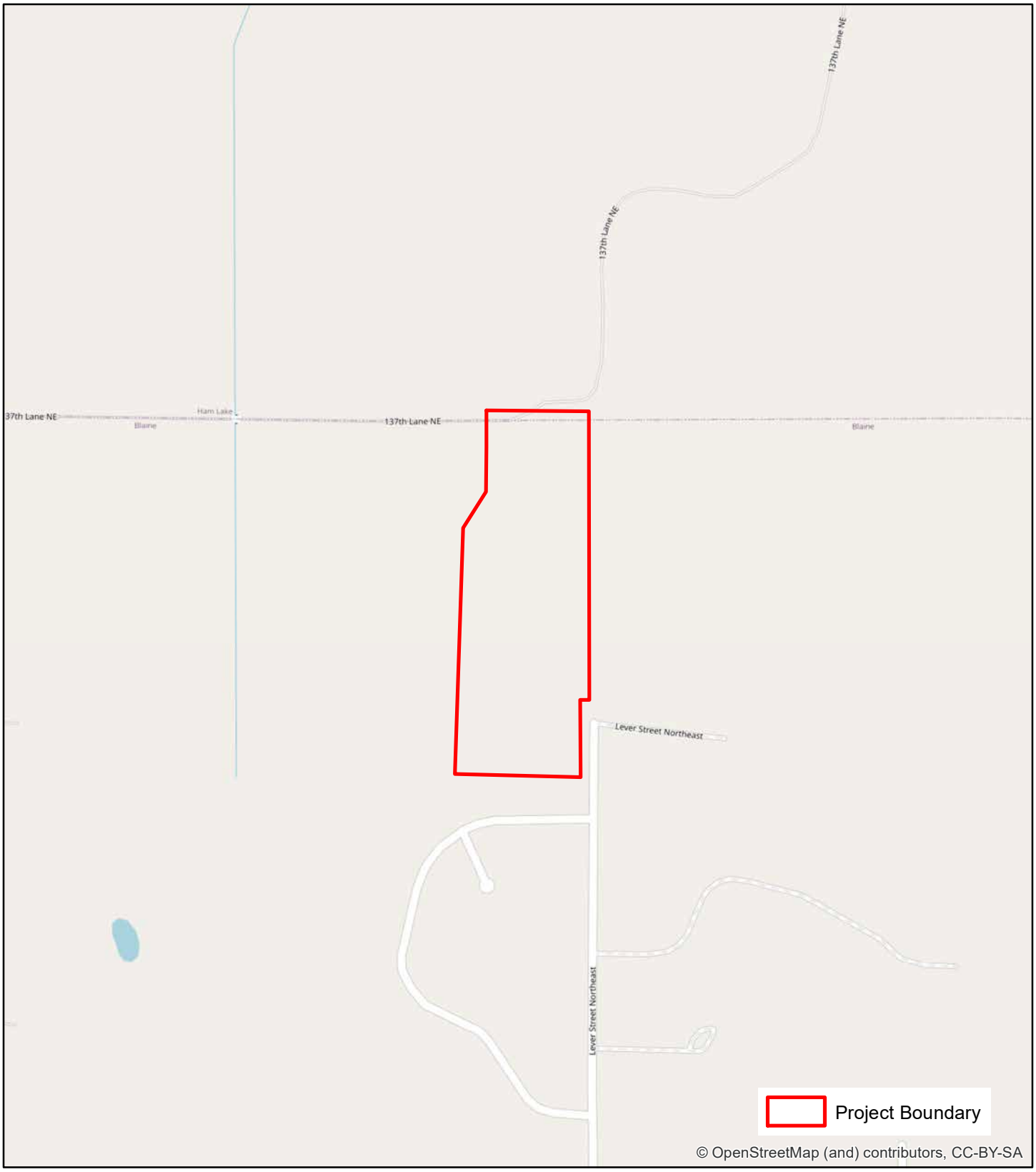

Figure 1 - Site Location Map

N

0 500 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: ESRI Streets Basemap

Almberg Site - East (KES 2018-176)
Blaine, Minnesota

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

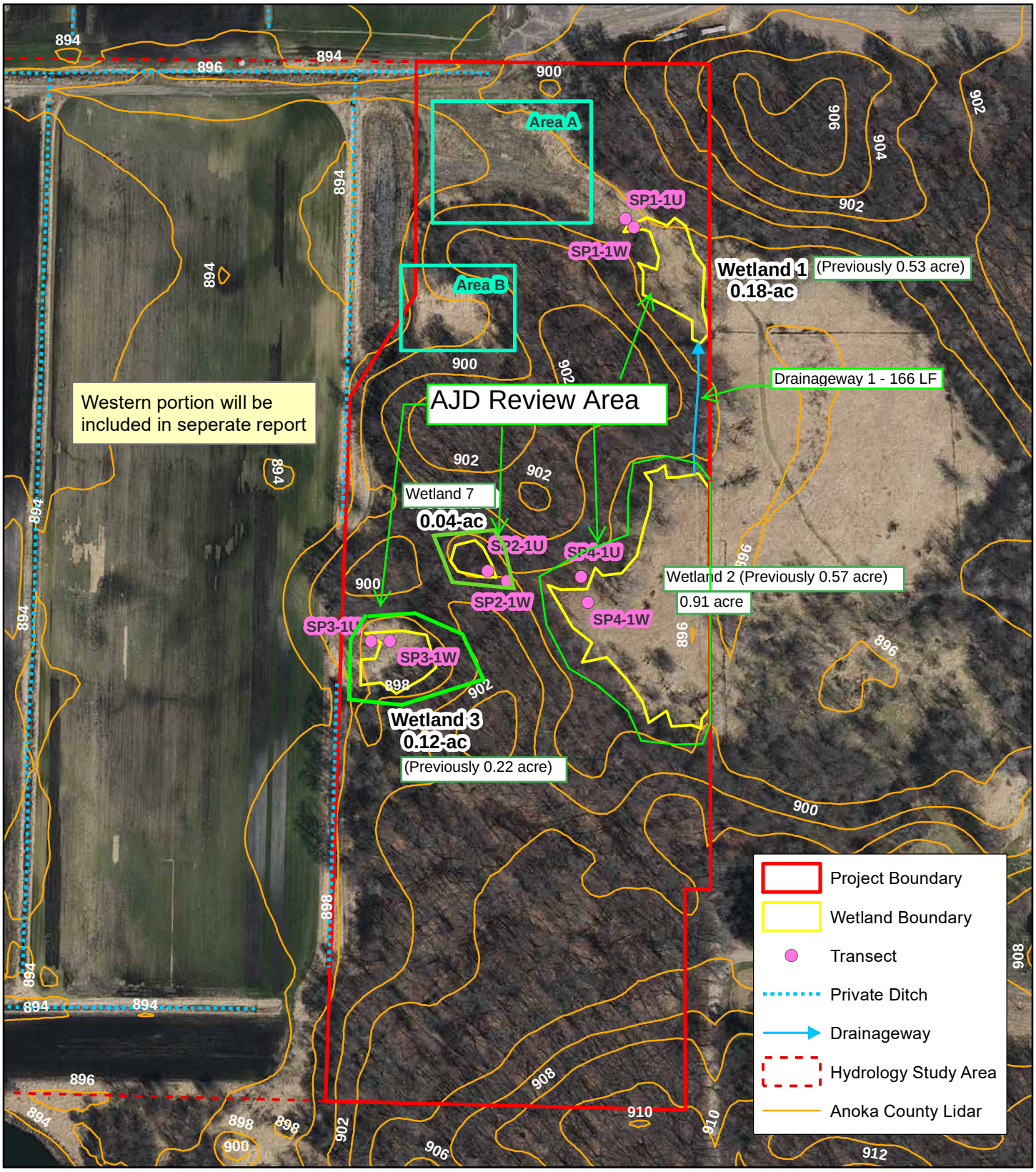

Figure 2 - Existing Conditions

N

0 175 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MnGEO Spatial Commons, MnTopo, Anoka County

Almberg Site - East (KES 2018-176)
Blaine, Minnesota

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

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL		
Applicant: The Excelsior Group – Tracey Rust & Ben Schmidt	**File No.: MVP-2019-00289-EJW**	**Date: 11/18/2020**

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:

Eric White
U.S. Army Corps of Engineers, Regulatory Branch
180 Fifth Street East, Suite 700
St. Paul, Minnesota 55101
(651) 290-5357

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:

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

08/21/2020

Regulatory File No. MVP-2019-02289-EJW

The Excelsior Group
c/o Tracey Rust & Ben Schmidt
1660 HWY 100, Ste 400
St. Louis Park, Minnesota 55416

Dear Ms. Rust & Mr. Schmidt:

This letter regards an approved jurisdictional determination for 68-acre Neumann/Almberg site in the City of Blaine. The project site is in Section 1, Township 31 North, Range 23 West, Anoka County, Minnesota. The review area for our jurisdictional determination is identified on the enclosed figures, labeled MVP-2019-02289-EJW Page 1 of 2 through Page 2 of 2.

The review area contains no 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 determination 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-2019-02289-EJW)

If you have any questions, please contact me in our St. Paul office at (651) 290-5357 or Eric.j.white@usace.army.mil. In any correspondence or inquiries, please refer to the Regulatory file number shown above.

Sincerely,

Eric White
Project Manager

Enclosures

cc:
Tim Kelly (LGU)
Ben Meyer (BWSR)
Anna Hotz (MPCA)
Melissa Barrett (Agent)

U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE

I. ADMINISTRATIVE INFORMATION

Completion Date of Approved Jurisdictional Determination (AJD): 08/21/2020
ORM Number: MVP-2019-00289-EJW
Associated JDs: N/A
Review Area Location[1]:
State/Territory: MN City: Blaine County/Parish/Borough: Anoka County
Center Coordinates of Review Area: Latitude 45.209516 Longitude -93.157094

II. FINDINGS

A. Summary: Check all that apply. At least one box from the following list MUST be selected. Complete the corresponding sections/tables and summarize data sources.

- ☐ The review area is comprised entirely of dry land (i.e., there are no waters or water features, including wetlands, of any kind in the entire review area). Rationale: N/A or describe rationale.
- ☐ There are "navigable waters of the United States" within Rivers and Harbors Act jurisdiction within the review area (complete table in section II.B).
- ☐ There are "waters of the United States" within Clean Water Act jurisdiction within the review area (complete appropriate tables in section II.C).
- ☒ There are waters or water features excluded from Clean Water Act jurisdiction within the review area (complete table in section II.D).

B. Rivers and Harbors Act of 1899 Section 10 (§ 10)[2]

§ 10 Name	§ 10 Size	§ 10 Criteria	Rationale for § 10 Determination
N/A	N/A	N/A	N/A

C. Clean Water Act Section 404

Territorial Seas and Traditional Navigable Waters ((a)(1) waters)[3]

(a)(1) Name	(a)(1) Size	(a)(1) Criteria	Rationale for (a)(1) Determination
N/A	N/A	N/A	N/A

Tributaries ((a)(2) waters):

(a)(2) Name	(a)(2) Size	(a)(2) Criteria	Rationale for (a)(2) Determination
N/A	N/A	N/A	N/A

Lakes and ponds, and impoundments of jurisdictional waters ((a)(3) waters):

(a)(3) Name	(a)(3) Size	(a)(3) Criteria	Rationale for (a)(3) Determination
N/A	N/A	N/A	N/A

Adjacent wetlands ((a)(4) waters):

(a)(4) Name	(a)(4) Size	(a)(4) Criteria	Rationale for (a)(4) Determination
N/A	N/A	N/A	N/A

[1] Map(s)/Figure(s) are attached to the AJD provided to the requestor.
[2] If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.
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D. Excluded Waters or Features

Excluded waters ((b)(1) – (b)(12))[4]:

Exclusion Name	Exclusion Size	Exclusion[5]	Rationale for Exclusion Determination
Ditch 1	2218 feet	(b)(1) Non-adjacent wetland	Ditch 1 is not a tributary, it is not a natural stream, and is not a relocated tributary, nor was constructed within a tributary or adjacent wetlands.
Ditch 2	1076 feet	(b)(1) Non-adjacent wetland	Ditch 2 is not a tributary, it is not a natural stream, and is not a relocated tributary, nor was constructed within a tributary or adjacent wetlands.
Ditch 3	1154 feet	(b)(1) Non-adjacent wetland	Ditch 3 is not a tributary, it is not a natural stream, and is not a relocated tributary, nor was constructed within a tributary or adjacent wetlands.
Ditch 4	1171 feet	(b)(1) Non-adjacent wetland	Ditch 4 is not a tributary, it is not a natural stream, and is not a relocated tributary, nor was constructed within a tributary or adjacent wetlands.
Ditch 5	546 feet	(b)(1) Non-adjacent wetland	Ditch 5 is not a tributary, it is not a natural stream, and is not a relocated tributary, nor was constructed within a tributary or adjacent wetlands.
Ditch 6	281 feet	(b)(1) Non-adjacent wetland	Ditch 6 is not a tributary, it is not a natural stream, and is not a relocated tributary, nor was constructed within a tributary or adjacent wetlands.
Ditch 7	564 feet	(b)(1) Non-adjacent wetland	Ditch 7 is not a tributary, it is not a natural stream, and is not a relocated tributary, nor was constructed within a tributary or adjacent wetlands.
Ditch 8	457 feet	(b)(1) Non-adjacent wetland	Ditch 8 is not a tributary, it is not a natural stream, and is not a relocated tributary, nor was constructed within a tributary or adjacent wetlands.
Ditch 9	1306 feet	(b)(1) Non-adjacent wetland	Ditch 9 is not a tributary, it is not a natural stream, and is not a relocated tributary, nor was constructed within a tributary or adjacent wetlands.
Wetland 1	0.53 acres	(b)(1) Non-adjacent wetland	Wetland 1 does not abut a TNW or a lake, pond, tributary, or impoundment of a jurisdictional water.
Wetland 2	0.57 acres	(b)(1) Non-adjacent wetland	Wetland 2 does not abut a TNW or a lake, pond, tributary, or impoundment of a jurisdictional water.
Wetland 3	0.22 acres	(b)(1) Non-adjacent wetland	Wetland 3 does not abut a TNW or a lake, pond, tributary, or impoundment of a jurisdictional water.
Wetland 4	0.29 acres	(b)(1) Non-adjacent wetland	Wetland 4 does not abut a TNW or a lake, pond, tributary, or impoundment of a jurisdictional water.
Wetland 5	0.96 acres	(b)(1) Non-adjacent wetland	Wetland 5 does not abut a TNW or a lake, pond, tributary, or impoundment of a jurisdictional water.
Wetland 6	0.31 acres	(b)(1) Non-adjacent wetland	Wetland 6 does not abut a TNW or a lake, pond, tributary, or impoundment of a jurisdictional water.

III. SUPPORTING INFORMATION

A. Select/enter all resources that were used to aid in this determination and attach data/maps to this document and/or references/citations in the administrative record, as appropriate.

_X_ Information submitted by, or on behalf of, the applicant/consultant: *Neumann/Almberg Site Blaine (KES#2018-176) (07/01/2020).*

[1] Map(s)/Figure(s) are attached to the AJD provided to the requestor.
[2] If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.
[3] A stand-alone TNW determination is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where independent upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD form.
[4] Some excluded waters, such as (b)(2) and (b)(4), may not be specifically identified on the AJD form unless a requestor specifically asks a Corps district to do so. Corps Districts may, in case-by-case instances, choose to identify some or all of these waters within the review area.
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This information is and is not sufficient for purposes of this AJD.
Rationale: *A review of historical aerial imagery was also necessary to determine if the ditches were relocated tributaries.*

___ Data sheets prepared by the Corps: *Title(s) and/or date(s).*
_X_ Photographs: (aerial) Google Earth 1991-2020, MHAPO 1938 and 1964
___ Corps Site visit(s) conducted on: *Date(s).*
___ Previous Jurisdictional Determinations (AJDs or PJDs): *ORM Number(s) and date(s).*
___ Antecedent Precipitation Tool: *provide detailed discussion in Section III.B.*
_X_ USDA NRCS Soil Survey: Anoka County Soil Survey
_X_ USFWS NWI maps: USFWS National Wetlands Inventory
_X_ USGS topographic maps: 1:24K Circle Pines

Other data sources used to aid in this determination:

Data Source (select)	Name and/or date and other relevant information
USGS Sources	N/A.
USDA Sources	N/A.
NOAA Sources	N/A.
USACE Sources	N/A.
State/Local/Tribal Sources	N/A.
Other Sources	N/A.

B. Typical year assessment(s): N/A or provide typical year assessment for each relevant data source used to support the conclusions in the AJD.

Additional comments to support AJD: The nearest (a)(3) water is Marshan Lake (approximately 3.2 miles southeast of the review area). The ditches on site (Ditches 1-9) are not tributaries. They are not natural streams and are not relocated tributaries nor were they constructed within tributaries. This was confirmed through desktop review of historical and current aerial imagery. The ditches do not meet the definition of a tributary, therefore Ditches 1-9 are not waters of the US and not jurisdictional under the Clean Water Act. The ditches are the only surface water outlets for the wetlands within the review area (Wetlands 1-6). Since Ditches 1-9 are not tributaries, Wetlands 1-6 are not adjacent wetlands and are not waters of the US.

[1] Map(s)/Figure(s) are attached to the AJD provided to the requestor.
[2] If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.
[3] A stand-alone TNW determination is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where independent upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD form.
[4] Some excluded waters, such as (b)(2) and (b)(4), may not be specifically identified on the AJD form unless a requestor specifically asks a Corps district to do so. Corps Districts may, in case-by-case instances, choose to identify some or all of these waters within the review area.
[5] Because of the broad nature of the (b)(1) exclusion and in an effort to collect data on specific types of waters that would be covered by the (b)(1) exclusion, four sub-categories of (b)(1) exclusions were administratively created for the purposes of the AJD Form. These four sub-categories are not new exclusions, but are simply administrative distinctions and remain (b)(1) exclusions as defined by the NWPR.

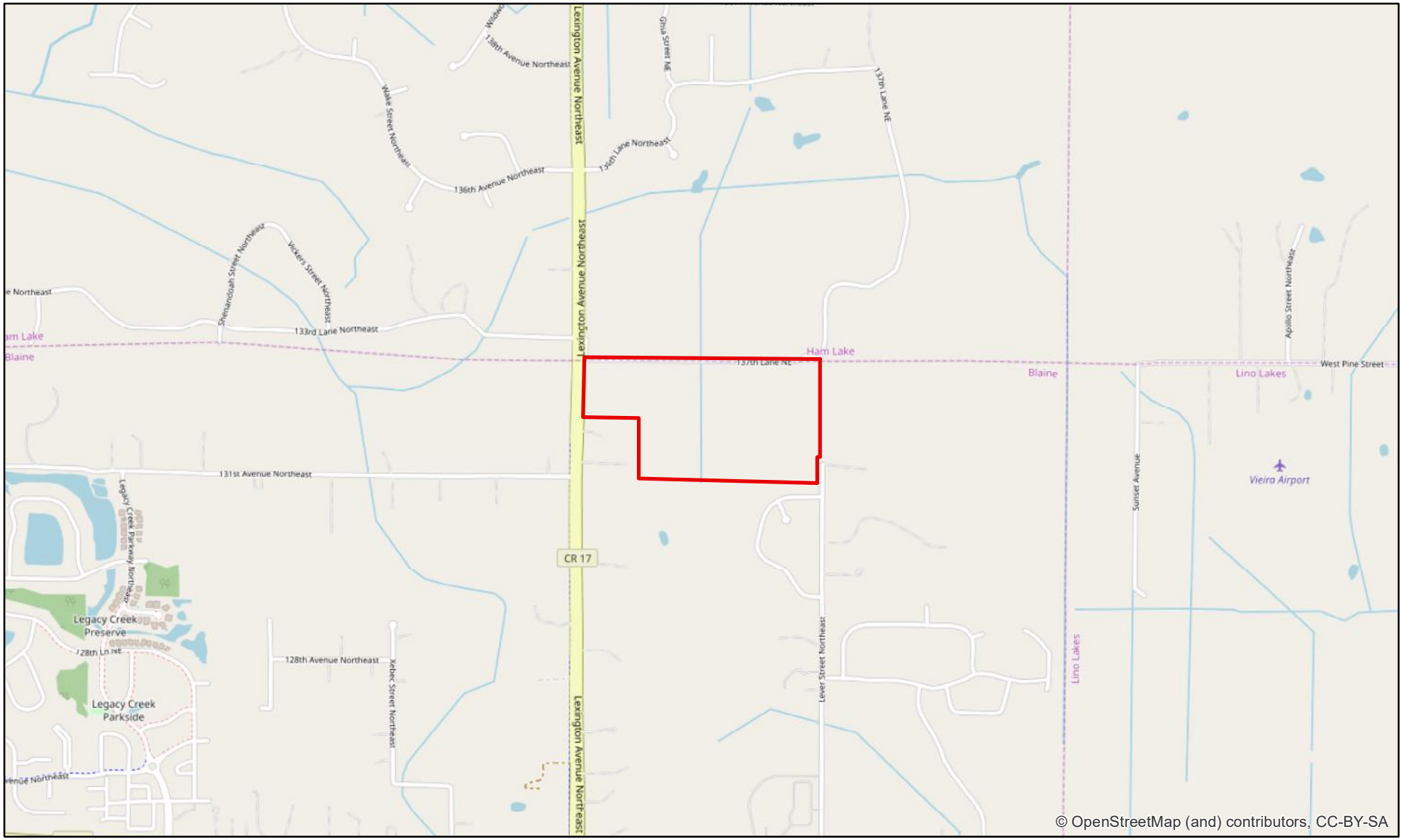

Figure 1 - Site Location

N

0 1,500 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: ESRI Streets Basemap

Site Boundary

Neumann / Almberg Site (KES 2018-176)
Blaine, Minnesota

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

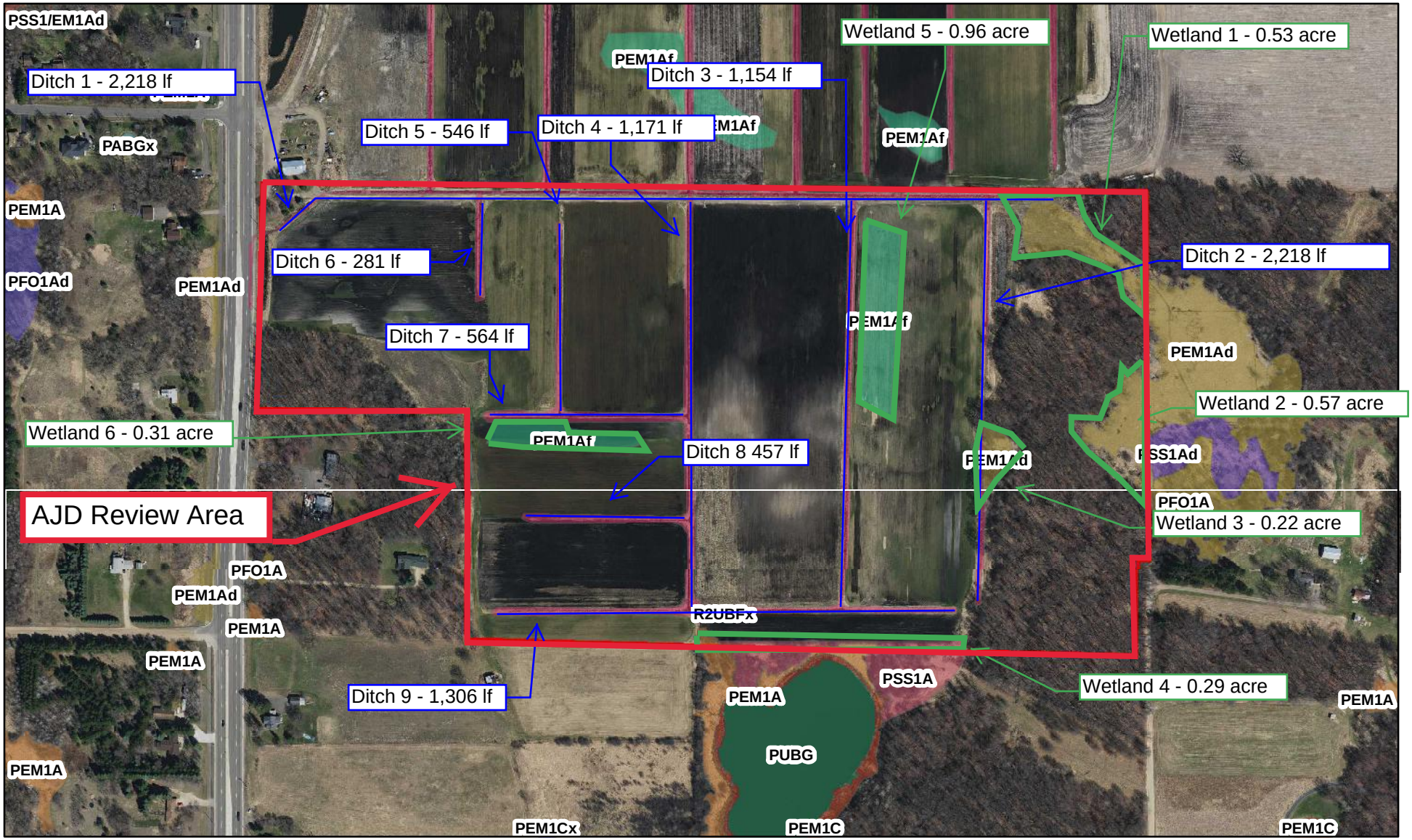

Figure 3 - National Wetlands Inventory

N

0 400 Feet

Site Boundary

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USFWS

Almberg Site (KES 2018-176)
Blaine, Minnesota

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

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL		
Applicant: The Excelsior Group – Tracey Rust & Ben Schmidt	**File No.: MVP-2019-00289-EJW**	**Date: 08/21/2020**

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:

Eric White
U.S. Army Corps of Engineers, Regulatory Branch
180 Fifth Street East, Suite 700
St. Paul, Minnesota 55101
(651) 290-5357

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:

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

08/20/2020

Regulatory File No. MVP-2020-01517-DJM

THIS IS NOT A PERMIT

Adam Cameron
2500 Shadywood Road, Suite 130
Orono, MN 55331

Dear Mr. Cameron:

We have received your submittal described below. You may contact the Project Manager with questions regarding the evaluation process. The Project Manager may request additional information necessary to evaluate your submittal.

File Number: MVP-2020-01517-DJM

Applicant: Tracey Rust

Project Name: Koepp and Breen Parcels

Project Location: Section 1 of Township 31 North, Range 23, Anoka County, Minnesota (Latitude: 45.2063466260268; Longitude: -93.1601954722133)

Received Date: 08/19/2020

Project Manager: Daniel Munson
(651) 290-5191
Daniel.J.Munson@usace.army.mil

Additional information about the St. Paul District Regulatory Program can be found on our web site at http://www.mvp.usace.army.mil/missions/regulatory.

Please note that initiating work in waters of the United States prior to receiving Department of the Army authorization could constitute a violation of Federal law. If you have any questions, please contact the Project Manager.

Thank you.

U.S. Army Corps of Engineers
St. Paul District
Regulatory Branch

Appendix C

Groundwater Well Logs and Soil Borings

Lexington Waters Residential Development EAW

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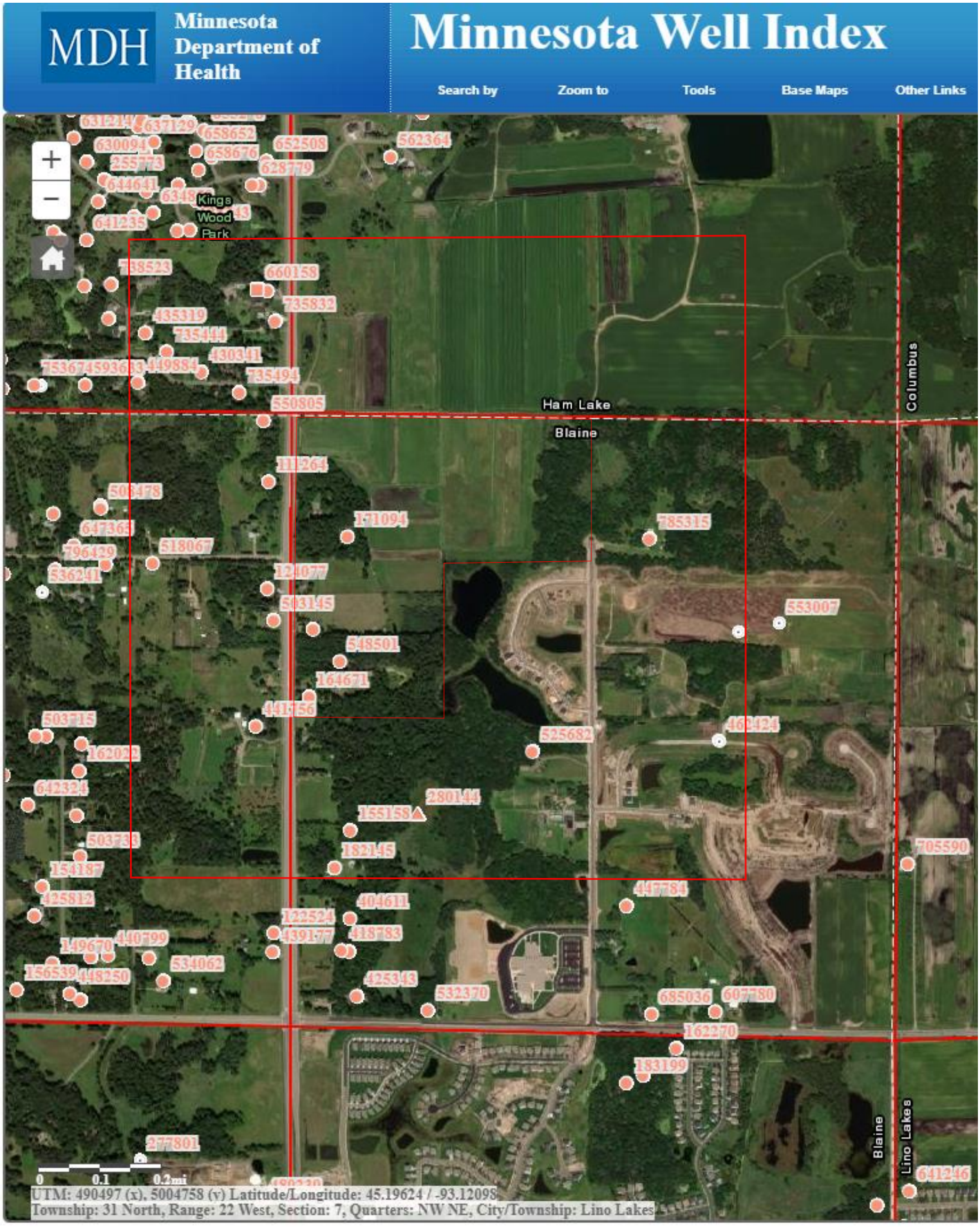


Lexington Waters Nearby Registered Groundwater Wells

Minnesota Unique Well Number

171094

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 04/15/1991
Update Date 02/14/2014
Received Date 10/21/1981

Well Name	Township	Range	Dir	Section	Subsection
KOEPP, DAN	31	23	W	1	BBCDBA

Elevation 901 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 13143 LEXINGTON AV NE BLAINE MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND FINE	0	51	BROWN	
CLAY SANDY	51	66	GRAY	
SAND FINE	66	86	BROWN	
CLAY STICKY	86	102	RED	
CLAY SMOOTH	102	160	GRY/BRN	
SAND FINE	160	171	BROWN	
CLAY SANDY	171	188	GRAY	
SAND & GRAVEL	188	217	VARIED	

Remarks

Well Depth 217 ft. **Depth Completed** 213 ft. **Date Well Completed** 07/09/1981

Drill Method Non-specified Rotary **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Welded
Drive Shoe? Yes ☒ No ☐ **Above/Below** 1 ft.

Casing Diameter **Weight**
4 in. To 210 ft. 11 lbs./ft.

Open Hole From 210 ft. To 213 ft.

Screen? ☐ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
4 in.	20	3 ft.	210 ft.	213 ft.

Static Water Level
26 ft. land surface Measure 07/09/1981

Pumping Level (below land surface)
ft. 3 hrs. Pumping at 35 g.p.m.

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		ft.	ft.

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 09/30/1981
Manufacturer's name GRUNDFOS
Model Number SP4-10 HP 1 Volt 220
Length of drop pipe 42 ft Capacity 21 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat sand +larger Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method GPS SA Off (averaged) (15 meters)
System UTM - NAD83, Zone 15, Meters X 487365 Y 5006085
Unique Number Verification Address verification Input Date 01/20/2010

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Renner E.H. & Sons	02015	RENNER, R.

Minnesota Unique Well Number

164671

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 04/15/1991
Update Date 02/14/2014
Received Date 07/31/1981

Well Name	Township	Range	Dir	Section	Subsection
HANSON,	31	23	W	1	BCCCBD

Elevation 907 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 12911 LEXINGTON AV NE BLAINE MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
FINE SAND	0	40	VARIED	
FINE SAND W/WOOD	40	60	BLU/GRY	
FINE SAND & CLAY	60	62	BLU/GRY	
MUDDY SAND &	62	80	RED/BRN	
FINE SAND W/LUMPS	80	87		
CLAY, LAYERS OF	87	150	VARIED	
FINE SANDY CLAY	150	160		
MUDDY SAND	160	170		
WATER SAND VERY	170	180		

Remarks

Well Depth	Depth Completed	Date Well Completed
180 ft.	180 ft.	07/21/1981

Drill Method Cable Tool **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☒ No ☐ **Above/Below** 1 ft.

Casing Diameter		Weight	
4	in. To 176 ft.	11	lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
4 in.	20	4.5 ft.	176 ft.	180 ft.

Static Water Level

30 ft. land surface Measure 07/21/1981

Pumping Level (below land surface)

35 ft. 2 hrs. Pumping at 25 g.p.m.

Wellhead Completion

Pitless adapter manufacturer Model

☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☐ Yes ☒ No ☐ Not Specified

Nearest Known Source of Contamination

feet Direction Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 07/21/1981

Manufacturer's name DOMING

Model Number 4AMN HP 0.75 Volt 230

Length of drop pipe 57 ft Capacity 20 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer Quat. buried

Last Strat sand Depth to Bedrock ft

Located by Minnesota Geological Survey

Locate Method GPS SA Off (averaged) (15 meters)

System UTM - NAD83, Zone 15, Meters X 487263 Y 5005664

Unique Number Verification Address verification Input Date 01/20/2010

Angled Drill Hole

Well Contractor

Salverda Well Co	62006	SALVERDA, B.
Licensee Business	Lic. or Reg. No.	Name of Driller

Minnesota Unique Well Number

625000

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 06/20/2000
Update Date 03/18/2010
Received Date 01/28/2000

Well Name	Township	Range	Dir	Section	Subsection
COONS, CLIFF	31	23	W	1	BCBCDB

Elevation 909 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 13007 LEXINGTON AV NE BLAINE MN 55449

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	18	BROWN	SOFT
CLAY SAND	18	40	BROWN	SOFT
CLAY	40	80	RED	HARD
CLAY	80	110	GRAY	SOFT
CLAY	110	170	BROWN	SOFT
SAND	170	185	BROWN	SOFT

Remarks

Well Depth 185 ft. **Depth Completed** 185 ft. **Date Well Completed** 10/19/1999

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 177 ft.	2.05 lbs./ft.	8 in. To 30 ft.
		6.2 in. To 185 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
2 in.	10	8 ft.	177 ft.	185 ft.

Static Water Level

30 ft. land surface Measure 10/19/1999

Pumping Level (below land surface)

174 ft. 2 hrs. Pumping at 30 g.p.m.

Wellhead Completion

Pitless adapter manufacturer YES Model

☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
high solids bentonite	2.5 Sacks	0 ft.	30 ft.

Nearest Known Source of Contamination

65 feet Northeas Direction Septic tank/drain field Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 10/20/1999

Manufacturer's name GOULDS

Model Number HP 0.5 Volt 230

Length of drop pipe 63 ft Capacity 10 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous

First Bedrock Aquifer Quat. buried

Last Strat sand-brown Depth to Bedrock ft

Located by Minnesota Geological Survey

Locate Method GPS SA Off (averaged) (15 meters)

System UTM - NAD83, Zone 15, Meters X 487273 Y 5005841

Unique Number Verification Address verification Input Date 01/20/2010

Angled Drill Hole

Well Contractor

Stodola Don Well Co. 27172 MOORE, C.

Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

548501

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 06/14/1996
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
	31	23	W	1	BCCABD

Elevation 905 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 12961 LEXINGTON AV NE BLAINE MN 55434

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	30	BROWN	SOFT
CLAY	30	35	GRAY	SOFT
SAND	35	45	GRAY	SOFT
CLAY	45	53	GRAY	SOFT
SAND	53	77	RED	SOFT
CLAY	77	155	BROWN	SOFT
SILT	155	175	BROWN	SOFT
SAND	175	183	TAN	SOFT

Remarks

Well Depth 183 ft. **Depth Completed** 183 ft. **Date Well Completed** 09/01/1994

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 179 ft.	lbs./ft.	8 in. To 30 ft.
		6.2 in. To 183 ft.

Open Hole From 0 ft. To ft.

Screen? ☒ **Type** stainless **Make** HOWARD SMITH

Diameter	Slot/Gauze	Length	Set	
2 in.	10	4 ft.	179 ft.	183 ft.

Static Water Level
30 ft. land surface Measure 09/01/1994

Pumping Level (below land surface)
177 ft. 1 hrs. Pumping at 30 g.p.m.

Wellhead Completion
Pitless adapter manufacturer WHITEWATER Model
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite	2 Sacks	ft.	30 ft.

Nearest Known Source of Contamination
80 feet East Direction Septic tank/drain field Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 12/20/1994
Manufacturer's name AERMOTOR
Model Number PN02223- HP 0.75 Volt 230
Length of drop pipe 42 ft Capacity 12 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat sand-brown Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:12,000) (>15 meters)
System UTM - NAD83, Zone 15, Meters X 487344 Y 5005756
Unique Number Verification Address verification Input Date 03/19/2010

Angled Drill Hole

Well Contractor
Stodola Don Well Co. 27172 LEIBY, F.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

735444

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date
Update Date 02/05/2010
Received Date 05/23/2006

Well Name	Township	Range	Dir	Section	Subsection
	32	23	W	35	DDCBAC

Elevation 899 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 4027 133RD LA NE HAM LAKE MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND & CLAY	0	51	GRAY	SOFT
SAND & GRAVEL	51	89	BROWN	SOFT
CLAY	89	153	BROWN	SOFT
SAND & GRAVEL	153	165	BROWN	SOFT

Remarks

Well Depth	Depth Completed	Date Well Completed
165 ft.	165 ft.	01/30/2006

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☒ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☒ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 155 ft.	0 lbs./ft.	7.8 in. To 165 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** plastic **Make** BIG FOOT

Diameter	Slot/Gauze	Length	Set
4 in.	15	10 ft.	155 ft. 165 ft.

Static Water Level
20 ft. land surface Measure 01/30/2006

Pumping Level (below land surface)
60 ft. 3 hrs. Pumping at 20 g.p.m.

Wellhead Completion
Pitless adapter manufacturer MASS Model JC-4
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
cuttings	0	35 ft.	155 ft.
high solids bentonite	3 Sacks	ft.	35 ft.

Nearest Known Source of Contamination
50 feet North Direction Sewer Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 01/30/2006
Manufacturer's name SCHAEFER
Model Number HP 0.75 Volt 230
Length of drop pipe 40 ft Capacity 12 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat sand +larger-brown Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method GPS SA Off (averaged) (15 meters)
System UTM - NAD83, Zone 15, Meters X 486887 Y 5006574
Unique Number Verification Address verification Input Date 01/04/2010

Angled Drill Hole

Well Contractor
A Ruppert Well, Inc. 1572 BASTIAN, W.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

182145

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 04/15/1991
Update Date 02/14/2014
Received Date 04/03/1984

Well Name	Township	Range	Dir	Section	Subsection
RHOADES,	31	23	W	1	CBCDCC

Elevation 910 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 12575 LEXINGTON AV W BLAINE MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
FINE SAND BRN BLU	0	44	VARIED	
LAYERS OF SAND &	44	61	BLU/GRY	
FINE SAND	61	78	RED/BRN	
CLAY & GRAVEL	78	82		
CLAY	82	99	RED/BRN	
FINE MUDDY SAND	99	128		
SANDY CLAY	128	147		
FINE WATER SAND	147	158		
WATER SAND	158	163		
FINE MUDDY SAND	163	167		

Remarks

Well Depth 167 ft. **Depth Completed** 163 ft. **Date Well Completed** 03/22/1984

Drill Method Cable Tool **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded

Drive Shoe? Yes ☒ No ☐ **Above/Below** 1 ft.

Casing Diameter **Weight**

4 in. To 159 ft. 11 lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
4 in.	15	4 ft.	159 ft.	163 ft.

Static Water Level

29 ft. land surface Measure 03/22/1984

Pumping Level (below land surface)

35 ft. 1 hrs. Pumping at 25 g.p.m.

Wellhead Completion

Pitless adapter manufacturer Model

☐ Casing Protection ☒ 12 in. above grade

☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☐ Yes ☒ No ☐ Not Specified

Nearest Known Source of Contamination

feet Direction Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 03/22/1984

Manufacturer's name PIONEER

Model Number A10-12C HP 0.5 Volt 230

Length of drop pipe 60 ft Capacity 15 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer Quat. buried

Last Strat sand+silt Depth to Bedrock ft

Located by Minnesota Geological Survey

Locate Method Digitization (Screen) - Map (1:12,000) (>15 meters)

System UTM - NAD83, Zone 15, Meters X 487329 Y 5005211

Unique Number Verification Address verification Input Date 09/13/2010

Angled Drill Hole

Well Contractor

Salverda Well Co.	82006	SALVERDA, W.
Licensee Business	Lic. or Reg. No.	Name of Driller

Minnesota Unique Well Number

124077

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 04/15/1991
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
KLECKER, K.	31	23	W	2	ADAACA

Elevation 910 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 13090 LEXINGTON AV NE BLAINE MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	40	BROWN	SOFT
SAND	40	55	BLUE	SOFT
CLAY	55	66	RED	HARD
SAND	66	83	RED	SOFT

Remarks

Well Depth 83 ft. **Depth Completed** 83 ft. **Date Well Completed** 09/11/1976

Drill Method Cable Tool **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☒ No ☐ **Above/Below** 1.5 ft.

Casing Diameter **Weight**
4 in. To 79 ft. 11 lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
4 in.		4 ft.	79 ft.	83 ft.

Static Water Level
15 ft. land surface Measure 09/11/1976

Pumping Level (below land surface)
25 ft. 2 hrs. Pumping at 20 g.p.m.

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☐ Yes ☐ No ☒ Not Specified

Nearest Known Source of Contamination
75 feet West Direction Septic tank/drain field Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 09/11/1976
Manufacturer's name STA-RITE
Model Number GP862 HP 0.5 Volt 230
Length of drop pipe 54 ft Capacity 12 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat sand-red Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)
System UTM - NAD83, Zone 15, Meters X 487152 Y 5005949
Unique Number Verification Input Date 01/01/1990

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Torgerson, Art & Son	02203	TORGERSON, G.

Minnesota Unique Well Number

440629

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 04/15/1991
Update Date 01/08/2019
Received Date

Well Name	Township	Range	Dir	Section	Subsection
HERBST, RUSS	31	23	W	1	DBAABD

Elevation 904 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 12875 LEVER ST NE BLAINE MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
TOPSOIL	0	1	BROWN	SOFT
SAND	1	18	BROWN	SOFT
SANDY CLAY	18	34	BROWN	SOFT
SANDY CLAY	34	51	GRAY	SOFT
FINE SAND	51	61	BROWN	SOFT

Remarks

SEALED 07-30-2018 BY 1862

Well Depth 61 ft. **Depth Completed** 61 ft. **Date Well Completed** 12/08/1987

Drill Method Non-specified Rotary **Drill Fluid** Revert

Use domestic **Status** Sealed

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Glued

Drive Shoe? Yes ☐ No ☐ **Above/Below** 2 ft.

Casing Diameter		Weight	
4	in. To 53 ft.		lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length		Set			
4	in.	10	8	ft.	53	ft.	61 ft.

Static Water Level

13 ft. land surface Measure 12/08/1987

Pumping Level (below land surface)

50 ft. 1.5 hrs. Pumping at 30 g.p.m.

Wellhead Completion

Pitless adapter manufacturer MAASS Model 4J1

☐ Casing Protection ☒ 12 in. above grade

☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
neat cement	37	7 ft.	ft.

Nearest Known Source of Contamination

feet Direction Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 12/10/1987

Manufacturer's name AERMOTOR

Model Number A20B75 HP 0.75 Volt 230

Length of drop pipe 40 ft Capacity 20 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer Quat. buried

Last Strat sand-brown Depth to Bedrock ft

Located by Minnesota Geological Survey

Locate Method Digitization (Screen) - Map (1:12,000) (>15 meters)

System UTM - NAD83, Zone 15, Meters X 488346 Y 5005545

Unique Number Verification Name on mailbox Input Date 09/13/2010

Angled Drill Hole

Well Contractor

Traut M.J. Well Co.	71536	GARDELL
Licensee Business	Lic. or Reg. No.	Name of Driller

Minnesota Well Index Report | **440629** | Printed on 03/24/2021

HE-01205-15

Minnesota Unique Well Number

430341

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 06/02/2005
Update Date 02/05/2010
Received Date

Well Name	Township	Range	Dir	Section	Subsection
BROVOLD, KEN	32	23	W	35	DDCADC

Elevation 899 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 4055 133RD LA NE HAM LAKE MN 55303

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	14	BROWN	SOFT
SAND & GRAVEL	14	18	GRAY	SOFT
CLAY	18	55	GRAY	SOFT
CLAY & GRAVEL	55	73	BROWN	SOFT
SAND	73	90	RED	SOFT

Remarks

Well Depth 90 ft. **Depth Completed** 90 ft. **Date Well Completed** 09/14/1987

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☒ **Above/Below** 1 ft.

Casing Diameter	Weight	Hole Diameter
4 in. To 76 ft.	lbs./ft.	6.2 in. To 90 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set
2.7 in.	10	16.8 ft.	76 ft. 90 ft.

Static Water Level
9 ft. land surface Measure 09/14/1987

Pumping Level (below land surface)
73 ft. 1 hrs. Pumping at 40 g.p.m.

Wellhead Completion
Pitless adapter manufacturer MONITOR Model SNAPPY
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
neat cement	3 Sacks	ft.	30 ft.

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 09/18/1987
Manufacturer's name AERMOTOR
Model Number SD12-75 HP 0.75 Volt 230
Length of drop pipe 40 ft Capacity 15 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat sand-red Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method GPS SA Off (averaged) (15 meters)
System UTM - NAD83, Zone 15, Meters X 486980 Y 5006521
Unique Number Verification Address verification Input Date 01/04/2010

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Mork Well Co.	02133	LAWRANCE, R.

Minnesota Well Index Report **430341** Printed on 03/24/2021
HE-01205-15

Minnesota Unique Well Number

462424

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 04/15/1991
Update Date 10/05/2018
Received Date 08/27/1990

Well Name	Township	Range	Dir	Section	Subsection
HERBST,	31	23	W	1	DBAABD

Elevation 904 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 12875 LEVER ST NE BLAINE MN 55434

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	15		
CLAY	15	65		
GRAVEL	65	185		
SHALE & HARD ROCK	185	275		

Remarks

SEALED 07-30-2018 BY 1862

Well Depth 275 ft. **Depth Completed** 275 ft. **Date Well Completed** 07/31/1990

Drill Method Non-specified Rotary **Drill Fluid**

Use domestic **Status** Sealed

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**

Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter **Weight**

4 in. To 207 ft. lbs./ft.

Open Hole From 207 ft. To 275 ft.

Screen? ☐ **Type** **Make**

Static Water Level

20 ft. land surface Measure 07/31/1990

Pumping Level (below land surface)

ft. hrs. Pumping at 45 g.p.m.

Wellhead Completion

Pitless adapter manufacturer WHITEWATER Model

☐ Casing Protection ☐ 12 in. above grade

☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
well grouted, type unknown		ft.	ft.

Nearest Known Source of Contamination

feet Direction Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 08/02/1990

Manufacturer's name AERMOTOR

Model Number HP 0.75 Volt

Length of drop pipe 63 ft Capacity g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock St.Lawrence-Tunnel City Aquifer St.Lawrence-

Last Strat St.Lawrence-Tunnel City Depth to Bedrock 185 ft

Located by Minnesota Geological Survey

Locate Method GPS SA Off (averaged) (15 meters)

System UTM - NAD83, Zone 15, Meters X 488349 Y 5005545

Unique Number Verification Address verification Input Date 01/20/2010

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Torgerson Well Co.	27056	TORGERSON, S.

Minnesota Unique Well Number

735494

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date
Update Date 08/18/2014
Received Date 03/20/2006

Well Name	Township	Range	Dir	Section	Subsection
YANG,	32	23	W	35	DDDCAC

Elevation 899 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 4112 133RD LA NE HAM LAKE MN 55304

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SANDY CLAY	0	10	BROWN	SOFT
SAND	10	42	BROWN	SOFT
CLAY	42	58	GRAY	SOFT
FINE SAND	58	95	RED/BRN	SOFT
CLAY	95	105	RED	M.HARD
CLAY	105	175	RED/BRN	MEDIUM
CLAY & SAND	175	190	BROWN	MEDIUM
GRAVEL & ROCK	190	195	BRN/BLK	HARD
SHALE & SANDROCK	195	216	GRN/BRN	HARD

Remarks

Well Depth	Depth Completed	Date Well Completed
216 ft.	216 ft.	02/14/2006

Drill Method Non-specified Rotary **Drill Fluid** Qwik gel

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☒ No ☐ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 196 ft.	11 lbs./ft.	6.5 in. To 196 ft.
		4 in. To 216 ft.

Open Hole From 196 ft. To 216 ft.
Screen? ☐ **Type** **Make**

Static Water Level
25 ft. land surface Measure 02/14/2006

Pumping Level (below land surface)
60 ft. 3 hrs. Pumping at 50 g.p.m.

Wellhead Completion
Pitless adapter manufacturer MERRILL Model MCK6
☒ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
cuttings		30 ft.	196 ft.
high solids bentonite	2 Sacks	ft.	30 ft.

Nearest Known Source of Contamination
50 feet Southwes Direction Septic tank/drain field Type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed 02/16/2006
Manufacturer's name AERMOTOR
Model Number 20T100 HP 1 Volt 230
Length of drop pipe 60 ft Capacity 20 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous
First Bedrock Tunnel City Group Aquifer Tunnel City
Last Strat Tunnel City Group Depth to Bedrock 195 ft
Located by Minnesota Geological Survey
Locate Method GPS SA Off (averaged) (15 meters)
System UTM - NAD83, Zone 15, Meters X 487079 Y 5006467
Unique Number Verification Address verification Input Date 01/04/2010

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
McAlpine Well Drilling	27695	MCALPINE, T.

Minnesota Unique Well Number

441756

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 04/15/1991
Update Date 12/28/2011
Received Date

Well Name	Township	Range	Dir	Section	Subsection
BROWN, BOB	31	23	W	2	DAAABB

Elevation 911 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 12880 LEXINGTON AV NE BLAINE MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
FINE MUDDY SAND	0	45		
LAYERS CLAY/F-	45	76		
CLAY	76	107	RED/BRN	
FINE SAND	107	114	RED/BRN	
CLAY	114	117	BLU/GRY	
CLAY	117	135	BROWN	
SANDY CLAY	135	186	BROWN	
FINE SAND	186	240		
SAND & GRAVEL	240	244		

Remarks

SEALED: 2 INCH WELL - 24FT DEEP / NEAT CEMENT

Well Depth 244 ft. **Depth Completed** 244 ft. **Date Well Completed** 02/04/1988

Drill Method Multiple methods used **Drill Fluid** Bentonite

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☒ No ☐ **Above/Below** 1 ft.

Casing Diameter **Weight**
4 in. To 240 ft. 10.7 lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
4 in.	25	4.5 ft.	240 ft.	244 ft.

Static Water Level
32 ft. land surface Measure 02/04/1988

Pumping Level (below land surface)
34 ft. 2 hrs. Pumping at 25 g.p.m.

Wellhead Completion
Pitless adapter manufacturer MONITOR Model 6 FT BURY
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☐ Yes ☒ No ☐ Not Specified

Nearest Known Source of Contamination
feet Direction Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 02/04/1988
Manufacturer's name F&W
Model Number 4F19B10- HP 1 Volt 230
Length of drop pipe 10 ft Capacity 20 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat sand +larger Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:12,000) (>15 meters)
System UTM - NAD83, Zone 15, Meters X 487121 Y 5005585
Unique Number Verification Tax Records Input Date 03/18/2010

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Salverda Well Co.	82006	SALVERDA, W.

Minnesota Unique Well Number

526165

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 12/17/1993
Update Date 10/16/2019
Received Date 10/13/1993

Well Name	Township	Range	Dir	Section	Subsection
BIRNEY, ELMER	31	23	W	1	ACADDA

Elevation 902 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 13045 LEVER ST NE BLAINE MN 55449

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	19	BROWN	SOFT
SAND	19	36	GRAY	SOFT
CLAY	36	45	GRAY	SOFT
CLAY	45	120	BROWN	MEDIUM
CLAY	120	138	TAN	HARD
SANDY CLAY	138	148	BROWN	MEDIUM
SAND	148	153	BROWN	SOFT

Remarks

SEALED 08-30-2019 BY 1862

Well Depth	Depth Completed	Date Well Completed
153 ft.	153 ft.	09/15/1993

Drill Method Cable Tool **Drill Fluid**

Use domestic **Status** Sealed

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☒ No ☐ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 150 ft.	11 lbs./ft.	4 in. To 150 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** COOK

Diameter	Slot/Gauze	Length	Set	
2 in.	10	4 ft.	149 ft.	153 ft.

Static Water Level

24 ft. land surface Measure 09/14/1993

Pumping Level (below land surface)

34 ft. 2 hrs. Pumping at 20 g.p.m.

Wellhead Completion

Pitless adapter manufacturer MONITOR Model SNAPPY
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		ft.	150 ft.

Nearest Known Source of Contamination

110 feet East Direction Septic tank/drain field Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 09/15/1993
Manufacturer's name AERMOTOR
Model Number SD12-75 HP 0.75 Volt 230
Length of drop pipe 40 ft Capacity 18 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer Quat. buried
Last Strat sand-brown Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method GPS SA Off (averaged) (15 meters)
System UTM - NAD83, Zone 15, Meters X 488401 Y 5005832
Unique Number Verification Address verification Input Date 01/20/2010

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Bill's Well	33655	SUTTON, G.

Minnesota Unique Well Number

111264

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 04/15/1991
Update Date 08/18/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
HUBER, LEO	31	23	W	2	AAADCB

Elevation 902 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 13200 LEXINGTON AV NE BLAINE MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	22		
CLAY & SOME SAND	22	55	BLUE	
CLAY	55	152	RED	HARD
HARDPAN	152	197		HARD
MICA-ORGANIC MUD,	197	259	BLACK	
SHALE, SANDROCK	259	305	YEL/GRN	

Remarks

Well Depth 305 ft. **Depth Completed** 305 ft. **Date Well Completed** 05/24/1977

Drill Method Non-specified Rotary **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☐ No ☐ **Above/Below** 1 ft.

Casing Diameter **Weight**
4 in. To ft. 11 lbs./ft.

Open Hole From ft. To ft.

Screen? ☐ **Type** **Make**

Static Water Level
28 ft. land surface Measure 05/18/1977

Pumping Level (below land surface)
28 ft. 4 hrs. Pumping at 40 g.p.m.

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		ft.	ft.

Nearest Known Source of Contamination
80 feet West Direction Septic tank/drain field Type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed 05/19/1977
Manufacturer's name MCDONALD
Model Number HP 0.5 Volt 230
Length of drop pipe 42 ft Capacity 10 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Tunnel City Group Aquifer Tunnel City
Last Strat Tunnel City Group Depth to Bedrock 259 ft
Located by Minnesota Geological Survey
Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)
System UTM - NAD83, Zone 15, Meters X 487156 Y 5006231
Unique Number Verification Input Date 01/01/1990

Angled Drill Hole

Well Contractor
Mork Well Co. 02133
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Well Index Report | **111264** | Printed on 03/24/2021 HE-01205-15

Minnesota Unique Well Number

550805

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 06/14/1996
Update Date 02/14/2014
Received Date 09/28/1994

Well Name	Township	Range	Dir	Section	Subsection
HUBER, JIM &	31	23	W	2	AAAABA

Elevation 899 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 13250 LEXINGTON AV NE BLAINE MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
PEAT	0	10		
CLAY	10	50	BLUE	
SANDY CLAY	50	65		
CLAY	65	176		
WATERSAND	176	186		

Remarks

OLD WELL CLOSED H-55862

Well Depth 186 ft. **Depth Completed** 186 ft. **Date Well Completed** 08/11/1994

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 180 ft.	2 lbs./ft.	8 in. To 36 ft.
		6.7 in. To 186 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make**

Diameter	Slot/Gauze	Length	Set
in.	15	ft. 180 ft.	186 ft.

Static Water Level

20 ft. land surface Measure 08/11/1994

Pumping Level (below land surface)

60 ft. 2 hrs. Pumping at 25 g.p.m.

Wellhead Completion

Pitless adapter manufacturer MONITOR Model 8PL410

☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite	2 Sacks	6 ft.	36 ft.

Nearest Known Source of Contamination

80 feet Northeas Direction Septic tank/drain field Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed

Manufacturer's name

Model Number HP Volt

Length of drop pipe ft Capacity g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer Quat. buried
Last Strat sand Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method GPS SA Off (averaged) (15 meters)
System UTM - NAD83, Zone 15, Meters X 487144 Y 5006392
Unique Number Verification Address verification Input Date 01/20/2010

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Lauren McCullough Well	82443	OTTEN, D.

Minnesota Unique Well Number

449884

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 04/15/1991
Update Date 02/05/2010
Received Date

Well Name	Township	Range	Dir	Section	Subsection
LANTZ, STEVE	32	23	W	35	DCDDAA

Elevation 900 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 4002 133RD LA NE HAM LAKE MN 55304

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	22	BROWN	SOFT
SAND	22	33	GRAY	SOFT
CLAY	33	36	GRAY	HARD
SAND	36	41	GRAY	SOFT
CLAY	41	57	GRAY	SOFT
SAND	57	90	GRAY	SOFT
CLAY	90	90	BROWN	SOFT

Remarks

Well Depth 90 ft. **Depth Completed** 90 ft. **Date Well Completed** 07/21/1988

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☒ **Above/Below** 1 ft.

Casing Diameter	Weight	Hole Diameter
4 in. To 85 ft.	lbs./ft.	8 in. To 90 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set
2 in.	10	5 ft.	85 ft. 90 ft.

Static Water Level
10 ft. land surface Measure 07/21/1988

Pumping Level (below land surface)
84 ft. 2 hrs. Pumping at 75 g.p.m.

Wellhead Completion
Pitless adapter manufacturer MERRILL Model SPK
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
well grouted, type unknown	2 Cubic yards	7 ft.	80 ft.

Nearest Known Source of Contamination
60 feet Southeas Direction Sewer Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 07/25/1988
Manufacturer's name AERMOTOR
Model Number SD12-50 HP 0.5 Volt 230
Length of drop pipe 40 ft Capacity 10 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat clay-brown Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method GPS SA Off (averaged) (15 meters)
System UTM - NAD83, Zone 15, Meters X 486812 Y 5006494
Unique Number Verification Address verification Input Date 01/04/2010

Angled Drill Hole

Well Contractor
Mc Alpine Brothers 86270 GOODIN, G.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

280145

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 08/18/2020
Update Date 08/18/2020
Received Date

Well Name	Township	Range	Dir	Section	Subsection
MNDNR	31	23	W	1	CBDABD

Elevation 897.8 **Elev. Method** Surveyed

Address

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
PEAT	0	4		
MEDIUM TO FINE	4	9		

Remarks

Well Depth 8.7 ft. **Depth Completed** 8.7 ft. **Date Well Completed** 08/12/2020

Drill Method Hand Auger **Drill Fluid**

Use monitor well **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter		Weight	
2	in. To 8.2	ft.	lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** plastic **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
2 in.	10	0.5 ft.	8.2 ft.	8.7 ft.

Static Water Level
5 ft. land surface Measure 08/12/2020

Pumping Level (below land surface)

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☐ Yes ☒ No ☐ Not Specified

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☒ Not Installed Date Installed
Manufacturer's name
Model Number HP Volt
Length of drop pipe ft Capacity g.p. Typ

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer Quat. Water
Last Strat sand Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 487551 Y 5005353
Unique Number Verification Info/GPS from data Input Date 08/18/2020

Angled Drill Hole

Well Contractor
Minnesota Dept. of Natural | MNDNR | ANDREWS, K.
Licensee Business | Lic. or Reg. No. | Name of Driller

Minnesota Unique Well Number

573173

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 06/05/1998
Update Date 08/18/2014
Received Date 09/20/1996

Well Name	Township	Range	Dir	Section	Subsection
ANDERSON,	32	23	W	35	DDAACD

Elevation 901 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 13436 LEXINGTON AV NE HAM LAKE MN 55304

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	42	BROWN	SOFT
CLAY	42	71	BROWN	MEDIUM
SAND	71	98	GRAY	SOFT
CLAY	98	194	BROWN	MEDIUM
BOULDERS	194	198	DARK	HARD
SANDSTONE	198	220	VARIED	HARD

Remarks

Well Depth 220 ft. **Depth Completed** 220 ft. **Date Well Completed** 05/31/1996

Drill Method Non-specified Rotary **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☒ No ☐ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 200 ft.	11 lbs./ft.	8 in. To 200 ft.

Open Hole From 200 ft. To 220 ft.

Screen? ☐ **Type** **Make**

Static Water Level

Pumping Level (below land surface)

Wellhead Completion

Pitless adapter manufacturer BAKER Model SNAPPY
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
high solids bentonite	2 Sacks	0 ft.	30 ft.

Nearest Known Source of Contamination

feet West Direction Septic tank/drain field Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed
Manufacturer's name FIW
Model Number HP 0.75 Volt 230
Length of drop pipe 40 ft Capacity 19 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Tunnel City Group Aquifer Tunnel City
Last Strat Tunnel City Group Depth to Bedrock 198 ft
Located by Minnesota Geological Survey
Locate Method GPS SA Off (averaged) (15 meters)
System UTM - NAD83, Zone 15, Meters X 487154 Y 5006733
Unique Number Verification Address verification Input Date 01/04/2010

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Bill's Well	33655	SUTTON, G.

Minnesota Unique Well Number

735832

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 10/31/2006
Update Date 02/05/2010
Received Date 06/19/2006

Well Name	Township	Range	Dir	Section	Subsection
OTT, JUSTIN	32	23	W	35	DDADDB

Elevation 902 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 13362 LEXINGTON AV NE HAM LAKE MN 55304

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	25	BROWN	
SAND	25	40	GRAY	
CLAY	40	55	GRAY	
SAND	55	94	BROWN	

Remarks

Well Depth 94 ft. **Depth Completed** 94 ft. **Date Well Completed** 02/24/2006

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☒ **From** **To**

Casing Type Single casing **Joint** Glued
Drive Shoe? Yes ☐ No ☒ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 90 ft.	0 lbs./ft.	8 in. To 94 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set
3.8 in.	10	4 ft.	90 ft. 94 ft.

Static Water Level
17 ft. land surface Measure 02/24/2006

Pumping Level (below land surface)
94 ft. 1 hrs. Pumping at 50 g.p.m.

Wellhead Completion
Pitless adapter manufacturer SNAPPY Model
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
high solids bentonite	3 Sacks	ft.	30 ft.

Nearest Known Source of Contamination
53 feet West Direction Septic tank/drain field Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 02/27/2006
Manufacturer's name AERMOTOR
Model Number 2 HP 0.5 Volt 230
Length of drop pipe 40 ft Capacity 12 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat sand-brown Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:12,000) (>15 meters)
System UTM - NAD83, Zone 15, Meters X 487176 Y 5006655
Unique Number Verification Address verification Input Date 01/04/2010

Angled Drill Hole

Well Contractor
Barott Drilling Services, Inc. 1860
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

660158

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 09/06/2001
Update Date 08/18/2014
Received Date 07/27/2001

Well Name	Township	Range	Dir	Section	Subsection
ANDERSON,	32	23	W	35	DDAACC

Elevation 901 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 13436 LEXINGTON AV NE HAM LAKE MN 55304

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	15	BROWN	
SAND	15	40	GRAY	
CLAY	40	56	GRAY	
SAND	56	95	BROWN	
CLAY	95	170	BROWN	
CLAY/GRAVEL	170	180	BROWN	
SANDSTONE	180	196	YEL/WHT	MEDIUM

Remarks

Well Depth 196 ft. **Depth Completed** 196 ft. **Date Well Completed** 05/08/2001

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use irrigation **Status** Active

Well Hydrofractured? Yes ☐ No ☒ **From** **To**

Casing Type Single casing **Joint** Threaded

Drive Shoe? Yes ☒ No ☐ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 184 ft.	11 lbs./ft.	8 in. To 182 ft.
		4 in. To 196 ft.

Open Hole From 182 ft. To 196 ft.

Screen? ☐ **Type** **Make**

Static Water Level

22 ft. land surface Measure 05/08/2001

Pumping Level (below land surface)

196 ft. 1 hrs. Pumping at 60 g.p.m.

Wellhead Completion

Pitless adapter manufacturer MAAS 1 1/4 Model STRAP ON

☐ Casing Protection ☒ 12 in. above grade

☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
high solids bentonite	3 Sacks	0 ft.	30 ft.

Nearest Known Source of Contamination

60 feet West Direction Body of water Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 05/09/2001

Manufacturer's name AERMOTOR

Model Number 2 WIRE HP 1.5 Volt 230

Length of drop pipe 60 ft Capacity 25 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous

First Bedrock St.Lawrence-Tunnel City Aquifer St.Lawrence-

Last Strat St.Lawrence-Tunnel City Depth to Bedrock 180 ft

Located by Minnesota Geological Survey

Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or

System UTM - NAD83, Zone 15, Meters X 487128 Y 5006738

Unique Number Verification Address verification Input Date 01/04/2010

Angled Drill Hole

Well Contractor

Barott B. Well Co. 02566 BAROTT, B.

Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

280144

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 08/18/2020
Update Date 08/18/2020
Received Date

Well Name	Township	Range	Dir	Section	Subsection
MNDNR	31	23	W	1	CBDABD

Elevation 897.8 **Elev. Method** Surveyed

Address

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
PEAT	0	4		

Remarks
WELL ASSIGNED TO MNDNR TO TRACK THIS WELL.

Well Depth	Depth Completed	Date Well Completed
3.95 ft.	3.95 ft.	08/12/2020

Drill Method Hand Auger **Drill Fluid**

Use monitor well **Status** Active

Well Hydrofractured? Yes ☐ No ☒ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Open Hole From ft. To ft.

Screen? ☒ **Type** plastic **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
2 in.	10	5 ft.	-1 ft.	3.9 ft.

Static Water Level
1 ft. land surface Measure 08/12/2020

Pumping Level (below land surface)

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☐ Yes ☒ No ☐ Not Specified

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☒ Not Installed Date Installed
Manufacturer's name
Model Number HP Volt
Length of drop pipe ft Capacity g.p. Typ

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer Quat. Water
Last Strat Recent peat, muck Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 487551 Y 5005354
Unique Number Verification Info/GPS from data Input Date 08/18/2020

Angled Drill Hole

Well Contractor
Minnesota Dept. Of Natural | 1358 | ANDREWS, K.
Licensee Business | Lic. or Reg. No. | Name of Driller

Minnesota Unique Well Number

518067

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 03/03/1993
Update Date 02/14/2014
Received Date 12/15/1992

Well Name	Township	Range	Dir	Section	Subsection
KOSLOWSKI,	31	23	W	2	AACCCD

Elevation 903 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 4020 131ST ST BLAINE MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	10	TAN	SOFT
SAND	10	40	GRAY	SOFT
CLAY FIRM	40	60	GRAY	
SAND	60	85	RED	SOFT
ROCKY CLAY FIRM	85	168	RED	
CLAY	168	175	BLUE	HARD
CLAY	175	179	BROWN	HARD
SANDSTONE & SHALE	179	195	BLUE	HARD

Remarks

Well Depth 195 ft. **Depth Completed** 195 ft. **Date Well Completed** 11/12/1992

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☒ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 187 ft.	lbs./ft.	8 in. To 184 ft.
		5 in. To 195 ft.

Open Hole From 187 ft. To 195 ft.

Screen? ☐ **Type** **Make**

Static Water Level
15 ft. land surface Measure 09/03/1992

Pumping Level (below land surface)
30 ft. 2 hrs. Pumping at 20 g.p.m.

Wellhead Completion
Pitless adapter manufacturer MONITOR Model SNAPPY
☒ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
cuttings		30 ft.	179 ft.
neat cement	2 Sacks	179 ft.	184 ft.
neat cement	6 Sacks	ft.	30 ft.

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 11/12/1992
Manufacturer's name MYERS
Model Number RM2N52-12 HP 0.5 Volt 230
Length of drop pipe 60 ft Capacity 12 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock St.Lawrence Formation Aquifer St.Lawrence
Last Strat St.Lawrence Formation Depth to Bedrock 179 ft
Located by Minnesota Geological Survey
Locate Method GPS SA Off (averaged) (15 meters)
System UTM - NAD83, Zone 15, Meters X 486849 Y 5006016
Unique Number Verification Address verification Input Date 01/20/2010

Angled Drill Hole

Well Contractor
Praught M. Well Co. 86576 PRAUGHT, S.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

525682

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 12/15/1993
Update Date 08/18/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
HALL, DAN	31	23	W	1	CAABCA

Elevation 901 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 12860 LEVER ST NE BLAINE MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	40	GRAY	SOFT
CLAY	40	88	GRAY	MEDIUM
SAND	88	95	RED	SOFT
CLAY & GRAVEL	95	120	RED	HARD
SAND & GRAVEL	120	131		SOFT
CLAY & GRAVEL	131	181		SOFT
GRAVEL	181	200	TAN	SOFT
CLAY & GRAVEL	200	330	RED	HARD
SHALE & SANDSTONE	330	366	GREEN	HARD

Remarks

Well Depth 366 ft. **Depth Completed** 366 ft. **Date Well Completed** 05/03/1993

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 340 ft.	lbs./ft.	8 in. To 340 ft.
		4.7 in. To 366 ft.

Open Hole From 340 ft. To 366 ft.

Screen? ☐ **Type** **Make**

Static Water Level
25 ft. land surface Measure 05/03/1993

Pumping Level (below land surface)
26 ft. 2 hrs. Pumping at 25 g.p.m.

Wellhead Completion
Pitless adapter manufacturer MAASS Model 4J1
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
neat cement	5 Sacks	6 ft.	35 ft.
neat cement	3 Sacks	330 ft.	340 ft.

Nearest Known Source of Contamination
70 feet South Direction Septic tank/drain field Type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed 05/03/1993
Manufacturer's name GOLD
Model Number HP 0.5 Volt 230
Length of drop pipe 40 ft Capacity 10 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Tunnel City Group Aquifer Tunnel City
Last Strat Tunnel City Group Depth to Bedrock 330 ft
Located by Minnesota Geological Survey
Locate Method GPS SA Off (averaged) (15 meters)
System UTM - NAD83, Zone 15, Meters X 487855 Y 5005519
Unique Number Verification Address verification Input Date 01/20/2010

Angled Drill Hole

Well Contractor
Sampson Well Co. 02673 SAMPSON, B.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

503145

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 04/15/1991
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
CHRISTMAN,	31	23	W	2	ADADAC

Elevation 911 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 13010 LEXINGTON AV NE BLAINE MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	90		
CLAY	90	180		
WATER SAND	180	202		

Remarks

ABANDON WELL PERMANENTLY SEALED

Well Depth 202 ft. **Depth Completed** 202 ft. **Date Well Completed** 07/20/1989

Drill Method Non-specified Rotary **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**

Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter	Weight
4 in. To 197 ft.	lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
in.	12	ft.	ft.	ft.

Static Water Level

25 ft. land surface Measure 07/20/1989

Pumping Level (below land surface)

ft. hrs. Pumping at 40 g.p.m.

Wellhead Completion

Pitless adapter manufacturer WHITEWATER Model

☐ Casing Protection ☐ 12 in. above grade

☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
well grouted, type unknown		ft.	ft.

Nearest Known Source of Contamination

feet Direction Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 07/21/1989

Manufacturer's name AERMOTOR

Model Number HP 0.5 Volt

Length of drop pipe 63 ft Capacity g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer Quat. buried

Last Strat sand Depth to Bedrock ft

Located by Minnesota Geological Survey

Locate Method GPS SA Off (averaged) (15 meters)

System UTM - NAD83, Zone 15, Meters X 487168 Y 5005866

Unique Number Verification Address verification Input Date 01/20/2010

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Torgerson Well Co.	27056	TORGERSON, S.

Minnesota Unique Well Number

435319

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 04/15/1991
Update Date 02/05/2010
Received Date

Well Name	Township	Range	Dir	Section	Subsection
ROBINSON,	32	23	W	35	DDBCCC

Elevation 901 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 4005 133RD LA NE HAM LAKE MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	45	BROWN	
CLAY	45	60	GRAY	
SAND	60	92	RED	

Remarks

Well Depth	Depth Completed	Date Well Completed
92 ft.	92 ft.	11/11/1987

Drill Method Non-specified Rotary **Drill Fluid** Qwik gel

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☒ No ☐ **Above/Below** 1 ft.

Casing Diameter	Weight	Hole Diameter
4 in. To 88 ft.	lbs./ft.	8.7 in. To 30 ft.
		6.2 in. To 92 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
2 in.	10	4 ft.	88 ft.	92 ft.

Static Water Level
20 ft. land surface Measure 11/11/1987

Pumping Level (below land surface)
40 ft. 3 hrs. Pumping at 25 g.p.m.

Wellhead Completion
Pitless adapter manufacturer SNAPPY Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
neat cement		6 ft.	30 ft.

Nearest Known Source of Contamination
100 feet North Direction Sewer Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 01/13/1988
Manufacturer's name RED JACKET
Model Number HP 0.5 Volt 230
Length of drop pipe 60 ft Capacity 12 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat sand-red Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method GPS SA Off (averaged) (15 meters)
System UTM - NAD83, Zone 15, Meters X 486831 Y 5006624
Unique Number Verification Address verification Input Date 01/04/2010

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
A-well Co.	02484	WOLTERS, P.

Minnesota Unique Well Number

155158

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 04/15/1991
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
	31	23	W	1	CBCACD

Elevation 911 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 12801 LEXINGTON AV NE MN

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	15		
CLAY	15	35		
GRAVEL	35	75		
CLAY	75	145		
WATERSAND	145	160		

Remarks

Well Depth 160 ft. **Depth Completed** 160 ft. **Date Well Completed** 06/01/1978

Drill Method Non-specified Rotary **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded

Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter **Weight**

4 in. To 150 ft. lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
2 in.		10 ft.	150 ft.	160 ft.

Static Water Level

30 ft. land surface Measure 06/01/1978

Pumping Level (below land surface)

40 ft. 3 hrs. Pumping at 25 g.p.m.

Wellhead Completion

Pitless adapter manufacturer Model

☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Nearest Known Source of Contamination

feet Direction Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 08/31/1978

Manufacturer's name AERMOTOR

Model Number HP 0.5 Volt

Length of drop pipe 54 ft Capacity g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer Quat. buried

Last Strat sand Depth to Bedrock ft

Located by Minnesota Geological Survey

Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)

System UTM - NAD83, Zone 15, Meters X 487371 Y 5005311

Unique Number Verification Information from Input Date 01/01/1990

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Torgerson Well Co.	27056	TORGERSON, S.

Minnesota Unique Well Number

785315

County Anoka
Quad Circle Pines
Quad ID 119B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 01/17/2012
Update Date 09/25/2012
Received Date 12/01/2011

Well Name	Township	Range	Dir	Section	Subsection
BRUGGEMAN,	31	23	W	1	ABCDBA

Elevation 900 ft. **Elev. Method** Calc from NED (Natl.Elev.Dataset-30m)

Address

C/W 13101 LEVER ST BLAINE MN 55449

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND	0	30	BROWN	
SAND	30	40	GRAY	
SANDY CLAY	40	68	GRAY	
CLAY	68	104	BROWN	
SAND	104	140	BROWN	

Remarks

Well Depth 140 ft. **Depth Completed** 140 ft. **Date Well Completed** 10/20/2011

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Glued

Drive Shoe? Yes ☐ No ☒ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 136 ft.	lbs./ft.	8 in. To 140 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set
4 in.	10	4 ft.	136 ft. 140 ft.

Static Water Level

32 ft. land surface Measure 10/20/2011

Pumping Level (below land surface)

140 ft. 1 hrs. Pumping at 50 g.p.m.

Wellhead Completion

Pitless adapter manufacturer SNAPPY Model 1"

☐ Casing Protection ☒ 12 in. above grade

☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
well grouted, type unknown	7 Sacks	ft.	50 ft.

Nearest Known Source of Contamination

55 feet West Direction Sewer Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 10/25/2011

Manufacturer's name SCHAEFER

Model Number 2WIRE HP 1 Volt 230

Length of drop pipe 60 ft Capacity 20 g.p. Typ

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous

First Bedrock Aquifer

Last Strat Depth to Bedrock ft

Located by Minnesota Department of Health

Locate Method GPS SA Off (averaged) (15 meters)

System UTM - NAD83, Zone 15, Meters X 488166 Y 5006079

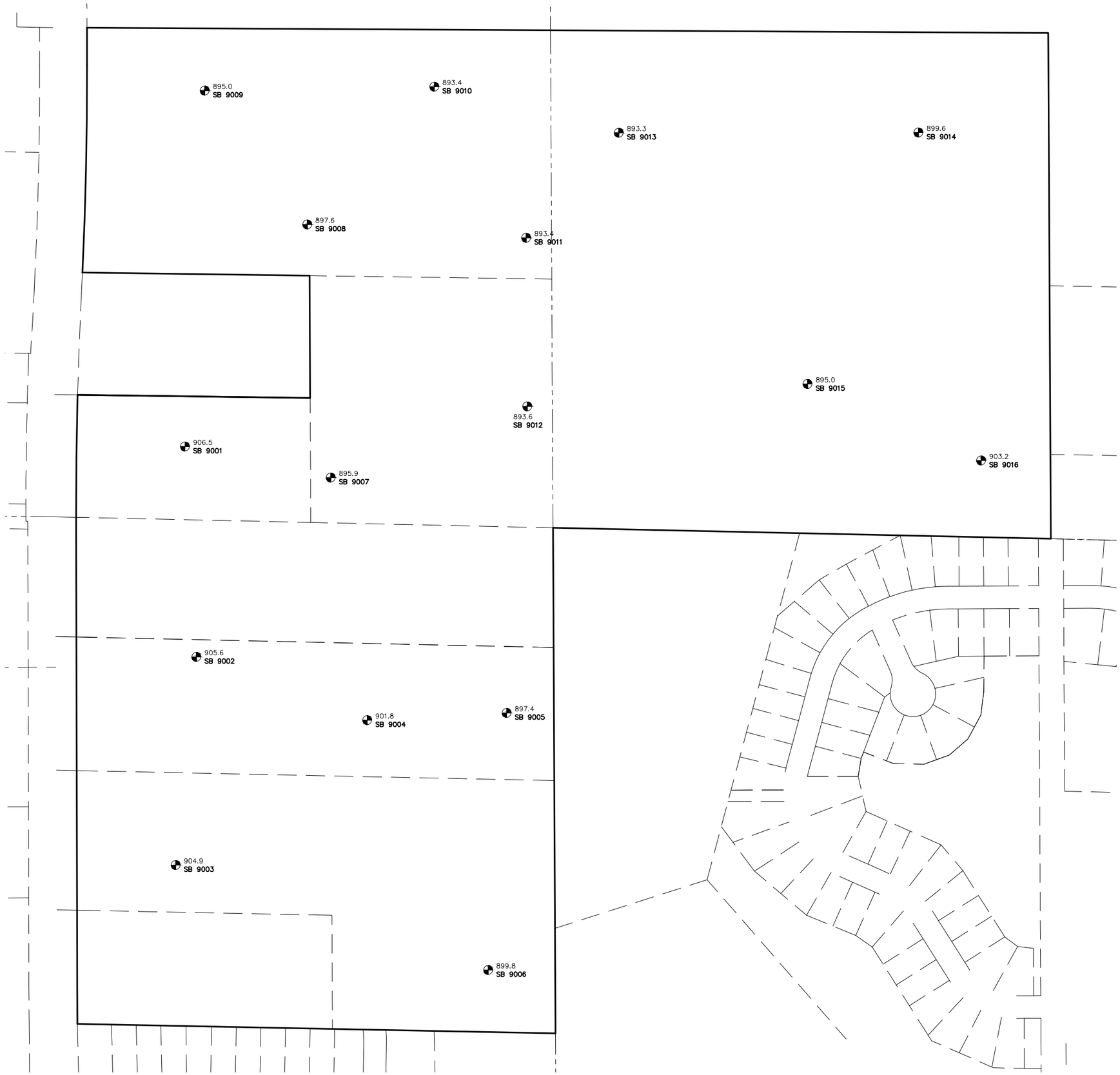
Unique Number Verification Info/GPS from data Input Date 10/20/2011

Angled Drill Hole

Well Contractor

Barott Drilling Services, Inc. 1860 LASKE, M.

Licensee Business Lic. or Reg. No. Name of Driller


895.0
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SB 9016
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SB 9004
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SB 9003
899.8
SB 9006

HAUGO GEOTECHNICAL SERVICES
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BORING NUMBER 9001

CLIENT The Excelsior Group, LLC
PROJECT NAME Almberg Acres & Breen Property
PROJECT NUMBER 21-0224
PROJECT LOCATION Blaine
DATE STARTED 3/30/21 **COMPLETED** 3/30/21
GROUND ELEVATION 906.5 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 750
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
▽ **AT TIME OF DRILLING** 12.50 ft / Elev 894.00 ft
LOGGED BY GD **CHECKED BY** PG
AT END OF DRILLING ---
NOTES
AFTER DRILLING --- Not Encountered with Cave-In Depth of 11 feet

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0		(SM) Silty Sand, Trace Roots, slightly organic, black, moist. (Topsoil)	AU 33				
		(SP-SM) Poorly Graded Sand and Silt, fine grained, bornw, very loose. (Alluvium)	SS 34		2-2-1 (3)		
5		(SM) Silty Sand, fine grained, brown, moist, medium dense. (Alluvium)	SS 35		3-7-8 (15)		
		(SP-SM) Poorly Graded Sand and Silt. fine grained, brown, moist, loose. (Alluvium)	SS 36		6-4-4 (8)		
10			SS 37		3-4-3 (7)		
		▽ (SM) Silty Sand, fine grained, wet to waterbearing, very loose. (Alluvium)	SS 38		2-2-2 (4)		
15		(SM) Silty Sand, fine grained, gray, wet to waterbearing, very loose. (Alluvium)	SS 39		3-2-2 (4)		
20		(SP-SM) Poorly Graded Sand with Silt, fine grained, gray, very loose. (Alluvium)	SS 40		2-1-2 (3)		

Bottom of borehole at 21.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 9002

CLIENT The Excelsior Group, LLC
PROJECT NAME Almberg Acres & Breen Property
PROJECT NUMBER 21-0224
PROJECT LOCATION Blaine
DATE STARTED 3/26/21 **COMPLETED** 3/26/21
GROUND ELEVATION 905.6 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 750
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
▽ **AT TIME OF DRILLING** 12.50 ft / Elev 893.10 ft
LOGGED BY GD **CHECKED BY** PG
AT END OF DRILLING ---
NOTES
AFTER DRILLING --- Not Encountered with Cave-In Depth of 10.5 feet

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0		(SM) Silty Sand, dark brown, moist. (Topsoil)	AU 1				
		(SP-SM) Poorly Graded Sand and Silt, fine grained, brown, moist, loose. (Alluvium)	SS 2		2-4-4 (8)		
5			SS 3		3-3-4 (7)		
			SS 4		3-4-3 (7)		
10			SS 5		2-2-3 (5)		
		▽ (ML) Sandy Silt, gray, waterbearing, very loose to loose. (Alluvium)	SS 6		2-2-2 (4)		
15			SS 7		2-3-4 (7)		
20		(SP-SM) Poorly Graded Sand and Silt, fine grained, brown, waterbearing, medium dense. (Alluvium)	SS 8		7-12-18 (30)		

Bottom of borehole at 21.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 9003

CLIENT The Excelsior Group, LLC
PROJECT NAME Almberg Acres & Breen Property
PROJECT NUMBER 21-0224
PROJECT LOCATION Blaine
DATE STARTED 4/1/21 **COMPLETED** 4/1/21
GROUND ELEVATION 904.9 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 750
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
▽ **AT TIME OF DRILLING** 10.00 ft / Elev 894.90 ft
LOGGED BY GD **CHECKED BY** PG
AT END OF DRILLING ---
NOTES
▼ **AFTER DRILLING** 11.00 ft / Elev 893.90 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0		(SM) Siilty Sand, dark brown, moist. (Topsoil)	AU 162				
		(CL) Lean Clay, trace roots, brown, to grayish brown, moist. (Alluvium)	SS 163		4-6-6 (12)		
5		(SM) Silty Sand, fine grained, brown, moist, medium dense. (Alluvium)	SS 164		4-5-6 (11)		
		(SP-SM) Poorly Graded Sand and Silt, fine grained, brown, moist, loose to medium dense. (Alluvium)	SS 165		5-5-5 (10)		
10	▽ ▼		SS 166		5-6-5 (11)		
			SS 167		5-10-9 (19)		
15		(SP-SM) Poorly Graded Sand and Silt, fined grained, gray, waterbearing, medium dense. (Alluvium)	SS 168		5-9-15 (24)		
20			SS 169		40-12-11 (23)		

Bottom of borehole at 21.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 9004

CLIENT The Excelsior Group, LLC
PROJECT NAME Almberg Acres & Breen Property
PROJECT NUMBER 21-0224
PROJECT LOCATION Blaine
DATE STARTED 3/26/21 **COMPLETED** 3/26/21
GROUND ELEVATION 901.8 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 750
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
▽ **AT TIME OF DRILLING** 5.00 ft / Elev 896.80 ft
LOGGED BY GD **CHECKED BY** PG
AT END OF DRILLING ---
NOTES
▼ **AFTER DRILLING** 13.20 ft / Elev 888.60 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0		(SM) Silty Sand, dark brown, moist. (Topsoil)	AU 9				
		(SP-SM) Poorly Graded Sand and Silt, fine grained, brown, moist, loose. (Alluvium)	SS 10		2-3-2 (5)		
5	▽		SS 11		3-3-4 (7)		
		(SM) Silty Sand, fine grained, gray and brown, waterbearing, loose. (Alluvium)	SS 12		3-4-5 (9)		
10			SS 13		4-4-5 (9)		
	▼		SS 14		2-3-4 (7)		
15			SS 15		3-5-5 (10)		
20		(SP-SM) Poorly Graded Sand and Silt, fine grained, grayish brown, waterbearing, medium dense. (Alluvium)	SS 16		4-6-5 (11)		

Bottom of borehole at 21.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 9005

CLIENT The Excelsior Group, LLC
PROJECT NAME Almberg Acres & Breen Property
PROJECT NUMBER 21-0224
PROJECT LOCATION Blaine
DATE STARTED 3/30/21 **COMPLETED** 3/30/21
GROUND ELEVATION 897.4 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 750
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
▽ **AT TIME OF DRILLING** 2.50 ft / Elev 894.90 ft
LOGGED BY GD **CHECKED BY** PG
AT END OF DRILLING ---
NOTES
▼ **AFTER DRILLING** 3.20 ft / Elev 894.20 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0		(ML) Sandy Silt, trace Roots, slightly organic to organic, black, wet. (Topsoil)	AU 25				
		(SP-SM) Poorly Graded Sand and Silt, fine grained, grayish brown ▽ to 4 feet, then gray. moist to about 3 feet, then waterbearing. ▼ (Alluvium)	SS 26		1-1-1 (2)		
5			SS 27		1-2-2 (4)		
			SS 28		5-8-8 (16)		
10			SS 29		5-9-11 (20)		
			SS 30		6-10-13 (23)		
15			SS 31		3-14-17 (31)		
20			SS 32		3-16-9 (25)		

Bottom of borehole at 21.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 9007

CLIENT The Excelsior Group, LLC
PROJECT NAME Almberg Acres & Breen Property
PROJECT NUMBER 21-0224
PROJECT LOCATION Blaine
DATE STARTED 3/26/21 **COMPLETED** 3/26/21
GROUND ELEVATION 895.9 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 750
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
▽ **AT TIME OF DRILLING** 2.50 ft / Elev 893.40 ft
LOGGED BY GD **CHECKED BY** PG
AT END OF DRILLING ---
NOTES
AFTER DRILLING --- Not Encountered with Cave-In Depth of 3.5 feet

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0		(SC) Clayey Sand, black, moist. (Topsoil)	AU 17				
		(SP-SM) Poorly Graded Sand and Silt, fine grained, grayish brown, waterbearing, very loose to loose. (Alluvium) ▽	SS 18		3-4-4 (8)		
5			SS 19		2-2-2 (4)		
			SS 20		2-3-2 (5)		
10			SS 21		3-3-5 (8)		
			SS 22		1-2-2 (4)		
15			SS 23		2-2-2 (4)		
20			SS 24		3-8-4 (12)		

Bottom of borehole at 21.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 9008

CLIENT The Excelsior Group, LLC
PROJECT NAME Almberg Acres & Breen Property
PROJECT NUMBER 21-0224
PROJECT LOCATION Blaine
DATE STARTED 3/30/21 **COMPLETED** 3/30/21
GROUND ELEVATION 897.6 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 750
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
▽ **AT TIME OF DRILLING** 5.00 ft / Elev 892.60 ft
LOGGED BY GD **CHECKED BY** PG
AT END OF DRILLING ---
NOTES
AFTER DRILLING --- Not Encountered with Cave-In Depth of 8.5 feet

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0	(ML) Sandy Silt, grass, trace roots, slightly organic to organic, black, moist. (Topsoil)	AU 41				
	(SP-SM) Poorly Graded Sand and Silt, fine grained, brown, moist, loose. (Alluvium)	SS 42		4-3-3 (6)		
5	▽	SS 43		3-4-5 (9)		
		SS 44		3-5-5 (10)		
10	(SP-SM) Poorly Graded Sand and Silt, fine grained, gray, waterbearing, loose to medium, dense. (Alluvium)	SS 45		5-6-8 (14)		
		SS 46		5-4-5 (9)		
15		SS 47		5-6-6 (12)		
20		SS 48		6-5-3 (8)		

Bottom of borehole at 21.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 9009

CLIENT The Excelsior Group, LLC
PROJECT NAME Almberg Acres & Breen Property
PROJECT NUMBER 21-0224
PROJECT LOCATION Blaine
DATE STARTED 3/30/21 **COMPLETED** 3/30/21
GROUND ELEVATION 895 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 750
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
AT TIME OF DRILLING 2.50 ft / Elev 892.50 ft
LOGGED BY GD **CHECKED BY** PG
AT END OF DRILLING ---
NOTES
AFTER DRILLING 4.50 ft / Elev 890.50 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0		(SC) Clayey Sand with Roots, slightly organic to organic, black, wet. (Topsoil)	AU 49				
		(SP-SM) Poorly Graded Sand and Silt, grayish brown, wet to waterbearing at 2.5 feet, loose. (Alluvium)	SS 50		4-5-5 (10)		
5			SS 51		2-4-5 (9)		
		(SP-SM) Poorly Graded Sand and Silt, fined grained, gray, waterbearing, loose. (Alluvium)	SS 52		2-3-5 (8)		
10			SS 53		3-6-4 (10)		
			SS 54		4-5-4 (9)		
15			SS 55		4-4-4 (8)		
20			SS 56		4-3-4 (7)		

Bottom of borehole at 21.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 9010

CLIENT The Excelsior Group, LLC
PROJECT NAME Almberg Acres & Breen Property
PROJECT NUMBER 21-0224
PROJECT LOCATION Blaine
DATE STARTED 3/30/21 **COMPLETED** 3/30/21
GROUND ELEVATION 893.4 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 750
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
AT TIME OF DRILLING 2.50 ft / Elev 890.90 ft
LOGGED BY GD **CHECKED BY** PG
AT END OF DRILLING ---
NOTES
AFTER DRILLING 3.50 ft / Elev 889.90 ft

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0	(CL-ML) Clayey Sand, trace Roots, organic, black, wet. (Topsoil)	AU 57				
	(SP-SM) Poorly Graded Sand and Silt, fine grained, gray, waterbearing, loose to medium dense. (Alluvium)	SS 58		3-4-5 (9)		
5		SS 59		2-3-5 (8)		
		SS 60		3-6-6 (12)		
10		SS 61		5-5-4 (9)		
		SS 62		5-6-5 (11)		
15		SS 63		4-4-4 (8)		
20		SS 64		4-3-4 (7)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 21.0 feet.

HAUGO GEOTECHNICAL SERVICES
Haugo GeoTechnical Services
2825 Cedar Ave South
Minneapolis, MN 55407
Telephone: 612-729-2959
Fax: 763-445-2238

BORING NUMBER 9011

CLIENT The Excelsior Group, LLC
PROJECT NAME Almberg Acres & Breen Property
PROJECT NUMBER 21-0224
PROJECT LOCATION Blaine
DATE STARTED 3/30/21 **COMPLETED** 3/30/21
GROUND ELEVATION 893.4 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 750
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
▽ **AT TIME OF DRILLING** 2.50 ft / Elev 890.90 ft
LOGGED BY GD **CHECKED BY** PG
AT END OF DRILLING ---
NOTES
▼ **AFTER DRILLING** 4.00 ft / Elev 889.40 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0		(ML) Clayey Sand with Roots, organic, black, wet. (Topsoil)	AU 65				
		(SP-SM) Poorly Graded Sand and Silt, fine grained, gray, moist to waterbearing at 2.5 feet, loose to medium dense. (Alluvium)	SS 66		3-3-5 (8)		
5			SS 67		3-4-4 (8)		
			SS 68		4-4-6 (10)		
10			SS 69		6-10-12 (22)		
			SS 70		5-8-9 (17)		
15			SS 71		4-6-5 (11)		
20			SS 72		2-3-4 (7)		
		Bottom of borehole at 21.0 feet.					

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 9012

CLIENT The Excelsior Group, LLC
PROJECT NAME Almberg Acres & Breen Property
PROJECT NUMBER 21-0224
PROJECT LOCATION Blaine
DATE STARTED 4/1/21 **COMPLETED** 4/1/21
GROUND ELEVATION 893.6 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 750
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
AT TIME OF DRILLING 2.50 ft / Elev 891.10 ft
LOGGED BY GD **CHECKED BY** PG
AT END OF DRILLING ---
NOTES
AFTER DRILLING 3.00 ft / Elev 890.60 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0		Peat, black, wet. (Swamp)	AU 147				
			SS 148		0		
5			SS 149		0		
		(SP-SM) Poorly Graded Sand and Silt, fine grained, gray, waterbearing, loose ot medium dense. (Alluvium)	SS 150		0-2-2 (4)		
10			SS 151		2-4-4 (8)		
			SS 152		4-3-3 (6)		
15			SS 153		4-4-4 (8)		
20			SS 154		1-2-2 (4)		
25			SS 155		8-2-10 (12)		
30			SS 156		5-5-4 (9)		
35							

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 9012

CLIENT The Excelsior Group, LLC **PROJECT NAME** Almberg Acres & Breen Property

PROJECT NUMBER 21-0224 **PROJECT LOCATION** Blaine

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
35		(SP-SM) Poorly Graded Sand and Silt, fine grained, gray, waterbearing, loose ot medium dense. (Alluvium) *(continued)*	SS 157		5-10-7 (17)		
40			SS 158		5-9-9 (18)		
45		(CL) Sandy Lean Clay, trace Gravel, gray, wet, rather soft. (Glacial Till)	SS 159		1-2-2 (4)		
50			SS 160		2-3-2 (5)		

Bottom of borehole at 51.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 9013

CLIENT The Excelsior Group, LLC
PROJECT NAME Almberg Acres & Breen Property
PROJECT NUMBER 21-0224
PROJECT LOCATION Blaine
DATE STARTED 3/31/21 **COMPLETED** 3/31/21
GROUND ELEVATION 893.3 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 750
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
AT TIME OF DRILLING 2.50 ft / Elev 890.80 ft
LOGGED BY GD **CHECKED BY** PG
AT END OF DRILLING ---
NOTES
AFTER DRILLING 3.40 ft / Elev 889.90 ft

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0	(ML) Clayey Silt with Roots, organic, black. (Topsoil)	AU 109				
	(SP-SM) Poorly Graded Sand and Silt, fine grained, gray, moist to waterbearing at 2.5 feet, loose to medium dense. (Alluvium)	SS 110		3-4-3 (7)		
5		SS 111		4-4-4 (8)		
		SS 112		4-5-4 (9)		
10		SS 113		4-5-5 (10)		
		SS 114		5-4-6 (10)		
15		SS 115		6-7-8 (15)		
20		SS 116		6-8-12 (20)		
25		SS 117		6-7-9 (16)		
30		SS 118		4-6-6 (12)		
35						

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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Minneapolis, MN 55407
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BORING NUMBER 9013

CLIENT The Excelsior Group, LLC **PROJECT NAME** Almberg Acres & Breen Property

PROJECT NUMBER 21-0224 **PROJECT LOCATION** Blaine

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
35		(CL) Sandy Lean Clay, trace Gravel, gray, rather stiff to rather soft. (Alluvium) *(continued)*	SS 119		4-6-6 (12)		
40			SS 120		2-3-2 (5)		
45			SS 121		2-3-4 (7)		
50		(SP-SM) Poorly Graded Sand and Silt, fine grained, waterbearing, loose, (Alluvium)	SS 122		2-3-3 (6)		

Bottom of borehole at 51.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 9014

CLIENT The Excelsior Group, LLC
PROJECT NAME Almberg Acres & Breen Property
PROJECT NUMBER 21-0224
PROJECT LOCATION Blaine
DATE STARTED 4/1/21 **COMPLETED** 4/1/21
GROUND ELEVATION 899.6 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 750
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
▽ **AT TIME OF DRILLING** 5.00 ft / Elev 894.60 ft
LOGGED BY GD **CHECKED BY** PG
AT END OF DRILLING ---
NOTES
AFTER DRILLING --- Not Encountered with Cave-In Depth of 5.5 feet

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0	(ML) Clayey Silt with Roots and Grass, organic, black, moist to wet, (Topsoil)	AU 139				
	(SP-SM) Poorly Graded Sand and Silt, fine grained, brown, moist to waterbearing at 5 feet. loose to medium.(Alluvium)	SS 140		4-5-6 (11)		
5	▽	SS 141		4-5-5 (10)		
	(SP-SM) Poorly Graded Sand and Silt, fine grained, gray, waterbearing, medium, dense. (Alluvium)	SS 142		6-10-9 (19)		
10		SS 143		8-7-6 (13)		
		SS 144		7-10-12 (22)		
15		SS 145		4-10-14 (24)		
20		SS 146		7-9-10 (19)		

Bottom of borehole at 21.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 9015

CLIENT The Excelsior Group, LLC
PROJECT NAME Almberg Acres & Breen Property
PROJECT NUMBER 21-0224
PROJECT LOCATION Blaine
DATE STARTED 3/31/21 **COMPLETED** 3/31/21
GROUND ELEVATION 895 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 750
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
▽ **AT TIME OF DRILLING** 2.50 ft / Elev 892.50 ft
LOGGED BY GD **CHECKED BY** PG
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0		(ML) Clayey Silt with gras and roots, organic, black, wet. (Topsoil)	AU				
		(SP-SM) Poorly Graded Sand and Silt, fine grained, gray, moist to waterbearing at 2.5 feet, loose to medium dense. (Alluvium)	SS		4-3-4 (7)		
5			SS		3-4-4 (8)		
			SS		5-6-5 (11)		
10			SS		7-8-8 (16)		
			SS		4-3-5 (8)		
15			SS		6-8-5 (13)		
20			SS		4-6-9 (15)		

Bottom of borehole at 21.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 9016

CLIENT The Excelsior Group, LLC
PROJECT NAME Almberg Acres & Breen Property
PROJECT NUMBER 21-0224
PROJECT LOCATION Blaine
DATE STARTED 3/31/21 **COMPLETED** 3/31/21
GROUND ELEVATION 903.2 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 750
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
▽ **AT TIME OF DRILLING** 10.00 ft / Elev 893.20 ft
LOGGED BY GD **CHECKED BY** PG
AT END OF DRILLING ---
NOTES
AFTER DRILLING --- Not Encountered with Cave-In Depth of 9 feet

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0	(ML) Organic Silt with Roots and Leaves, black, moist. (Topsoil)	AU 131				
	(SM) Poorly Graded Sand and Silt, fine grained, brown, moist, loose. (Alluvium)	SS 132		2-3-3 (6)		
5	(SM) Silty Sand, fine grained, brown, moist, loose. (Alluvium)	SS 133		3-5-5 (10)		
	(SP-SM) Poorly Graded Sand and Silt, fine grained, brown, moist to waterbearing at 10 feet, loose. (Alluvium)	SS 134		3-4-3 (7)		
10	▽	SS 135		2-3-3 (6)		
		SS 136		2-3-2 (5)		
15	(SP-SM) Poorly Graded Sand and Silt, fine grained, gray, waterbearing, loose. (Alluvium)	SS 137		2-2-4 (6)		
20		SS 138		3-4-4 (8)		

Bottom of borehole at 21.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Appendix D

Phase I Environmental Site Assessment Summary

Lexington Waters Residential Development EAW

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PHASE I ENVIRONMENTAL SITE ASSESSMENT

OF:

Almberg Acres & Breen Property
(Lexington Waters)
12911, 12961, 13007, 13071 and 13143 Lexington Avenue Northeast
Blaine, Minnesota 55449

PREPARED FOR:

The Excelsior Group, LLC
1660 Highway 100 South
Suite 400
St. Louis Park, Minnesota 55416

PREPARED BY:

Haugo GeoTechnical Services
2825 Cedar Avenue South
Minneapolis, Minnesota 55407

Haugo GeoTechnical Services Project Number: 21-0223

April 30, 2021

Table of Contents

FIGURES

APPENDICES

1.0 INTRODUCTION

1.1 Purpose

Haugo GeoTechnical Services (HGTS) was retained by The Excelsior Group, LLC to conduct a Phase I Environmental Site Assessment (Phase I ESA) of the Almberg Acres & Breen Property (a.k.a. Lexington Waters) located in Blaine, Anoka County, Minnesota (Site or Target Property).

The purpose of the Phase I ESA was to evaluate the Site for indications of *Recognized Environmental Conditions (RECs)* as defined by the American Society for Testing and Materials (ASTM) Standard for Environmental Site Assessments, Phase I Environmental Site Assessment Process (ASTM E1527-13), at the subject property. The ESA is also intended to provide conclusions regarding RECs, if identified, on the subject property prior to residential development.

1.2 Scope of Work

HGTS's scope of work for this Phase I conforms to the ASTM Practice E 1527-13: Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. The purpose of this standard practice is to define good commercial and customary practice for conducting a Phase I of a parcel of real estate with respect to the range of contaminants within the scope of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and petroleum products. As such, this practice is intended to permit a user to satisfy one of the requirements for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on CERCLA liability, i.e. landowner liability protections. The ASTM standard is designed to meet the criteria mandated by CERCLA for "all appropriate inquiry" into the previous ownership and uses of the property consistent with good commercial or customary practice.

In defining a standard of good and customary practice for conducting a Phase I of a parcel of property, the goal of the ASTM practice is to identify *Recognized Environmental Conditions*. The term *Recognized Environmental Conditions* means the presence or likely presence of any hazardous substances or petroleum products in, on or at property due to release to the environment, under conditions indicative of a release to the environment, or under conditions that pose a material threat of future release. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. *De Minimis* conditions are not REC's. *De Minimis* conditions are conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

The specific scope of work for this Phase I ESA involved the following:

- A review of the readily available topographic, geological, and hydrogeological information relating to the Site and the surrounding area.

- A review of the readily available historical land use information, including topographic maps, Sanborn fire insurance maps, aerial photographs and title information relating to the Site and surrounding area.

- A limited review of the federal, state, and local regulatory information for potential environmental hazards within a one-mile radius of the Site.

- Interviews of the current property owner and other persons that have or might have knowledge of the current or past uses of the Site.

- Visual characterization and observation of the Site and adjacent properties, to the extent practical, to determine the presence of potential environmental hazards.

- Preparation and submittal of a written report summarizing the findings of the Phase I Environmental Site Assessment.

This assessment also included a Vapor Encroachment Concern (VEC) Screening as defined in ASTM Practice E2600-10, Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions.

1.3 Deviations from Standard Practice

The ASTM standard practice does not include an evaluation of asbestos-containing materials, radon, lead-paint, and lead in drinking water, building conditions, or a determination of whether the facility is in compliance with environmental or health and safety rules and regulations. The Excelsior Group, LLC did not request that any of these items be included in our assessment.

1.4 Site Location and Current Use

The Site is located east of Lexington Avenue NE and approximately ½-mile north of 125th Avenue NE in Blaine, Anoka County, Minnesota. It is located in the NE ¼ of the NW ¼, the NW ¼ of the NW ¼, and the SW ¼ of the NW ¼ of Section 1, Township 31 N, Range 23 W (Figure 1).

The Site consists of 8 parcels that total approximately 113.7 acres with mixed residential, agricultural and vacant land use. See Figure 2 for a Site Layout map. Additional information regarding the parcel ID numbers and sizes of the individual parcels is presented in Section 4.4 and additional information regarding site conditions is presented in the Site Visit section (Section 6.0).

2.0 USER PROVIDED INFORMATION

2.1 Title Records

No title records for the Site were provided by The Excelsior Group, LLC. A chain of title includes a sequence of historical transfers of title to the Site. A chain of title search (property records review) was not conducted as part of the scope of services for this assessment. No chain-of-title ownership history of the Site was provided.

2.2 Environmental Liens or Activity and Use Limitations

Information regarding environmental liens or activity and use limitations for the Site was not reported to HGTS.

2.3 Specialized Knowledge

Specialized knowledge or experience material to RECs in connection with the Site were not reported to HGTS.

2.4 Commonly Known or Reasonably Ascertainable Information

The Excelsior Group, LLC did not report any commonly known and reasonably ascertainable information within the local community about the property that is material to RECs in connection with the property. ASTM Standard E 1527-05 defines the term "reasonably ascertainable" as "*information that is: (1) publicly available; (2) obtainable from its source within reasonable time and cost constraints; and (3) practically reviewable.*"

2.5 Valuation Reduction for Environmental Issues

Information regarding any actual knowledge of valuation reduction associated with environmental issues for the Site, if any, was not reported to HGTS.

2.6 Other

We were provided two documents titled "Concept Plan" and "Concept Plan B" both prepared by Carlson McCain. The plans showed the proposed house lots, streets and water features of the residential development. The documents also showed the proposed soil boring locations.

HGTS completed a geotechnical exploration of the Site in conjunction with this assessment. The geotechnical exploration included advancing 16 soil borings throughout the Site to evaluate subsurface soil and groundwater conditions. Results of that exploration were pending as of the time of this report and will be presented under separate cover under HGTS project number 21-0224.

3.0 PHYSICAL RECORDS REVIEW

Published information that was reviewed included United States Geological Survey (USGS) Quadrangle maps, hydrogeologic maps, and county geologic atlases.

3.1 Topographic Review

Based on the 2019 Circle Pines United States Geological Survey (USGS) Quadrangle, information available from the USGS online National Map Viewer, information included in the Environmental Data Resources, Inc. (EDR) Radius Map Report, and information obtained from the Anoka County Parcel Viewer website, the ground surface elevation across the Site ranged from about 894 to 908 feet above mean sea level (msl).

The Site is relatively flat and surficial drainage varies and is generally to areas of low elevation on the Site.

3.2 Geological Review

According to published information, surficial geology of the area consists of sand facies associated with the New Brighton Formation as well as organic material. The sand facies consist of very fine- to medium-grained sand, silty in places with scattered lenses of silt to silty clay at depth. The organic deposits consist of partially decomposed plant matter consisting of peat and muck (Meyer, 2012, County Atlas Series C-27, Part A, Plate 3).

Bedrock beneath the Site consists of the Tunnel City Group and the Wonewoc Sandstone. The Tunnel City Group is divided into the upper Mazomanie Formation and the lower Lone Rock Formation. The Mazomanie Formation is white to yellowish-gray, fine- to medium-grained, cross-stratified, generally friable, quartz sandstone. The Lone Rock Formation consists of sandstone, siltstone and shale. The Wonewoc Sandstone is composed of fine- to coarse-grained, moderately sorted to well sorted, light gray, quartz sandstone (Mosler, 2012, County Atlas Series C-27, Part A, Plate 2).

Bedrock is anticipated to lie depths ranging from about 251 to 400 feet below the ground surface corresponding to elevations ranging from about 501 to 650 feet above msl (Mossler, 2013, County Atlas Series C-27, Part A, Plate 6).

3.3 Hydrogeological Review

Information on the Minnesota Geological Survey website indicated that a complete atlas of Anoka County included Part A and Part B. Part A included geologic information and Part B included hydrogeologic information. The Minnesota Department of Natural Resources was responsible for constructing Part B which was completed/dated 2016.

Groundwater beneath the Site lies within surficial deposits as well as bedrock aquifers. The area's surficial water table is anticipated to lie within 10 feet of the ground surface corresponding to

elevations of about 880 to 900 feet above mean sea level. The groundwater flow direction within the surficial deposits is generally to the southeast.

The pollution sensitivity of the near-surface materials to potential pollution sources is anticipated to be high.

Groundwater also lies within several bedrock aquifers including the Upper Tunnel City and Mt. Simon Aquifers. The shallowest bedrock aquifer is anticipated to lie at an elevation of about 880 feet above msl. Published bedrock hydrogeologic maps indicate the groundwater in the area generally flows to the south.

The pollution sensitivity of the top of the bedrock surface to potential pollution sources is anticipated to be very low.

Site-specific groundwater flow conditions may be influenced by a variety of factors including, but not limited to, local topography, geologic anomalies, and utilities, nearby wells or sumps, and local drainage patterns. Site-specific groundwater flow information would require a groundwater investigation, which is beyond the scope of this Phase I Environmental Assessment.

3.4 Wells

EDR provided well log records for the area of the Site. These well records were compiled by the MGS from drilling contractor records and well log records submitted to the Minnesota Department of Health (MDH).

Three (3) wells were identified on the Site in the EDR Radius Map report. The approximate locations of the wells are shown on Figure 2 in the Appendix. A summary of the wells is as follows:

Well ID:	171094
Original Owner:	Koepp, Dan
Address:	13143 Lexington Ave NE, Blaine, MN
Well Depth:	213 feet
Date Completed:	7/9/1981
Well Status:	Active
Well Use:	Domestic

Well ID:	625000
Original Owner:	Coons, Cliff
Address:	13007 Lexington Ave NE, Blaine, MN 55449
Well Depth:	185 feet
Date Completed:	10/19/1999
Well Status:	Active
Well Use:	Domestic

Well ID:	548501
Address:	12961 Lexington Ave NE, Blaine, MN 55434
Well Depth:	183 feet
Date Completed:	9/1/1994
Well Status:	Active
Well Use:	Domestic

Additionally, the owner of the property at the address 13071 Lexington Avenue NE indicated that there is a domestic well at the southwest corner on the interior of the house.

The EDR report indicated that there were 214 wells within a 1-mile radius of the Site. Well information is provided in the EDR Database Search Report which is included in Appendix D.

4.0 HISTORICAL RECORDS REVIEW

Historical resources were examined to determine the past land usage of the Site and to identify land uses on nearby properties, which could have had an environmental impact on the Site. Available sources of historical information that were researched during preparation of this report included historical topographic maps, aerial photographs, city directories, and Sanborn Fire Insurance Maps.

The ASTM standard requires that all obvious uses of the property be identified back to the property's obvious first developed use (including agricultural use), or to 1940, whichever is earlier, through a review of potentially useful, reasonably ascertainable, standard historical sources. The earliest, potentially useful, reasonably ascertainable, standard historical source available for the Site included a historic topographic map dated 1902 and an aerial photograph dated 1938.

4.1 Historical Topographic Maps

EDR searched their collection of historical topographic maps and provided topographic maps for the years 1902, 1955, 1958, 1967, 1972, 1980, 1993 and 2013. The Site is depicted on the 1902 White Bear 15-Minute Series USGS quadrangle map, the 1958 New Brighton 15-Minute Series USGS quadrangle map, and the 1955, 1967, 1972, 1980, 1993 and 2013 Circle Pines 7.5-Minute Series USGS quadrangle maps.

One structure is depicted on the Site on the 1902 topographic map. The structure is depicted on the southwest portion of the Site. The 1902 topographic map also depicts a wetland on a majority of the Site.

No structures are depicted on the Site on the 1955 or 1958 topographic maps. A wetland is depicted on the southeast corner of the Site. A stream/channel is depicted running through the central portion of the Site in a north-south direction. The wetland and stream/channel continue to be depicted on the remaining topographic maps.

One structure is depicted on the Site on the 1967 topographic map that is shown along the west property boundary in the southwest portion of the Site.

An additional structure is depicted on the Site on the 1972 topographic map that is shown in the southwest portion of the Site.

A third structure is depicted on the Site on the 1980 topographic map. The structure is shown to the east of the original 1967 structure.

The 1993 topographic map depicts two additional structures on the Site for a total of five structures. The additional structures on depicts in the west-central portion of the Site.

No structures are depicted on the Site on the 2013 topographic map nor on the surrounding properties.

See Appendix E for a copy of the EDR Topographic Map Report.

4.2 Aerial Photographs

HGTS reviewed aerial photos provided in the EDR report for the years 1938, 1947, 1953, 1957, 1964, 1966, 1974, 1978, 1984, 1991, 1997, 2006, 2010, 2013 and 2017. HGTS also reviewed aerial photographs available from Google Earth from years 2002 through 2020.

Site. No structures are depicted on the Site on the 1938, 1947, 1953 or 1957 aerial photographs. The Site is depicted as mostly agricultural land with areas of wooded land in the northwest, northeast and southeast portions of the Site.

Three structures are depicted on the Site on the 1964 and 1966 aerial photographs. Two of the structures are depict in the west-central portion of the Site and the third structure is depicted to the east of the other two structures in the central portion of the Site. These structures appear to be the house, garage and barn that are currently located on the property at 13071 Lexington Avenue NE.

Three additional structures are depicted on the Site on the 1974 and 1978 aerial photographs. The structures are depicted to the south of the original structures at the 13071 Lexington Avenue NE address. These structures appear to be the house, barn, and Quonset hut that are currently located on the property at 13007 Lexington Avenue NE.

One additional structure is depicted on the Site on the 1984 aerial photograph. The structure is located in the western portion of the overall Site and appears to be the house that is currently located on the property at 13143 Lexington Avenue NE.

One additional structure is depicted on the Site on the 1997 aerial photograph. The structure is located in the southwest portion of the Site and appears to be the house that is currently located on the property at 12961 Lexington Avenue NE.

One additional structure is depicted on the Site on the 2006 aerial photograph. The structure is located to the east of the house at the address 12961 Lexington Avenue NE and appears to be the barn that is currently located on the property.

A total of nine structures are depicted on the Site on the 2006 aerial photograph. These structures continue to be depicted on the Site on the 2010, 2013 and 2017 aerial photographs.

Surrounding Area. The aerial photographs depict the surrounding area has remained largely agricultural and vacant land throughout the years. There is a general increase in residential properties to the west of the Site along Lexington Avenue NE.

A 2019 photograph from Google Earth depicts residential development to the east of the Site. Additionally, a 2020 Google Earth photograph depicts residential development to the south of the Site.

See Appendix B for a copy of the EDR Aerial Photo Decade Package Report. The Google Earth aerial photographs are available on-line through the Google Earth program.

4.3 Sanborn Fire Insurance Maps

EDR, who owns the Sanborn Company, searched their collection of fire insurance maps. Fire insurance maps covering the Site were not found.

4.4 Internet Research

A cursory review of the Site property information obtained through the Anoka County Parcel Viewer website revealed the following information:

Property ID	Address	Current Owner	Acres	Class
01-31-23-22-0001	No Address Listed	Neumann John L & Almberg Jinny	18.98	Agricultural
01-31-23-21-0001	No Address Listed	Neumann, Jack L	39.75	Agricultural
01-31-23-22-0004	No Address Listed	Neumann, John L	10	Agricultural
01-31-23-22-0002	13143 Lexington Ave NE	Koepp, Daniel J	5	Residential Single Unit
01-31-23-23-0003	13071 Lexington Ave NE	Koepp, Daniel James	9.6	Residential Single Unit
01-31-23-23-0002	13007 Lexington Ave NE	Breen Trustee, Mary L	10.4	Residential Single Unit
01-31-23-23-0001	12961 Lexington Ave NE	Breen, Mary L	15	Residential Single Unit
01-31-23-23-0004	12911 Lexington Ave NE	Goad, Lanette M	5	Residential Single Unit

4.5 City Directories

EDR provided a search of historical directory information from EDR Digital Archive for the years 1970, 1975, 1980, 1985, 1987, 1995, 2000, 2005, 2010, 2014 and 2017. The addresses associated with the Site include 12911, 12961, 13007, 13071 and 13143 Lexington Ave NE. A summary of the listings at these addresses is as follows:

Year	12911 Lexington Ave NE	12961 Lexington Ave NE	13007 Lexington Ave NE	13071 Lexington Ave NE	13143 Lexington Ave NE
2017	Goad, Lanette M	Breen, Mary R	Oven, Donna M	Koepp, Kathryn M	Koepp, Daniel J
2014	Goad, Dustin T	Breen, Mary R	Oven, Donna M	Koepp, Kathryn M	Koepp, Daniel J
2010	Goad, Darrel R	Breen, Mary L	Oven, Mike A	Koepp, Kathryn M	Koepp, Daniel J

2005	Hanson, Orvin E	Breen, David R	Breen, David R	Koepp, Kathryn M	Koepp, Daniel J
2000	Hanson, Orvin E	Breen, David	No address listed	Koepp, David J	Koepp, Daniel J
1995	Hanson, Orvin E	No address listed	No address listed	Koepp, David J	Koepp, Daniel J
1987	Orvin E Hanson	No address listed	No address listed	David J Koepp	Dans Txidrmy
1985	Hanson, Orvin E	No address listed	No address listed	Koepp, David J	Koepp, Danl
1980	Hanson	No address listed	No address listed	Dan's Taxidermy Koepp, David J	No address listed
1975	Klein, David R	No address listed	No address listed	Koepp, David J	No address listed
1970	Klein, David R	No address listed	No address listed	American Exterminating pest control	No address listed

4.6 County Inquiries

HGTS contacted Anoka County regarding the Site. Mr. Tom Olson, Environmental Health Specialist, provided the following information:

The Anoka County Environmental Services Department (the Department) reviewed our records and can provide the following information.

Information Request for **01-31-23-22-0001**

Parcel ID	01-31-23-22-0001
Status	Active
Owner	Neumann John L & Almberg Jinny
City Name	Blaine
Watershed	Rice Creek Watershed District

For the purposes of this request, this Department reviewed the following information:

- **Correspondence from the Minnesota Pollution Control Agency (MPCA):** No information available.

- **Anoka County Hazardous Waste Generator files*:** The Department does not have current or historical information regarding hazardous waste generation, or other environmental concerns at the requested parcel.

Information Request for **01-31-23-21-0001**

Parcel ID	01-31-23-21-0001
Status	Active
Owner	Neumann, Jack L
City Name	Blaine
Watershed	Rice Creek Watershed District

For the purposes of this request, this Department reviewed the following information:

- **Correspondence from the Minnesota Pollution Control Agency (MPCA):** No information available.

- **Anoka County Hazardous Waste Generator files*:** The Department does not have current or historical information regarding hazardous waste generation, or other environmental concerns at the requested parcel.

Information Request for **01-31-23-22-0004**

Parcel ID	01-31-23-22-0004
Status	Active
Owner	Neumann John L
City Name	Blaine
Watershed	Rice Creek Watershed District

For the purposes of this request, this Department reviewed the following information:

- **Correspondence from the Minnesota Pollution Control Agency (MPCA):** No information available.

- **Anoka County Hazardous Waste Generator files*:** The Department does not have current or historical information regarding hazardous waste generation, or other environmental concerns at the requested parcel.

Information Request for **01-31-23-22-0002**

Parcel ID	01-31-23-22-0002
Address	13143 Lexington Ave NE
Status	Active
Owner	Koepp Daniel J
City Name	Blaine
Watershed	Rice Creek Watershed District

For the purposes of this request, this Department reviewed the following information:

- **Correspondence from the Minnesota Pollution Control Agency (MPCA):** No information available.

- **Anoka County Hazardous Waste Generator files*:** The Department does not have current or historical information regarding hazardous waste generation, or other environmental concerns at the requested parcel.

Information Request for **01-31-23-23-0003**

Parcel ID	01-31-23-23-0003
Address	13071 Lexington Ave NE

Status	Active
Owner	Koepp Daniel James
City Name	Blaine
Watershed	Rice Creek Watershed District

For the purposes of this request, this Department reviewed the following information:

- **Correspondence from the Minnesota Pollution Control Agency (MPCA):** No information available.

- **Anoka County Hazardous Waste Generator files*:** The Department does not have current or historical information regarding hazardous waste generation, or other environmental concerns at the requested parcel.

Information Request for **01-31-23-23-0002**

Parcel ID	01-31-23-23-0002
Address	13007 Lexington Ave NE
Status	Active
Owner	Breen Trustee, Mary L
City Name	Blaine
Watershed	Rice Creek Watershed District

For the purposes of this request, this Department reviewed the following information:

- **Correspondence from the Minnesota Pollution Control Agency (MPCA):** No information available.

- **Anoka County Hazardous Waste Generator files*:** The Department does not have current or historical information regarding hazardous waste generation, or other environmental concerns at the requested parcel.

Information Request for **01-31-23-23-0001**

Parcel ID	01-31-23-23-0001
Address	12961 Lexington Ave NE
Status	Active
Owner	Breen, Mary L
City Name	Blaine
Watershed	Rice Creek Watershed District

For the purposes of this request, this Department reviewed the following information:

- **Correspondence from the Minnesota Pollution Control Agency (MPCA):** No information available.

- **Anoka County Hazardous Waste Generator files*:** The Department does not have current or historical information regarding hazardous waste generation, or other environmental concerns at the requested parcel.

Information Request for **01-31-23-23-0004**

Parcel ID	01-31-23-23-0004
Address	12911 Lexington Ave NE
Status	Active
Owner	Goad, Lanette M
City Name	Blaine
Watershed	Rice Creek Watershed District

For the purposes of this request, this Department reviewed the following information:

- **Correspondence from the Minnesota Pollution Control Agency (MPCA):** No information available.

- **Anoka County Hazardous Waste Generator files*:** The Department does not have current or historical information regarding hazardous waste generation, or other environmental concerns at the requested parcel.

For the purposes of your review, Anoka County suggests the following websites for additional information.

MPCA website "What's in my Neighborhood":
https://www.pca.state.mn.us/data/whats-my-neighborhood

- **www.Knowtheflow.us website, Anoka County Wellhead Protection map:**
http://gis.anokacountymn.gov/dwsmas/

4.7 Data Gaps

The ASTM standard defines a data gap as a lack of or inability to obtain information required by the standard despite good faith efforts by the environmental professional. Aerial photographs were not available for the Site prior to 1938 for this location and the aerial photographs were not available at the five-year intervals recommended by the standard and were spaced in greater than five-year increments.

Sanborn maps, when available, provide coverage from the late 1800's to the 1960's. Sanborn maps were not found for the Target Property.

City directories, when available, provide a year-by-year listing of property occupants by street address. City directory listings were available for the years 1970, 1975, 1980, 1985, 1987, 1995, 2000, 2005, 2010, 2014 and 2017. The addresses associated with the Site include 12911, 12961, 13007, 13071 and 13143 Lexington Ave NE. The listings identified with these addresses indicate the Site has been

used predominately for residential purposes. However, listings for the addresses 13071 and 13143 Lexington Ave NE for the years 1970, 1980 and 1987 indicated a taxidermy and pest control business operated on the property.

Although data gaps are present, sufficient historical information exists to adequately define the history of the Site. Therefore, the data gaps for this historical review were not sufficient to cause data failure.

5.0 INTERVIEW & USER QUESTIONNAIRES

HGTS interviewed Ms. Mary Breen. Ms. Breen is the owner of the properties at the addresses 12961 and 13007 Lexington Avenue NE and she provided a tour of these properties during the Site visit. Information obtained while interviewing Ms. Breen is incorporated into the Site Visit section.

Additionally, we were provided a User Questionnaire completed by Ms. Breen. Ms. Breen has owned the property at 13007 Lexington Avenue NE for approximately 30 years and the property at 12961 Lexington Avenue NE for approximately 20 years. The 12961 property is currently used for residential purposes and contains a house that was built in 1994 and a barn that is approximately 20 years old. The 13007 property is currently used for residential purposes and also contains a pasture and hay field. The 13007 property contains a house, barn, and a Quonset hut. The house is heated via fuel oil that is stored in an underground storage tank located on the east side of the house. Both of the properties contain domestic water wells and septic systems. Additionally, Ms. Breen indicated that both of the houses on the properties have indoor floor drains located in their respective utility rooms. Ms. Breen stated that she is unaware of any chemicals, spills, environmental cleanups, or the presence of contamination at the properties.

HGTS received a User Questionnaire from Mr. Dan Koepp. Mr. Koepp is the owner of the properties at the address 13071 and 13143 Lexington Avenue NE. Mr. Koepp has owned the 13071 property for 4 years and stated that the previous owners were David and Kathryn Koepp. Mr. Koepp stated that the property is currently used for residential purpose and was used most likely as a hobby farm in the past. The structures on the property were built in the 1950s and the house is heated via natural gas. There is a septic system on the east side of the house and a domestic well is located at the southwest corner of the interior of the house. Mr. Koepp stated that he is unaware of any chemicals, spills, environmental cleanups, above ground or underground storage tanks, petroleum products or the presence of contamination at the property.

HGTS received a User Questionnaire from Mr. John Neumann. Mr. Neumann is the property owner of the three northern parcels of the overall Site. The parcels include the property IDs: 01-31-23-22-0001, 01-31-23-21-0001, and 01-31-23-22-0004. Mr. Neumann stated that the parcels are currently used as a sod farm and there are no buildings on the properties. Mr. Neumann stated that he is unaware of any chemicals, spills, environmental cleanups, above ground or underground storage tanks, petroleum products or the presence of contamination at the parcels.

HGTS received a User Questionnaire from Ms. Lanette Goad. Ms. Goad is the owner of the property at 12911 Lexington Avenue NE. This assessment includes the approximate east half of the overall property. Ms. Goad has owned the property for approximately 16 years. The property currently exists as a field and there are no buildings that exist on the property. Ms. Goad stated that she is unaware of any chemicals, spills, environmental cleanups, above ground or underground storage tanks, petroleum products or the presence of contamination at the property.

6.0 SITE VISIT

The Site visit was performed on April 15, 2021. The Site visit is designed to identify potential and actual environmental concerns on and adjacent to the Site. Observations were made between about 9:00 AM and 11:00 AM. Weather conditions at that time consisted of cloudy skies with the temperature approximately 40 to 45-degrees Fahrenheit. A layout of the Site is presented on Figure 2 in the Appendix and selected photographs of the Site, taken during the visit, are included in Appendix A.

6.1 Site Observations

Neumann and Almberg Properties (property IDs: 01-31-23-22-0001, 01-31-23-21-0001, and 01-31-23-22-0004).

The Neumann and Almberg parcels consisted of agricultural land with wooded land in the eastern and west-central portions of the overall properties. There were no structures observed on the parcels. Several drainage ways were observed on the properties.

Koepp Properties
13143 Lexington Ave NE
Access to the property was via a gravel driveway off of Lexington Avenue NE. A single-family home existed in the northeast portion of the property. The home had wood log siding with an asphalt shingle roof. The home appeared to be heated via natural gas. Potable water is provided by a well located southwest of the home and a septic system is located on the north side of the home. Areas not occupied by the house were generally wooded. Two gas cans were observed on the east side of the house. Several items were located in the eastern portion of the property that included a boat, a trailer, farming equipment, and several wood piles.

13071 Lexington Ave NE
Access to the property was via a driveway off of Lexington Avenue NE. A single-family home and garage existed in the western portion of the parcel, and a barn existed in the central portion of the property. The home had stucco siding and an asphalt shingle roof. The home was heated via natural gas and potable water is provided by a well located on the interior of the house. A septic mound was observed on the east side of the home.

The garage was located approximately 50 feet northeast of the house. The garage had wood siding with an asphalt shingle roof and a metal-sided attachment on the east side.

The barn was located in the central portion of the property and was observed to be severely deteriorated. The barn had an earthen floor with wood framing and had an attachment on the east side.

Breen Properties
13007 Lexington Ave NE
Access to the property was via a driveway off of Lexington Avenue NE. A house, pole barn and Quonset hut existed on the property. The house was located in the southwest portion of the property and consisted of a single-family home. The house was heated via fuel oil stored in an underground tank located on the east side of the home. Potable water is provided by a well located on the west side of the home and a septic system is located northeast of the home. A furnace, water heater, well pump and water softener were observed in the basement of the home.

The pole barn was located approximately 100 feet east of the house and was estimated to have overall plan dimensions of about 30 feet wide by about 40 feet long. The barn had an earthen floor with corrugated metal siding and a metal roof. The barn was not heated. Items observed in the barn included but was not limited to: furniture, wood, a lawnmower, farming machinery and a motorcycle. The barn had attachments on the north and east sides of the building that contained a boat, wood and hay.

The Quonset hut was located in the southeast portion of the property approximately 700 feet east of the house. The Quonset hut had an earthen floor with metal siding and a metal roof.

Several items were observed on the exterior property that included but was not limited to: farming equipment, wood, tires, hay bales, several trailers, and a feed bin. Several plastic storage containers were observed on a trailer that were reported to contained water.

A burn pit was observed approximately 40 feet east of the house.

A pond exists in the southeast portion of the property on the east side of the Quonset hut.

12961 Lexington Ave NE
Access to the property was via a gravel driveway off of Lexington Ave NE. A single-family home existed in the west-central portion of the property. The home was reported to have been built in 1994 and is heated via natural gas. Potable water is provided by a well located northwest of the home and a septic system is located on the south side of the home.

A barn is located approximately 200 feet southeast of the home. The barn was estimated to have overall plan dimensions of about 45 feet wide by about 50 feet long. The barn had an earthen floor with metal siding and a metal roof. A lean-to is located on the west side of the barn. A cattle pen existed on the west side and a horse pen existed on the north side of the barn.

An above ground storage tank was observed in the northwest portion of the property. The tank was located within a wooded area approximately 300 feet northwest of the home. The tank appeared to be empty and fairly deteriorated (crushed). The property owner stated that the tank has been located on the property since before her ownership.

Goad Property
12911 Lexington Ave NE
Access to the Goad property was via a driveway off of Lexington Ave NE. Only the approximate eastern half of the overall property was included in this assessment. The property was generally open and grass covered in the northern portion and wooded in the approximate southern portion. No structures were observed on the property. Several items were observed within the wooded area in the southern portion of the property that included: a truck, several household appliances include a washer and dryer and a stove, tires, metal garage bins and old farming equipment.

6.2 Chemical Storage

No evidence of chemical storage or petroleum storage was observed on the Site during the Site Visit. In addition, no evidence of chemical or petroleum spills was observed on the Site during the Site Visit.

6.3 Storage Tanks

Observations were conducted to evaluate the presence of aboveground (ASTs) or underground storage tanks (USTs).

An underground storage tank was observed on the property 13007 Lexington Avenue NE. The tank was located on the east side of the house and was reported to contain fuel oil used to heat the home.

An above ground storage tank was observed in the northwest portion of the property 12961 Lexington Avenue NE. The tank was located within a wooded area approximately 300 feet northwest of the home. The tank had an estimated 250 to 300-gallon capacity. No evidence of spills or leaks associated with the tank was observed during the Site visit. In addition, no evidence of distressed vegetation near the tank was observed.

6.4 Polychlorinated Biphenyls (PCBs)

Observations were made to identify equipment that may contain polychlorinated biphenyls (PCBs). No evidence of PCB containing equipment were observed during the Site Visit.

6.5 Surrounding Area

Observations of the surrounding area were performed during the Site visit. Areas adjacent to and in the vicinity of the Site are briefly described below.

North:	Agricultural
South:	Residential
East:	Residential
West:	Residential

It should be noted that the adjacent property review was based on lines of sight from the Site and/or public streets.

7.0 VAPOR ENCROACHMENT SCREENING

We completed a VEC screening as defined in ASTM Practice E2600-10, Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions. The Vapor Encroachment Screening report is included in Appendix C.

One (1) offsite listing was identified on the VEC Screening:

> ***Lexington Cove*** was listed on the NPDES and WIMN databases. Lexington Cove was identified on the National Pollutant Discharge Elimination System (NPDES) and was listed as having a Construction Stormwater Permit. Construction Stormwater Permits are not REC's.

Based on the available information, including the type of facility identified, its regulatory status and its distance from the Target Property, the offsite listing does not appear to pose a risk of vapor encroachment onto the Site.

8.0 REGULATORY RECORDS REVIEW

EDR was commissioned to compile federal and state database information regarding potential environmental concerns at or within specified distances of the Sites. The number of listings located on each database searched, and their appropriate locations with respect to the Sites, are summarized in the following table. The listings are located as shown on Figure 3. Refer to the EDR Radius Map Report in Appendix D for a detailed description of each database.

MAP FINDINGS SUMMARY								
Database	**Target Property**	**Search Distance (Miles)**	**< 1/8**	**1/8-1/4**	**1/4-1/2**	**1/2-1**	**> 1**	**Total Plotted**
Federal ASTM Standard								
The Site was not listed in any of the Federal, State or Local databases								
State and Local ASTM Standard								
LUST		0.500	0	0	**1**	NR	NR	**1**
VIC		0.500	0	0	**1**	NR	NR	**1**
BROWNFIELDS		0.500	0	0	**1**	NR	NR	**1**
SRS		0.500	0	0	**2**	NR	NR	**2**
VAPOR		0.500	0	0	**1**	NR	NR	**1**
WIMN		0.500	**1**	0	**6**	NR	NR	**7**

Site. The Site was not listed in any of the Federal, State or Local databases on the EDR Report.

Surrounding Properties. There were 13 listings for businesses or facilities on various databases within the specified search distances of the Target Property. Some of these businesses or facilities were listed on more than one database. A summary of the business or facilities is as follows:

Lennes Residence, 13625 Lexington Ave NE, was listed in the LUST, SRS, Financial Assurance, NPDES, VAPOR and WIMN databases. Lennes Property was identified as a Leak Site. A site closure letter was issued on March 19, 2013 by the Minnesota Pollution Control Agency (MPCA) stating the investigation and/or cleanup adequately addressed the petroleum tank release at the site.

Preserve at Legacy Creek was listed on the VIC, BROWNFIELDS and SRS databases. The site was closed on April 25, 2016.

Based on the available information including the types of facilities identified, their regulatory status, and distances from the Site/Target Property, the potential for these businesses or facilities to impact soil and groundwater below the Site appears to be low.

WIMN – What's In My Neighborhood. The EDR Report identified 7 facilities on the WIMN (What's In My Neighborhood) list within approximately ½ miles of the Site. It should be noted that some of the facilities appear on multiple lists and include some of the facilities discussed in Sections 7.0 and the paragraphs above and therefore may be duplicated. The list is offered by the MPCA as an online tool to search information about air quality, water quality, remediation projects, landfills, hazardous waste, and tanks and leaks around Minnesota. The information is made available so that users may better understand their community and environment. Businesses listed as having environmental permits, such as air emission permits, are complying with the law and agreeing to operate within the limits established by the MPCA. A summary is as follows:

- ***Lexington Cove***
- ***Oakland Ponds***
- ***Mill Pond***
- ***Red Fox Hollow, 136th Ln NE and Lexington Ave***
- ***Kings Wood Estates, County Road 17 & 136th Ave***
- ***Ham Lake Mining Project, 13627 Lexington Ave NE***

Each of the listings were identified as residential developments and construction sites with Construction Stormwater Permits. Construction Stormwater Permits are not REC's.

The Site was not included on the WIMN list.

Orphan/Unmapped Sites. Orphan or unmapped sites are businesses or facilities with insufficient data to accurately map their location. The EDR Radius Map Report indicated that there were no orphan/unmapped sites in their report.

9.0 FINDINGS

The Site. The overall Site consist of 8 parcel that total about 113.7 acres. A review of records reasonably obtainable for the Site indicate that the property was historically used for residential and agricultural purposes from at least 1938, and possibly earlier, to the present day.

The Site was not listed in any of the federal, state or local databases searched by EDR.

An underground storage tank was observed on the property 13007 Lexington Avenue NE. The tank was located on the east side of the house and was reported to contain fuel oil used to heat the home. This tank in our opinion constitutes a REC for the Site.

One inactive above ground storage tank was observed on the property at 12961 Lexington Avenue NE. The tank was reported to have existed in the property prior to ownership by the current property owner. The tank was partially crushed and was observed to be empty. No evidence of leaks or spills or stressed vegetation in the vicinity of the tank was observed. For these reasons, this tank, in our opinion, is not a REC.

Several items were observed on the grounds or in garages, barns or Quonset huts on the various properties that comprise the Site. These items included but were not limited to; vehicles such as motorcycle(s), truck(s) and boats, farm equipment and machinery, lawn mowers and the associated gas cans, furniture, wood piles, tires and household appliances. Since the properties were used for residential purposes and/or agriculture, it is our opinion these items constitute *De Minimus* conditions and in our opinion are not REC's.

Surrounding Property. The Site is located within an area of mostly agricultural and vacant land. There were 13 listings for various businesses or facilities on various databases within the specified search distances of the Target Property that could potentially impact the Site.

Based on the available information, including the types of businesses identified, their regulatory status and their distance from the Target Property, these off-site facilities do not appear to represent REC's at this time and the potential for these businesses or facilities to impact the subsurface soils and groundwater of the Site appears to be low.

10.0 CONCLUSIONS

This assessment identified the following Recognized Environmental Condition (REC) associated with the Target Property:

- An underground storage tank exists on the property at 13007 Lexington Avenue NE and contained a small quantity of fuel. If the tank and fuel will no longer be used, it should be removed and property disposed of off-site.

The following on-site conditions were identified:

- One inactive above ground storage tank was observed on the property at 12961 Lexington Avenue NE. No evidence of leaks or spills or stressed vegetation in the vicinity of the tank was observed. The tank should be removed and properly disposed of off-site.

- Each of the properties at the addresses 12961, 13007, 13071 and 13143 Lexington Avenue NE contained a well and septic system. If the wells will not or cannot be re-used, they should be abandoned/sealed in accordance with Minnesota Department of Health requirements. If the septic systems cannot or will not be re-used, they should be removed in accordance with state, county and/or local rules and regulations, if any.

- We anticipate some of the structures will be demolished to make way for the new development. We recommend that the demolition debris be properly disposed of off-site in accordance with applicable State, Federal and Local rules and regulations.

- Due to the age of existing buildings on the Site it is possible that some of the building material could contain potentially hazardous substances such as lead paint or asbestos. Disturbances of any such materials from demolition could create hazards to human health. Testing of suspect materials should be undertaken prior to renovation, remodeling or demolition of the buildings.

- Several items were observed on the grounds or in garages, barns or Quonset huts on the various properties that comprise the Site. These items included but were not limited to; vehicles such as motorcycle(s), truck(s) and boats, farm equipment and machinery, lawn mowers and the associated gas cans, furniture, wood piles, tires and household appliances. If these items will not or cannot be used or reused, they should be properly disposed of off-site or recycled

11.0 STANDARD OF CARE

HGTS has performed a Phase I Environmental Site Assessment, in conformance with the scope and limitations of ASTM Practice E 1527-13, of the Almberg Acres & Breen Property (a.k.a. Lexington Waters) located in Blaine, Anoka County, Minnesota. Any exceptions to, or deletions from this practice are described in Section 1.3 of this report.

This report has been prepared for the exclusive use of The Excelsior Group, LLC and their lending institution. No other parties may rely on the contents of this report unless authorization is obtained from HGTS and The Excelsior Group, LLC. Environmental services performed by HGTS engineers for the project have been conducted in a manner consistent with the degree of care and technical skill appropriately exercised by environmental professionals currently practicing in this area. Recommendations or opinions contained in this report represent our professional judgment and are generally based upon available information and currently accepted practices for environmental professionals. Other than this, no warranty is expressed, nor is it implied. Information in this report

obtained during interviews was accepted in good faith. Information obtained through databases is limited to the accuracy of those databases.

This report was prepared by Mr. Paul Gionfriddo and Mr. Nic Alfonso. Mr. Gionfriddo is a Professional Engineer at HGTS. Mr. Gionfriddo has a Bachelor of Science degree in Civil Engineering from the University of Minnesota with over 24 years professional experience. Mr. Alfonso is a Geologist at HGTS and has a Bachelor of Science degree in Geology from the University of Minnesota Duluth.

12.0 ENVIRONMENTAL PROFESSIONAL STATEMENT

We have the specific qualifications based on education, training and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

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.

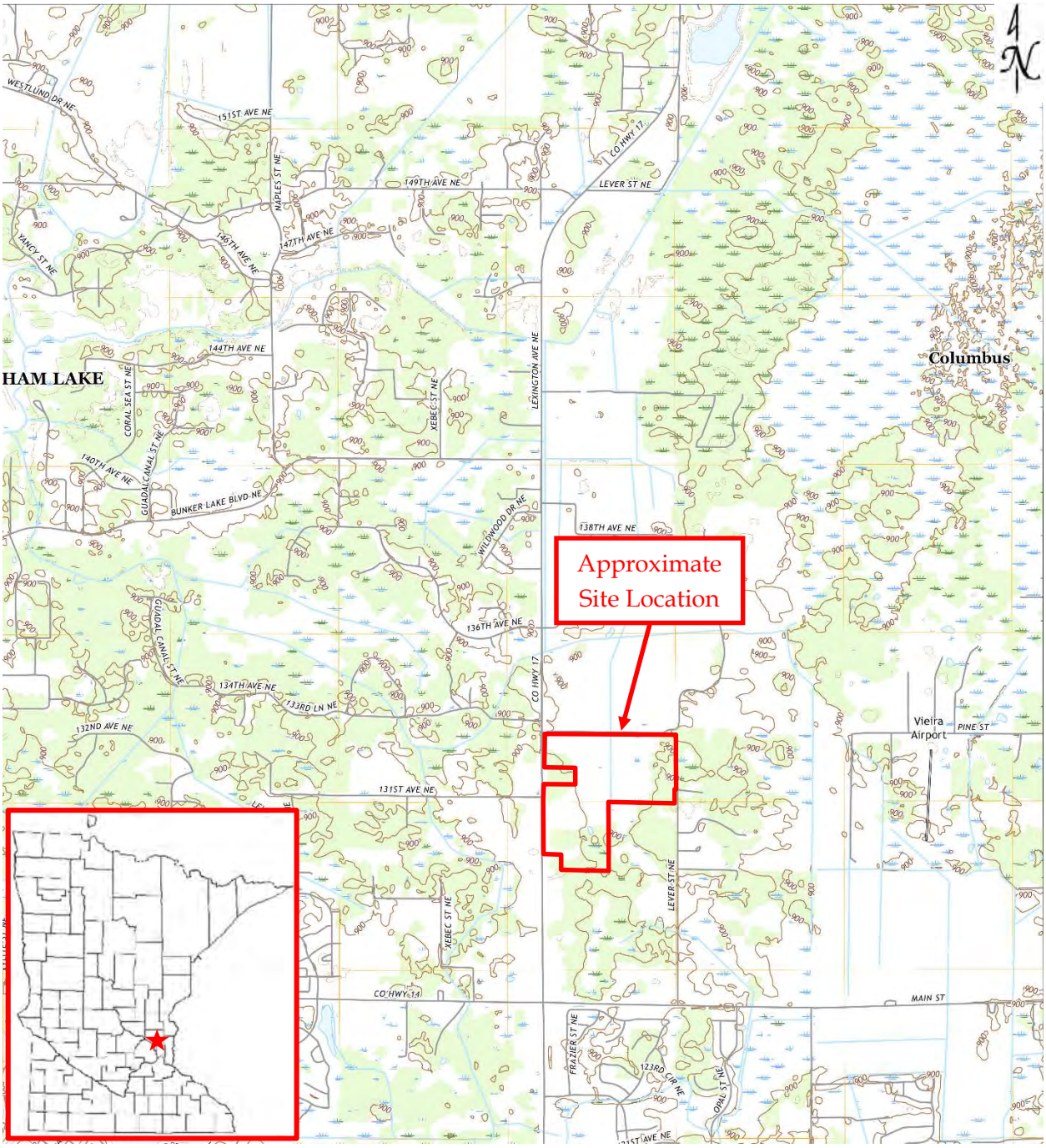
13.0 REFERENCES

Circle Pines, 7.5 Minute Series (Topographic), U. S. Geological Survey, 2019.

Geologic Atlas of Anoka County, Minnesota, County Atlas Series C-27, Part A, Plates 1 thru 6, University of Minnesota, Minnesota Geological Survey, St. Paul, Minnesota, 2013.

Geologic Atlas of Anoka County, Minnesota, County Atlas Series C-27, Part B - Hydrogeology, Minnesota Department of Natural Resources, St. Paul, Minnesota, 2016.

FIGURE 1
Site Location



Circle Pines Quadrangle, Minnesota, 7.5-Minute Series

Haugo GeoTechnical Services 2825 Cedar Avenue S Minneapolis, MN 55407	**Site Location** **Almberg Acres & Breen Property (Lexington Waters)** **Lexington Avenue Northeast** **Blaine, Minnesota**	Figure #: 1 Drawn By: NA Date: 3/25/2021 Scale: None HGTS Project 21-0223

FIGURE 2
Site Layout

Legend

Site Boundary

Notes: Property boundaries are approximate and are for reference only.
Imagery source: Google Earth.

Haugo GeoTechnical Services 2825 Cedar Avenue South Minneapolis, MN 55407	**Site Layout** **Almberg Acres & Breen Property (Lexington Waters)** **Lexington Avenue Northeast** **Blaine, Minnesota**	Figure #: 2 Drawn By: NA Date: 3/25/2021 Scale: None HGTS Project 21-0223

Appendix E

Botanical Survey Reports and Agency Comments

Lexington Waters Residential Development EAW

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Critical Connections Ecological Services, Inc.
450 Main Street North, Suite 130, Stillwater, Minnesota 55082

Mr. Paul Thomas, P.E.
The Excelsior Group, LLC
1660 Highway 100 S., Suite 400
St. Louis Park, MN 55416

October 2, 2018

Re: Results of Botanical Surveys and Habitat Assessment
for Minnesota Endangered, Threatened, and Special Concern Plant Species
at the Almberg Parcels in Northeast Blaine, Anoka County, Minnesota

Dear Mr. Paul Thomas:

Critical Connections Ecological Services, Inc. (CCES) was retained by The Excelsior Group, LLC (Excelsior Group) to complete a site assessment and botanical surveys for the presence of state-listed vascular plant species at a 67.7 acre proposed residential development site in northeast Blaine, Minnesota. The surveys were required by the Coon Creek Watershed District (RCWD) and are reviewed by the Minnesota Department of Natural Resources (MN DNR). The 67.7 acre site is located east of Lexington Avenue NE and south of the Blaine/Ham Lake corporate boundary, in T31N, R23W, NW 1⁄4 of Section 1, Anoka County, Blaine, MN. (see attached **Figure 1** and **Figure 2**).

A recent query of the MN DNR Natural Heritage Information System (NHIS) indicated that several state-listed vascular plant species have been previously documented in the vicinity of the proposed residential development at the Almberg Parcels (the Project). Prior to conducting field surveys, CCES submitted a proposed botanical survey protocol to Ms. Lisa Joyal, MN DNR on September 4, 2018 (attached). Mr. Husveth, a MN DNR approved rare plant surveyor, led the spatially comprehensive botanical surveys and habitat assessment of the subject property on September 11 and 12, 2018. CCES surveyed for the presence/absence of the three target species cited recent NHIS correspondence for projects in this immediate vicinity (*Xyris torta, Polygala cruciata,* and *Viola lanceolata*) as well as all associated state-listed vascular plant species known to occur within the Anoka Sand Plain ecological subsection of Minnesota. In addition, CCES surveyed for the presence/absence of potential habitats that could support earlier season rare species as per MN DNR rare species survey recommendations. When suitable habitat was encountered for one or more state-listed species, an intensive survey was conducted to ensure individual state-listed plants would be located.

Survey Results:

The site contained limited suitable native habitats with very limited potential to support targeted state- listed species. The majority of the property is managed as an active sod farm

planted to bluegrass sod (*Poa* spp.), with several maintained ditch laterals dominated by reed canary grass (*Phalaris arundinacea*). Fallow sod farm areas are dominated by agricultural weeds with no potential to support rare species, including *Viola lanceolata.* Native habitat remnants included mature but degraded oak forest and oak woodland (eastern extents and southwest corner), and aspen-birch woodland/forest in a degraded condition. However, forested systems were heavily impacted by non-native earthworms, resulting in forest soil loss and degradation, loss of forest herbaceous layer, and the presence of glossy and common buckthorn. Wetlands were partially to effectively drained, farmed, or saturated to seasonally flooded and dominated by reed canary grass (*Phalaris arundinacea*), glossy buckthorn (*Frangula alnus*) or common buckthorn (*Rhamnus cathartica*). Low potential for rare species did occur along the forest and woodland edges and transitions to sod fields, where several *Rubus* species were encountered. *Rubus* species encountered along these ecotonal habitats were closely examined and keyed to species in the field and the lab. All *Rubus* species detected were non-listed, common species, including: *Rubus allegheniensis, R. wisconsinensis, R. ferrofluvious, R. occidentalis,* and *R. idaeus* var. *strigosus.*

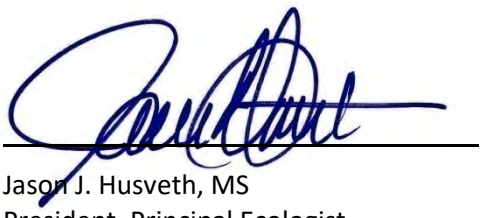
After completing a thorough assessment of the 67.7 acre subject property and all potential habitats and micro-habitats, no Minnesota Endangered, Threatened, or Special Concern plant species were located on the site. Very limited potential habitat these rare plant species was encountered on site and these areas were intensively surveyed. Furthermore, these limited potential habitat areas were of low ecological integrity as a result of past land uses and present day degradation, invasive species cover, and land use/disturbance. No additional follow-up surveys for state-listed species are recommended or justified for this 67.7 acre site.

Thank you for the opportunity to complete this survey work at the 67.7 acre subject property for The Excelsior Group, LLC, and at the requirement of the Coon Creek Watershed District and the Minnesota Department of Natural Resources. These surveys and this letter should satisfy your requirement for the completion and reporting of focused botanical surveys for the presence of state-listed vascular plant species.

Please feel free to contact us with any questions or should you require additional information or documentation. We appreciate the opportunity to assist you with this project.

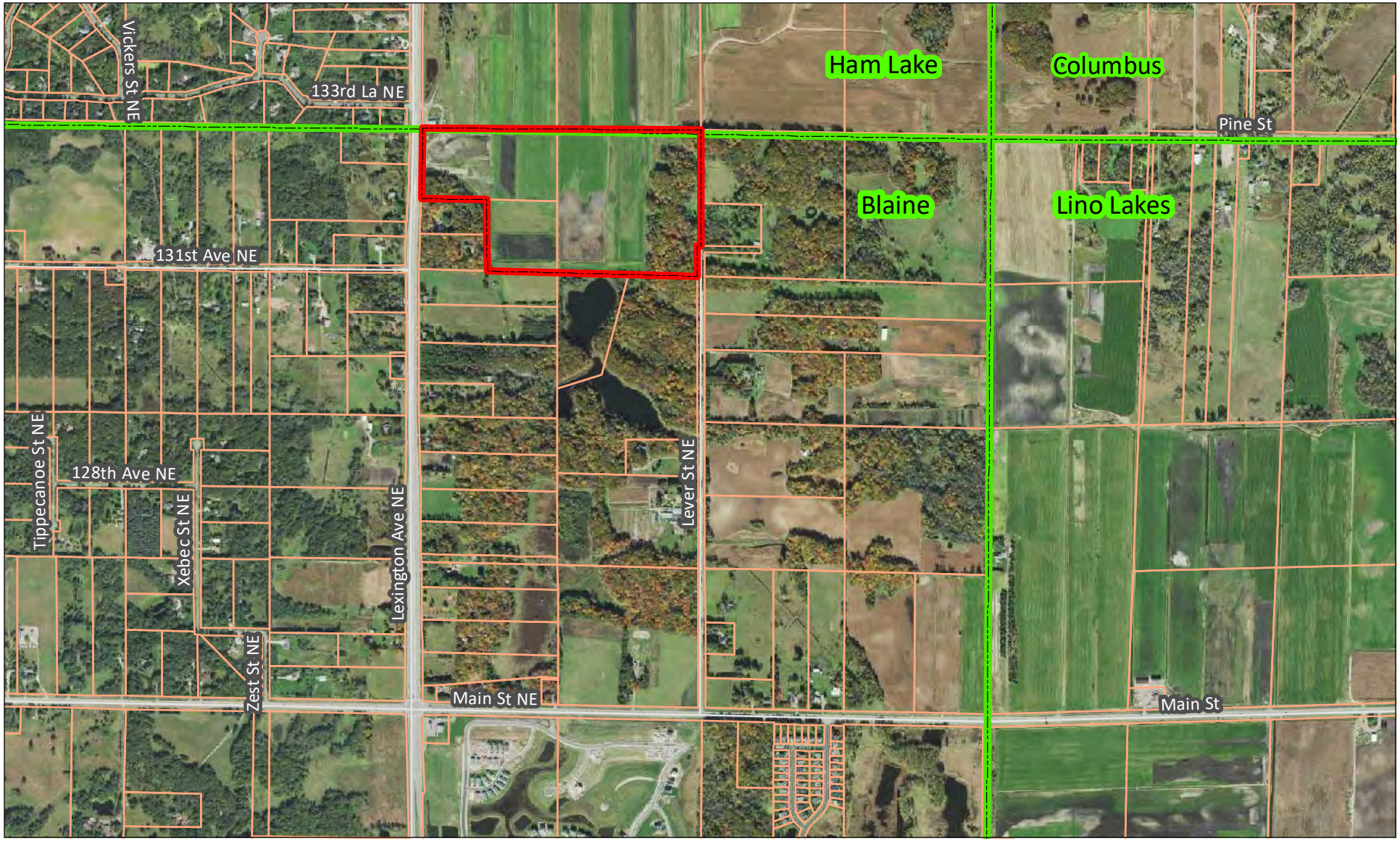
Respectfully submitted,

Critical Connections Ecological Services, Inc.



Jason J. Husveth, MS
President, Principal Ecologist
MN DNR Special Collector's Permit No. 22777

cc: Tim Kelly, Rice Creek Watershed District
Lisa Joyal, Minnesota Department of Natural Resources



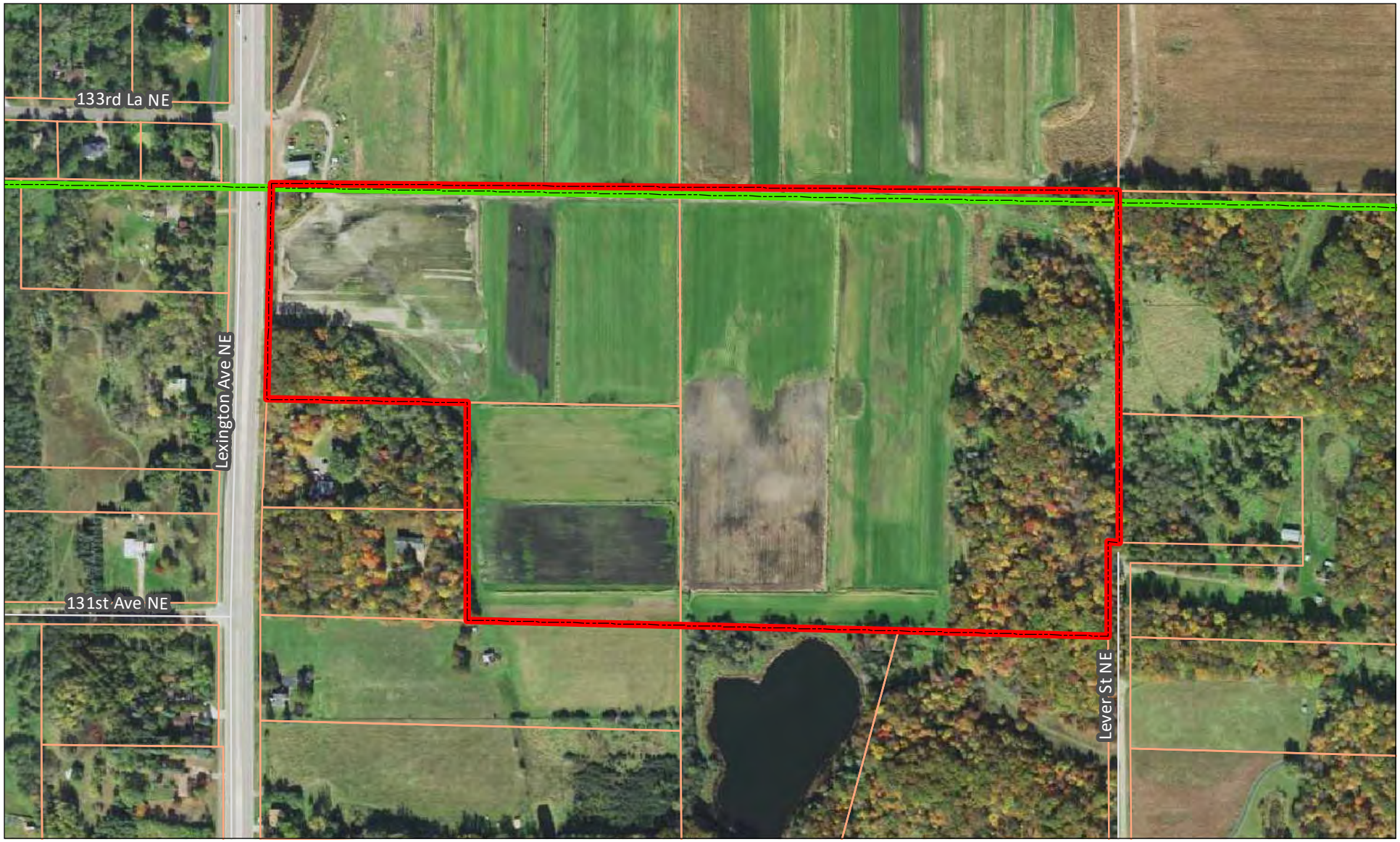
2018 Preliminary Survey for Minnesota Endangered, Threatened, and Special Concern Vascular Plant Species (Survey Protocol)
Excelsior Group, LLC
Almberg Parcels, Blaine, MN
Figure 1: Project Location

Survey Boundary (Approx. 67.7 Acres)
Municipal Boundary
Anoka County Parcel Data

N

0 250 500 1,000 Feet

Critical Connections Ecological Services, Inc.



2018 Preliminary Survey for Minnesota Endangered, Threatened, and Special Concern Vascular Plant Species (Survey Protocol)
Excelsior Group, LLC
Almberg Parcels, Blaine, MN
Figure 2: Survey Boundary

Survey Boundary (Approx. 67.7 Acres)
Municipal Boundary
Anoka County Parcel Data

N

0 125 250 500 Feet

Critical Connections Ecological Services, Inc.

Critical Connections Ecological Services, Inc.
450 Main Street North, Suite 130, Stillwater, Minnesota 55082

Natural Resource Consulting

Landscape Ecology

Botanical Inventories

Threatened & Endangered Species Surveys

Greenway & Open Space Planning

Natural Community Restoration

Wetland Delineation & Permitting

Wetland Banking & Monitoring

Minnesota Land Cover Classification

Geographic Information Systems

Global Positioning Systems

Database Management & Development

Environmental Education

September 4, 2018

Ms. Lisa Joyal
Endangered Species Environmental Review Coordinator
MN Dept. of Natural Resources
500 Lafayette Road, Box 32
St. Paul, MN 55155-4032

RE: Excelsior Group: Almberg Parcels, Potential Residential Subdivision
T31N R23W, NW1/4 Section 1, Blaine, Anoka County, MN

Dear Ms. Joyal:

Excelsior Group, LLC has retained the services of Critical Connections Ecological Services (CCES) to complete a botanical survey for the presence/absence of state-listed rare vascular plant species within a 67.7 acre proposed development site located in T31N, R23W, NW ¼ of Section 1, Anoka County and in the City of Blaine. The site is located to the north of County Highway 14 and east of Lexington Avenue NE and immediately south of the Ham Lake corporate boundary (see **Figure 1**). This survey is being required by the MN DNR. A recent query of the Natural Heritage Information System (NHIS) indicated that several state-listed vascular plant species have been previously documented in the vicinity of the proposed residential development at the Almberg Parcels (the Project). Prior to conducting any field work, CCES is required to submit a rare species survey proposal to the MN DNR for review and approval. To meet this requirement, CCES has prepared the following information:

Proposed Survey Methods:

In accordance with the MN DNR recommendations for developments within the immediate vicinity of the proposed Project, CCES plant ecologists will conduct field surveys within a 67.7 acre Project survey boundary (see **Figure 2**) to detect any Minnesota special concern, threatened, or endangered vascular plant species occurring within the proposed Project boundary that may be affected by the proposed Project. As a result of the MN DNR's Natural Heritage Information System (NHIS) review, the MN DNR has provided a list of such vascular plant species which will be the focus of our botanical survey efforts. In addition to the species on the MN DNR NHIS list, CCES will also survey for additional rare vascular plant species known to occur within similar native plant communities and habitats of the Anoka Sand Plain.

Target Plant Species:

The NHIS database query for the adjacent project site (Correspondence #ERDB 20180470) indicated that multiple state-listed vascular plant species may occur within the Project survey boundary. Based on the existing query results, CCES will survey for the following target plant species which are listed below in **Table 1**.

Table 1: MN DNR NHIS Target Plant Species & Optimal Survey Period for the Subject Property

Scientific Name	Common Name	Status	Survey Period
Polygala cruciata	Cross-leaved Milkwort	MN Endangered	July – September
Viola lanceolata	Lance-leaf Violet	MN Threatened	April - October (early preferred)
Xyris torta	Twisted Yellow-eyed Grass	MN Endangered	July - September

The vascular plant species listed above in **Table 1** will be the focus of our survey effort. Should appropriate habitat be encountered in the field, CCES will also survey for the following species known to occur within the Anoka Sand Plain based on our field experience and recent and/or nearby detections: *Aristida longespica* var. *geniculata, Bartonia virginica, Botrychium simplex, Utricularia geminiscapa, Fimbristylis autumnalis, Gaylussacia baccata, Juncus marginatus, Platanthera clavellata, Platanthera flava* var. *herbiola, Potamogeton bicupulatus, Rotala ramosior, Rubus fulleri, Rubus missouricus, Rubus semisetosus, Rubus stipulatus, Rubus vermontanus, Rubus wheeleri, Sceptridium rugulosum, Scleria triglomerata, Trichophorum clintonii,* and *Utricularia geminiscapa.*

Desktop and Existing Data Review:

Prior to the start of any field work, CCES will review existing desktop and/or existing information related to the Project site and/or the specific vascular plant species for which we will be surveying. CCES will review habitat requirements for each of the above listed species using the MN DNR's Rare Species Guide as well as other reference material (i.e. Trees and Shrubs of Minnesota (2008), Orchids of Minnesota (2012), Statement of Need and Reasonableness (2012)).

If necessary, CCES will visit the University of Minnesota Herbarium prior to conducting any field work to review collections of preserved specimens of the species listed in **Table 1** (and the supplemental list) to ensure a thorough understanding of identifying field characters.

CCES will also review existing desktop based habitat information (i.e. MLCCS, CCES/MN DNR ASP Groundwater Influenced Shallow Wetlands Model, LiDAR, Wetland Delineation, and Soils) to help refine and focus our field search area.

Field Survey Methods:

CCES ecologists will conduct surveys for the presence/absence of the vascular plant species listed above in **Table 1** during September and October 2018. The optimal survey time for the majority of the plants listed above in **Table 1** does include September. Should habitat be encountered for any rare vascular plant species that cannot be readily identified or detected during the proposed survey period, CCES will make a recommendation in the survey report that additional field survey work be considered and/or required by the MN DNR.

Field survey work will be lead by CCES lead/principal ecologist, Jason Husveth (MN DNR Approved Surveyor for Endangered and Threatened Vascular Plant Species). Mr. Husveth may be assisted in the field by additional CCES field staff including Ms. Amy Husveth (ecologist).

Plant survey work will be conducted using a random meander survey protocol. This type of survey allows for coverage of all plant community types within the Project boundary. When suitable habitat for any of the above listed species is encountered in the field (**Table 1**), a more focused and intensive survey will be completed in the area. An informed meander survey of suitable habitats will be used to detect suitable micro-habitats and plant associations known to support the individual target rare plant species. Biotic and abiotic information will be used to successfully detect and locate target rare species.

Documentation of Rare Vascular Plant Species:

Should state-listed vascular plant species be detected by CCES ecologists in the field, CCES will record a GPS point location(s) of individual rare vascular plant(s). If sub-populations are large and contain multiple individuals, CCES will flag the perimeter of the sub-population and count the number of individual plants contained within the sub-population. CCES will then GPS the boundary of the sub-population.

In addition to collecting a GPS point, CCES will also collect digital photographs of the species encountered as well as the associated habitat and take detailed habitat notes. Habitat notes will include a list of associated species found with the target plant species.

CCES will collect one voucher specimen of each rare vascular plant species encountered within the Project boundary under Jason Husveth's Special Collector's Permit (Permit #22777, Expires December 21, 2021). The specimen will be prepared and submitted to the MN DNR. Along with the specimen, one archival specimen label will be provided which shall include specific specimen information such as location, collectors, habitat, and associate species.

Deliverables to the MN DNR:

CCES will prepare a final survey report that will include an introduction, background, methods, and results section to summarize the survey effort. The final survey report will be issued to the MN DNR at the completion of the survey. In addition to the final survey report, CCES will provide voucher

specimens with archival labels to Welby Smith, MN DNR State Botanist, at the time of the issuance of the final survey report. Lastly, CCES will provide a completed rare species GIS point and/or polygon shape file and attribute database to Ms. Lisa Joyal, MN DNR Endangered Species Environmental Review Coordinator, upon completion of the surveys and issuance of the final survey report.

Thank you for your review of our rare species survey proposal (provided by CCES on behalf of Excelsior Group) for a proposed residential development Project site in north east Blaine, Anoka County, MN. Please review the proposed survey methods and contact us if you have any questions or suggestions to improve upon our suggested survey methodology. CCES plans to begin survey work as soon as possible.

Respectfully submitted,

Critical Connections Ecological Services, Inc.

Jason J. Husveth, MS
Principal Ecologist
651-247-0474
jhusveth@ccesinc.com

cc: Paul Thomas, Excelsior Group LLC

NO STAPLES PLEASE

2012	For Agency Use Only:	
	Received _____ Due _____ Inv _____	#Sec _____ Contact Rqsted? _____
	Search Radius _____mi. L / I / D EM Map'd _____	#EOs _____ Survey Rqsted? _____
	NoR / NoF / NoE / Std / Sub Let _____ Log out _____	#Com _____
		Related ERDB# _____

NATURAL HERITAGE INFORMATION SYSTEM (NHIS) DATA REQUEST FORM

Please read the instructions on page 3 before filling out the form. Thank you!

WHO IS REQUESTING THE INFORMATION?

■ Mr.
Ms.

Name and Title: Jason Husveth, Principal Ecologist

Agency/Company: Critical Connections Ecological Services, Inc.

Mailing Address: 450 Main Street North, Stillwater, Minnesota, 55082
(Street) (City) (State) (Zip Code)

Phone: 651-433-441 e-mail: jhusveth@ccesinc.com

Responses will be sent via email. If you prefer US Mail check here: ☐

THIS INFORMATION IS BEING REQUESTED FOR A:

☐ Federal EA ☐ State EAW ☐ PUC Site or Route Application ☐ Watershed Plan ☐ BER
☐ Federal EIS ☐ State EIS ☑ Local Government Permit ☐ Research Project
☐ NEPA Checklist ☐ Other (describe) _____

☐ Check here if this project is funded through any of the following grant programs: Lessard-Sams Outdoor Heritage Council (L-SOHC), Conservation Partners Legacy (CPL), or Legislative-Citizen Commission on Minnesota Resources (LCCMR).

INFORMATION WE NEED FROM YOU:

1) **Enclose a map** of the project boundary/area of interest (topographic maps or aerial photos are preferred).
2) Please **provide a GIS shapefile*** (NAD 83, UTM Zone 15N) of the project boundary/area of interest.
3) List the following locational information* (attach additional sheets if necessary):

For Agency Use: TRS Confirmed ☐

For Agency Use: Region / MBS Status	County	Township #	Range #	Section(s) (please list **all** sections)
	Anoka	T31N	R23W	1

4) Please provide the following information (attach additional sheets if necessary):

Project Name: Almberg Parcels, Potential Residential Subdivision

Project Proposer: Excelsior Group

Description of Project (including types of disturbance anticipated from the project):

Project includes the development of a proposed residential subdivision within a 67.7-acre project area located in Blaine, MN. A site plan has not been provided at this time, however project would likely include the development of a residential subdivision which would include grading, home and outbuilding installation, installation of roadways, utilities, storm water management areas, as well as other related infrastructure. At this time, Excelsior Group is evaluating the site's potential to support a project, this evaluation includes the completion of a rare vascular plant survey.

Describe the existing land use of the project site. What types of land cover / habitat will be impacted by the proposed project?

Current land use is primarily agricultural (sod farming). The site also contains areas of natural woodland and open herbaceous plant communities.

List any waterbodies (e.g., rivers, intermittent streams, lakes, wetlands) that may be affected by the proposed project, and discuss how they may be impacted (e.g., dewatering, discharge, riverbed disturbance).

The site contains areas that exhibit wetland characteristics, although most of these areas are being actively managed for sod production. No lakes, rivers or ditches occur within the proposed project boundary.

Does the project have the potential to affect any groundwater resources (e.g., groundwater appropriation, change in recharge, or contamination)?

At this time of investigation work, there are no known potential affects to groundwater resources.

To your knowledge, has the project undergone a previous Natural Heritage review? If so, please list the correspondence #: ERDB # _____. How does this request differ from the previous request (e.g., change in scope, change in boundary, project being revived, project expansion, different phase)?

No known previous reviews.

To your knowledge, have any native plant community or rare species surveys been conducted within the site? If so, please list:

No known occurrences within the proposed project boundary.

List any DNR Permits or Licenses that you will be applying for or have already applied for as part of this project:

Potential rare species takings permit, if necessary based on results of the field survey.

INFORMATION WE PROVIDE TO YOU:

1) The response will include a Natural Heritage letter. If applicable, the letter will discuss potential effects to rare features.

☐ Check here if you are interested in a list of rare features in the vicinity of the area of interest but you do **not** need a review of potential effects to rare features. Please list the reason a review is not needed:

_____

2) Depending on the results of the query or review, the response may include an Index Report of known aggregation sites and known occurrences of federally and state-listed plants and animals* within an approximate one-mile radius of the project boundary/area of interest. The Index Report and Natural Heritage letter can be included in any public environmental review document.

3) A Detailed Report that contains more information on each occurrence may also be requested. Please note that the Detailed Report may contain specific location information that is protected under *Minnesota Statutes*, section 84.0872, subd. 2, and, as such, the Detailed Report may not be included in any public document (e.g., an EAW).

☐ Check here if you would like to request a Detailed Report. Please note that if the results of the review are 'No Effects' or a standard comment, a Detailed Report may not be available.

FEES / TURNAROUND TIME

There is a fee* for this service. Requests generally take **3-4 weeks** from date of receipt to process, and are processed in the order received.

I have read the entire form and instructions, and the information supplied above is complete and accurate. I understand that material supplied to me from the Natural Heritage Information System is copyrighted and that I am not permitted to reproduce or publish any of this copyrighted material without prior written permission from the DNR. Further, if permission to publish is given, I understand that I must credit the Minnesota Division of Ecological and Water Resources, Minnesota Department of Natural Resources, as the source of the material.	
Signature (**required**)	Note: Digital signatures representing the name of a person shall be sufficient to show that such person has signed this document.

Mail or email completed form to:
Lisa Joyal, Endangered Species Review Coordinator
Division of Ecological and Water Resources
Minnesota Department of Natural Resources
500 Lafayette Road, Box 25
St. Paul, Minnesota 55155
Review.NHIS@state.mn.us

Online version of the form

Revised March 2, 2012

* Please see the instructions on page 3.

Instructions for the
Natural Heritage Information System (NHIS) Data Request Form

The Division of Ecological and Water Resources maintains the Natural Heritage Information System (NHIS), a collection of databases that provides information on Minnesota's rare plants and animals, native plant communities, and other rare features. The NHIS is continually updated as new information becomes available, and the Minnesota County Biological Survey (MBS) is a major source of this information.

- Use this form to request information on rare features within an approximate one-mile radius of an area of interest. You may reproduce this form for your own use or to distribute. An **electronic copy** of the form is available at the DNR's web site.

- If you are interested in obtaining the Rare Features Database electronically as a GIS shapefile, do not fill out this form. Please see this Natural Heritage Data document for more information on this option.

WHO IS REQUESTING THE INFORMATION?

- The person whose name is entered on the form under the "Who is Requesting the Information" section must sign the form as an acknowledgment of the State of Minnesota's copyright on all generated reports. All correspondence and invoices will be sent to this person. Please do not ask us to send this information to a different party.
- Please include a complete mailing address. Responses will be sent via email unless you specify differently.

INFORMATION WE NEED FROM YOU:

- Include a legible map (topographic maps or aerial photographs are preferred) clearly showing:

  1) location and boundaries of the project,
  2) associated infrastructure, and
  3) any waterbodies that may be affected by the proposed project.

- If the project boundary is large **or** complex, please provide a **GIS shapefile** (NAD 83, UTM Zone 15) of the project boundary/area of interest. Do not include any buffers. An additional "digitizing fee" may be charged for projects that require a substantial amount of time to digitize.
- Provide a complete list of sections that the proposed project or area of interest falls within. Do not include any buffer area. Please double-check this information. Incorrect sections can delay the processing of your request, and may result in an invalid review.
- Please provide a detailed **project description**, attaching separate pages to the form if necessary. Identify the type of development (e.g., housing, commercial, utility, ethanol facility, wind farm) being proposed, the size and # of units (if applicable), construction methods, and **any associated infrastructure** such as access roads, utility connections, and water supply and/or discharge pipelines.
- We cannot begin processing data requests until we receive all parts of the request, including a map and a completed, signed form.

INFORMATION WE PROVIDE TO YOU:

- The Natural Heritage review and database reports are valid for environmental review purposes for one year, and they are only valid for the project location and description provided on the form. Please contact Lisa Joyal at lisa.joyal@state.mn.us if project details change or if a data update is needed.
- Please note that the Natural Heritage review and database reports do not address/contain locations of the gray wolf (*Canis lupus*), state-listed as special concern, or Canada lynx (*Lynx canadensis*), federally-listed as threatened, as these species are not currently tracked in the Natural Heritage Information System. See page 4.

FEES / TURNAROUND TIME:

- There is a fee for this service. All fees are subject to change. The current fee schedule is available online. The minimum charge is $90.00, and increases based on the time it takes us to process the request (dependent upon project size and the results of the query). Please do not include payment with your request; an invoice will be sent to you.
- There is generally a **3-4 week turn-around time** to process requests.

PLEASE SEE NEXT PAGE FOR ADDITIONAL SOURCES OF INFORMATION

ADDITIONAL SOURCES OF INFORMATION:

- The DNR Rare Species Guide is the state's authoritative reference for Minnesota's endangered, threatened, and special concern species. It is a dynamic, interactive source that can be queried by county, ECS subsection, watershed, or habitat.

- Information on the gray wolf (*Canis lupus*):
  DNR website gray wolf Species Profile
  USFWS website Monitoring Report

- Information on the Canada lynx (*Lynx Canadensis*):
  DNR website Canada Lynx Species Profile
  USFWS website Canada Lynx profile

- Minnesota's Comprehensive Wildlife Conservation Strategy is an action plan focused on managing Minnesota's native animals whose populations are rare, declining, or vulnerable to decline. It identifies Species in Greatest Conservation Need and the Key Habitats that support them.

- The Minnesota Geospatial Commons allows users to download GIS shapefiles of MBS Sites of Biodiversity Significance, MBS Native Plant Communities, MBS Railroad Rights-of-Way Prairies, and Scientific and Natural Area Boundaries.

- Information on MBS Site Biodiversity Significance Ranks

- Information on MBS Native Plant Communities

- Questions? Please contact Lisa Joyal at 651-259-5109 or lisa.joyal@state.mn.us.

From:	Joyal, Lisa (DNR)
To:	Jason Husveth
Cc:	Horton, Becky (DNR); Elstad-Haveles, Kit (DNR); Paul Thomas; Tracey Rust; Tim Kelly; Parris, Leslie (DNR)
Subject:	[EXTERNAL] Almberg Parcels Survey Results - DNR Response
Date:	Thursday, October 25, 2018 5:18:50 PM
Attachments:	image001.png image002.png image003.png image004.png CCES Excelsior Group Alberg Parcels Blaine October 2 2018.pdf

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Jason,

Thank you for sending the attached survey results. The reports contain sufficient information to make a determination regarding impacts to state-listed plants, and no further surveys are requested. As no state-listed plants were documented, impacts are not anticipated.

Just wanted to close the loop on DNR's review of the survey results.

Thank you,

Lisa Joyal

~~~~~~

Lisa Joyal
Endangered Species Review Coordinator | EWR
NHIS Data Distribution Coordinator | EWR
Minnesota Department of Natural Resources
500 Lafayette Road, Box 25
St. Paul, MN 55155
Phone: 651-259-5109
Email: lisa.joyal@state.mn.us
mndnr.gov/eco

From: Jason Husveth [mailto:jhusveth@ccesinc.com]
~~~~~~

Sent: Thursday, October 04, 2018 4:27 PM
To: Paul Thomas <paul.thomas@excelsiorllc.com>; Tracey Rust <tracey.rust@excelsiorllc.com>
Cc: Tim Kelly <tkelly@cooncreekwd.org>; Joyal, Lisa (DNR) <lisa.joyal@state.mn.us>
Subject: Survey Results for Endangered, Threatened, and Special Concern Vascular Plants at the Almberg Parcels, NE Blaine, MN (No Detections, Survey Complete)

Dear Paul Thomas:

Please find an attached letter that reports our completion of focused botanical surveys within the 67.7 acre Almberg Parcels. This site is located east of Lexington Avenue NE and south of the Ham Lake/Blaine corporate boundary in NE Blaine, and within the Coon Creek Watershed District. CCES completed and NHIS request, submitted a botanical survey protocol to Lisa Joyal, and completed surveys on September 11 and 12, 2018. No state-listed or otherwise rare plant species were detected, and very little suitable habitat existing within this active agricultural site (sod farm).

Please review the attached letter that summarizes out methods and findings. Tim Kelly (CCWD) and Lisa Joyal (MN DNR) are copied on this email correspondence. Please contact me if you have any questions or require additional information.

Sincerely,

Jason Husveth

Jason J. Husveth, MS
Principal Ecologist
Critical Connections Ecological Services, Inc.
450 Main Street North, Suite 130
Stillwater, MN 55082
E: jhusveth@ccesinc.com
O: 651-433-4410
C: 651-247-0474

From:	Jason Husveth
To:	Tracey Rust; Amy Husveth
Subject:	[EXTERNAL] Fwd: Excelsior Group Rare Plant Survey 2018. Almberg Parcels
Date:	Monday, October 19, 2020 4:10:45 PM

Tracey:

See below. I will call you.

Thank you,

Jason

Jason J. Husveth, MS
Principal Ecologist
Critical Connections Ecological Services, Inc.
450 Main Street North
Suite 130
Stillwater, MN 55082

O: 651-433-4410
C: 651-247-0474
E: jhusveth@ccesinc.com

---------- Forwarded message ---------
From: **Matthew Danzl** <mdanzl@cooncreekwd.org>
Date: Mon, Oct 19, 2020, 2:55 PM
Subject: RE: Excelsior Group Rare Plant Survey 2018. Almberg Parcels
To: Jason Husveth <jhusveth@ccesinc.com>

Thanks Jason. I would agree that additional surveys wouldn't be needed for this area provided your statement below that you rechecked the site for land use changes. I would just advise your client to submit this report along with your email statement below when they are ready for permitting. If permitting will be years down the road, then obviously that might change this determination.

Thanks,

Matthew Danzl, MS | Water Resource Regulation Coordinator

Minnesota Wetland Professional #1310

Coon Creek Watershed District

13632 Van Buren St NE

Ham Lake, MN 55304

O: (763) 755-0975

D/C: (763) 392-8881

mdanzl@cooncreekwd.org

www.cooncreekwd.org

From: Jason Husveth <jhusveth@ccesinc.com>
Sent: Monday, October 19, 2020 8:49 AM
To: Matthew Danzl <mdanzl@cooncreekwd.org>
Subject: Excelsior Group Rare Plant Survey 2018. Almberg Parcels

Good morning Matt:

As we discussed via an exchange of voice messages, attached is the final summary report for the 2018 rare plant surveys of the Almberg (and associated) parcels in NE Blaine.

As a result of these surveys, CCES did not detect any state listed or protected rare plant surveys and at the time, the surveys were deemed complete by CCES and the MN DNR. I have revisited the site this October to verify that there have been no significant changes in land use that would affect the findings of these surveys. The Excelsior Group is now revisiting site planning for the development of these parcels.

I will bring a printed copy to our field visit at Main Street this morning.

Best regards,

Jason

Jason J. Husveth, MS

Principal Ecologist

Critical Connections Ecological Services, Inc.

450 Main Street North, Suite 130

Stillwater, MN 55082

E: jhusveth@ccesinc.com

O: 651-433-4410

C: 651-247-0474

Excelsior Group, LLC
Breen/Koepp Properties

Final Survey Report

Results of the 2020 Field Assessment for Minnesota Endangered, Threatened, and Special Concern Vascular Plant Species

Township 31 North, Range 23 West, Section 1
Blaine, Anoka County, Minnesota
February 28, 2021

Prepared For:

Excelsior Group
Ms. Tracey Rust
1660 Highway 100, Suite 400
St. Louis Park, Minnesota 55416

Prepared By:

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February 28, 2021

Ms. Tracey Rust
The Excelsior Group, LLC
1660 Highway 100, Suite 400
St. Louis Park, Minnesota 55416

Re: Final Survey Report
Results of the 2020 Field Assessment for Minnesota Endangered, Threatened, and Special Concern Vascular Plants within the Breen/Koepp Properties
T31N R23W Sec. 1, Blaine, Anoka County, Minnesota

Dear Ms. Tracey Rust:

At the request of Excelsior Group, LLC (Client), Critical Connections Ecological Services, Inc. (CCES) has completed botanical surveys for the presence of Endangered, Threatened, and Special Concern vascular plant species as well as potential habitats that could support these species within a 38.6 acre survey area associated with three residential parcels proposed for a residential subdivision and owned by the Breen and Koepp families (the Site). The Site is located in Section 1 in Township 31 North, Range 23 West. It is to the north of 125th Street (Main Street) and east of Lexington Avenue NE in the City of Blaine, Anoka County, Minnesota (see **Appendix A, Figure 1, Location Map and Figure 2, Survey Boundary**). The following report includes the results of the 2020 survey of the Site.

At the request of the Client, CCES ecologists visited the Site to conduct spatially comprehensive rare plant surveys within the requested survey area on multiple occasions between August 1, 2020 and October 31, 2020. CCES surveyed for the presence/absence of state-listed vascular plant species known to occur within the Anoka Sand Plain ecological subsection, with a special focus on those species known to occur within the immediate vicinity of the Site. In addition, CCES also surveyed for the presence/absence of potential habitats that could support earlier or later season rare species as per Minnesota Department of Natural Resources (MN DNR) rare species survey requirements and methods.

2020 field surveys conducted by CCES resulted in the positive detection and documentation of one (1) subpopulation of the state-threatened vascular plant species, *Viola lanceolata* var. *lanceolata* (lance leaved violet; MN-Threatened), one (1) subpopulation of the state-threatened vascular plant species, *Rotala ramosior* (toothcup; MN-threatened), and one subpopulation of the state special concern species *Sceptridium rugulosum* (St. Lawrence grapefern; MN Special Concern) within the Site survey boundary. No other state-listed or otherwise rare vascular plant species were detected as a result of this survey effort, and the entire Site was surveyed on multiple dates.

Survey Methods:

Prior to beginning any remote sensing or field survey work, CCES first prepared a Rare Species Survey Proposal and submitted a survey protocol to Ms. Lisa Joyal (MN DNR Endangered Species Environmental Review Coordinator) on September 17, 2020. In the protocol, CCES outlined the proposed field survey methodology and listed the target plant species to be surveyed for. As outlined in the survey protocol, CCES surveyed for the presence/absence of three target species which included *Polygala cruciata* (cross-leaved milkwort; MN Endangered), *Viola lanceolata* (lance-leaf violet; MN Threatened), and *Xyris torta* (twisted yellow-eyed grass; MN Endangered). In addition to these three species, CCES also surveyed for *Aristida longespica* var. *geniculata, Bartonia virginica, Botrychium simplex, Fimbristylis autumnalis, Gaylussacia baccata, Juncus marginatus, Platanthera clavellata, Platanthera flava* var. *herbiola, Potamogeton bicupulatus, Rotala ramosior, Rubus fulleri, Rubus missouricus, Rubus semisetosus, Rubus stipulatus, Rubus vermontanus, Rubus wheeleri, Sceptridium rugulosum, Scleria triglomerata, Trichophorum clintonii,* and *Utricularia geminiscapa.* These species are known to occur within the Anoka Sand Plain based on CCES' substantial field experience as well as recent detections of these species within several miles of the Site boundary and within similar sandplain habitats.

Prior to conducting any on-site assessment or survey work, CCES first reviewed all available remote sensing data. Information reviewed on the desktop using ArcGIS included Minnesota Land Cover Classification System (MLCCS) information, MN DNR Natural History Information System (NHIS) known rare species, rare plant communities, rare features information, Minnesota County Biological Survey (MCBS) information, Anoka County Soils information , topographic and LiDAR information, color and infra-red aerial photography, and existing internal rare plant database information previously collected and compiled by CCES, Inc.

Between August 1 and September 20, 2020 CCES ecologists conducted multiple field surveys of the site utilizing a focused-meander survey approach, surveying the entire 38.6 acre site to detect any individuals of state-listed species or appropriate habitat for target species. When specific habit or individual state-listed species were detected, a more focused survey effort was conducted in the areas containing appropriate habitat and/or verified rare species subpopulations. In addition, CCES also surveyed for the presence/absence of any potential habitat that could support earlier season rare species as per Minnesota Department of Natural Resources (MN DNR) rare species survey requirements and methods. Follow-up survey work was completed between September 20, 2020 and October 31, 2020.

Quantification of Rare Species Subpopulation Sizes:

Once state-listed plant species were detected within the site, the maximum spatial extents of each subpopulation were delineated with pin flagging and were recorded with a sub-foot accuracy Trimble TDC150 handheld GPS with ArcGIS Collector app. Within the flagged extents, all known and detected individuals of the subpopulation were contained; outside of the flagged extents, the subject species was absent. When individuals of a detected rare plant subpopulation were few and could be reasonably counted, all individuals of the subpopulation were individually flagged, GPS located, and counted individually. When individuals of a detected rare plant subpopulation were too numerous to reasonably locate and count, one meter quadrats were randomly sampled throughout the spatial extent of the subpopulation to estimate the overall subpopulation count of a species.

***Viola lanceolata* var. *lanceolata* (Lance-leaf violet; MN Threatened)**

During the follow-up survey efforts, CCES completed counts of *Viola lanceolata* var. *lanceolata* individuals within the single (1) detected subpopulation and also determined the spatial extent of the single subpopulation detected within the Site survey boundary during the survey efforts.

To quantify the number of individuals of *V. lanceolata* within the subpopulation detected in the field, CCES first defined and flagged the spatial extent of the subpopulation. The single subpopulation of *V. lanceolata* detected within the Site boundary contained thousands of individuals; therefore the total number of individuals located within the single subpopulation (VL-01) were estimated using an intensive quadrat random sampling method. CCES discussed and developed this method for counting large populations of *V. lanceolata* with Mr. Richard Baker (Former MN DNR Endangered Species Coordinator) in July of 2018. CCES has utilized this quadrat sampling method at both the Mill Pond Residential Development (0.25 miles east of the Site, in NE Blaine) in August of 2018, as well as to estimate the subpopulation size of large population of *Aristida tuberculosa* in Bunker Hills Regional Park in Anoka County in 2012.

To complete the quadrat sampling method for the single subpopulation of *V. lanceolata* detected within the Site boundary, CCES first defined and flagged the spatial extent of the subpopulation. The boundaries were marked using pin flagging. Then, the total number of individual plants was estimated through the use of representative density plots. CCES ecologists counted the number of *V. lanceolata* individuals within sixty six (66) one square meter ($1m^2$) quadrats which were placed randomly throughout the spatial extents of the single subpopulation. An average number of individuals per $1m^2$ was calculated and this average density was multiplied by the size of the subpopulation in square meters to generate an estimated number of individuals. CCES sampled 66 square meters of the 440 square meter extent of the subpopulation (15% of the total area). And CCES ended quadrat sampling when the estimated percent change in subpopulation count fell under 0.1% per ten plots sampled.

Following the sampling effort, the boundary of the single population of *V. lanceolata* detected within the Site survey boundary was recorded and mapped using a sub-meter accuracy Trimble TDC150

handheld GPS unit. Photos of specimens can be found in **Appendix B** of this report. Voucher specimen labels for specimens submitted to the MN DNR on March 1, 2021 can be found in **Appendix C** of this report. Voucher specimens were collected by Jason Husveth from this population in October 2020 under his MN DNR Special Collector's Permit #22777, and in this case at the direction of Ms. Bridget Henning-Randa.

***Rotala ramosior* (Toothcup; MN Threatened)**

During the follow-up survey efforts, CCES also counted the number of individuals of *R. ramosior* found within a single subpopulation (RR-01) of the species detected within the survey boundary. To quantify the number of individuals of *R. ramosior* within the single subpopulation, CCES ecologists counted each individual plant detected.

The boundary of the single subpopulation of *R. ramosior* detected within the survey boundary was recorded and mapped using a sub-meter accuracy Trimble TDC150 handheld GPS unit. Photos of specimens can be found in **Appendix B** of this report. At the direction of Ms. Bridget Henning-Randa, not even a partial specimen of *Rotala ramosior* was collected from this annual population during the growing season due to the very few individuals (seven) present within this subpopulation.

***Sceptridium rugulosum* (St. Lawrence grapefern; MN Special Concern)**

During the follow-up survey efforts, CCES also counted the number of individuals of *S. rugulosum* found within a single population (SR-01) of the species detected within the survey boundary. To quantify the number of individuals of *S. rugulosum* within the single subpopulation, CCES ecologists counted each individual plant detected.

The boundary of the single subpopulation of *S. rugulosum* detected within the survey boundary was recorded and mapped using a sub-meter accuracy Trimble GPS unit. Photos of specimens can be found in **Appendix B** of this report. Voucher specimen labels for specimens submitted to the MN DNR on March 1, 2021 can be found in **Appendix C** of this report.

Voucher specimens of above ground plant parts (i.e. tropohores and sporophores) were collected from the *Sceptridium rugulosum* subpopulation by Jason Husveth in October 2020.

Survey Results:

As of October 31, 2020, CCES has confirmed the presence of one (1) subpopulation of *Viola lanceolata* (lance-leaved violet; MN-Threatened), one (1) subpopulation of *Rotala ramosior* (Toothcup; MN Threatened), and one (1) subpopulation of *Sceptridium rugulosum* (St. Lawrence grapefern; MN Special Concern) within the Site survey Boundary.

Appendix A, Figure 3, Final Survey Results, depicts the locations of these subpopulations detected by CCES as part of this botanical survey of the Site. **Tables 2, 3,** and **4** below, provide a list of the

subpopulations detected for each species, the spatial extent of each subpopulation as mapped in a GIS, and a count of the number of individual plants located within each subpopulation per the methods described above.

***Viola lanceolata* var. *lanceolata* Detections:**

CCES detected one (1) new subpopulation of the state-threatened species, *Viola lanceolata* var. *lanceolata* (lance-leaved violet). *Viola lanceolata* var. *lanceolata* can be readily identified in the field in May through September by experienced ecologists through observations of the leaves as well as other characters. Plants are more easily detected in early to mid-summer (May through June) when they are in flower, but leaves are persistent and distinguishable well into mid-October (Husveth, personal observations). The flowers are slightly irregular with five white petals that are pale yellow at the base. According to the Minnesota DNR's rare species profile and basis for listing, *Viola lanceolata* var. *lanceolata* is a species of low, moist meadows, moist swales in sand dunes and savannas, and occasionally sandy lakeshores. The majority of the original Minnesota populations probably occurred on the Anoka Sand Plain in Sherburne, Isanti, and Anoka counties. While severe habitat loss was apparent in 1984 when *V. lanceolata* var. *lanceolata* was designated a state special concern species, lack of current data prevented it from being assigned a more protective status. An intensive survey of east-central counties completed by 1995 subsequently provided adequate data to elevate the status of this species to state threatened in 1996. As of 2013, *Viola lanceolata* var. *lanceolata* continues to be listed as state-threatened. The five confirmed subpopulations of *Viola lanceolata* var. *lanceolata* within the Site survey area were detected in areas of saturated or moist, sandy, peaty soils.

The single subpopulation of *Viola lanceolata* (lance-leaved violet) detected within the survey boundary was identified as VL-01. This subpopulation was located along the margins of a shallow pond that had been recenlty grazed.

Soils are saturated to seasonally inundated and transition to dry, sandy upland soils. VL-01 was 440 m^2 in size and contained 6,391 individuals. Vascular plant species associated with this population included: *Setaria* spp. (Foxtail), *Ambrosia artemisiifolia* (Common ragweed), *Conyza canadensis* (Canadian horseweed), *Eupatorium perfoliatum* (common boneset), *Solidago gigantea* (giant goldenrod), *Viola macloskeyi* (small white violet), *Ludwigia palustris* (water purslane), *Eleocharis ovata* (ovate spikerush), *Hypericum canadensis, Phalaris arundinacea* (reed canarygrass), *Juncus* spp. (rushes), *Spiraea tomentosa* (steeplebush), *Spiraea alba* (white meadowsweet), *Onoclea sensibilis* (sensitive fern), *Euthamia graminifolia* (grass-leaved goldenrod), *Lycopus americanus* (American water horehound), *Lycopus virginicus* (Virginia bugleweed), *Trifolium* spp. (clover species), *Lobelia siphilitica* (blue lobelia), *Carex* spp. (sedge species) *and Scirpus cyrperinus* (woolgrass).

Viola lanceolata is a Threatened species in Minnesota. Therefore, this species is protected from direct taking and loss under the Minnesota Endangered and Threatened Species Statutes (Minnesota Rules 6212.1800). Of the 6,391 individuals estimated through quadrat sampling as part of the 2020 survey effort, at least a portion of these individuals may eventually need to be indirectly disturbed or taken as

result of the proposed residential development. Should it be deemed necessary, a rare species taking permit application will need to be prepared, which will provide details regarding the locations of these subpopulations in relation to the proposed development site plan, as well as numbers of individuals located within and future development limits. **Figure 4 (Appendix A)** provides an overlay of all rare features detected in relation to the most current site plan concepts (as of February 28, 2021).

Table 2 below provides a summary of the single *Viola lanceolata* var. *lanceolata* subpopulation detected in the field. The GPS located and mapped extent of the subpopulation is provided as well a count of the number of individuals determined to be within the subpopulation using the quadrat sampling method described above. As mentioned in the methods section of this report, the *Viola lanceolata* subpopulation was sampled with sixty six X one meter squared quadrats to estimate the count of individuals within the entire 440 square meter subpopulation. **Table 1**, below, provides the cumulative number of individuals of *Viola lanceolata* counted per 10 consecutive one square meter quadrats sampled, the estimated total count of individuals within the subpopulation per each additional 10 plot increment, and percent change of estimated subpopulation size per each additional 10 quadrats sampled.

Table 1 Estimated Viola lanceolata Subpopulation size per 10 sample quadrat increments.

Plots Sampled	Sum of Count : Plots Sampled = Estimated Total Count : Total Area	Estimated Subpop Count	Change in Est. Subpop Count Per 10 Plots Sampled	Percent Change Per 10 Plots Sampled
10	198 : 10 = 8709.03 : 439.85	8709.03	-	-
20	312 : 20 = 6861.66 : 439.85	6861.66	-1847.37	-15.22%
30	454 : 30 = 6656.397 : 439.85	6656.40	-205.26	-2.01%
40	544 : 40 = 5981.96 : 439.85	5981.96	-674.44	-6.99%
50	694 : 50 = 6105.118 : 439.85	6105.12	123.16	1.36%
60	868 : 60 = 6363.16 : 439.85	6363.16	258.04	2.78%
66	959 : 66 = 6391.15 : 439.85	6391.15	27.99	0.29%

Table 2. *Viola lanceolata* Subpopulation Detection, Area, and Count of Individuals

Subpopulation No.	Scientific Name	Common Name	Subpopulation Area (M^2)	Estimated Subpopulation Count
VL-01	*Viola lanceolata*	Lance-Leaved Violet	440	6,391

***Rotala ramosior* Detections:**

CCES detected one (1) new subpopulation of the state-threatened species, *Rotala ramosior* (toothcup) within the Site boundary. According to the MN DNR's Rare Species Guide, the best time to search for *R. ramosior* is when it has reached full growth and produced reproductive structures, from August through September.

Rotala ramosior is the only member of its genus in Minnesota and can be identified easily when in flower or fruit. However, the species is quite inconspicuous and may be difficult to detect in its chosen habitat. It is a low plant with a simple or diffusely branched stem. Leaves are small, petioled (sessile in var. *interior*), opposite, entire, and without stipules. Flowers occur singly in leaf axils. The calyx has 4 short lobes with appendages in each sinus and encloses a 4-locular, many-seeded capsule. Four pink petals are small and promptly deciduous. There are 4 stamens and 1 style, which has a capitate stigma.

The populations of *R. ramosior* known from Minnesota typically occurred on the sandy shores of small, shallow lakes set in a savanna landscape. Such shorelines undergo seasonal fluctuations that expose broad beaches in late summer, to the apparent benefit of this species. Habitats of this type were once common on the flat, sandy, outwash plain of the Twin Cities metropolitan area, but they rarely developed elsewhere in the state. Because these lakes were small and shallow, they were easy to fill; especially in an era when protecting wetlands was not a priority. Now, such lakes with undisturbed shorelines and native vegetation are a rarity.

Rotala ramosior is a small, inconspicuous annual (Gleason and Cronquist 1991). It appears to experience population booms and busts that may be related to water level fluctuations on its shoreline habitat. It has dimorphic or trimorphic flowers and styles and stamens of various lengths, thus helping to ensure cross-pollination (Voss 1985).

Habitat destruction or degradation seems to be the biggest threat to *Rotala ramosior*. The lakeshore, peat flat, and pond margin habitat required by this species is in high demand for a variety of uses. It is especially vulnerable to the draining and filling activities that typically precede industrial development. Residential, commercial, and recreational developments are also claiming potential habitat and contributing to the general decrease in populations of this species. Also, these ponds are sometimes used for stormwater retention, or may be dredged to provide habitat for waterfowl. This decline is severe in the face of the rapid urban and suburban growth of the greater Twin Cities area. It is critically important to identify high quality examples of this habitat type and take measures to ensure their protection.

Subpopulation RR-01 was the only subpopulation of *R. ramosior* detected within the Site survey boundary. RR-01 is 20 square meters in size. The relatively small subpopulation contained only seven (7) individuals, which were occurring among an extensive population of *Ludwigia palustris* (thousands of individuals). Associated species documented in the area where *R. ramosior* was detected included: *Ludwigia palustris* (water purslane), *Ranunculus sceleratus* (cursed crowfoot), *Eleocharis ovata* (ovate spikerush), *Lemna minor* (lesser duckweed), *Viola lanceolata* (lance-leaved violet), *Phalaris arundinacea* (reed canary grass), *Calamagrostis canadensis* (Canada bluejoint), *Eupatorium perfoliatum* (boneset), *Eupatorium maculatum* (Joe-pye weed), *Spiraea tomentosa* (steeplebush), *Solidago gigantea* (giant goldenrod), *Rubus idaeus* var. *strigosus* (red raspberry), *Rubus superioris* (superior blackberry), *Carex cryptolepis* (cryptic sedge), and *Betula papyrifera* (paper birch).

R. ramosior is a Threatened species in Minnesota. Therefore, this species is protected from direct taking and loss under the Minnesota Endangered and Threatened Species Statutes (Minnesota Rules 6212.1800). Of the seven (7) individuals detected as part of the 2020 survey effort, some of these individuals or the entire subpopulation may be located within an area that may be indirectly or directly disturbed by the proposed residential development. If deemed necessary, a rare species taking permit application will be prepared, which will detail the locations of the subpopulations as well as the number of individuals located within or adjacent to proposed development areas. **Figure 4 (Appendix A)** provides an overlay of all rare features detected in relation to the most current site plan concepts (as of February 28, 2021).

Table 3 below provides a summary of the single *R. ramosior subpopulation* detected in the field. The GPS located and GIS mapped extent of the subpopulation is provided as well as a count of the number of individuals located within the subpopulation. Individuals were counted using the methodology described above.

Table 3. *Rotala ramosior* Subpopulation Detection, Area, and Count of Individuals

Subpopulation No.	Scientific Name	Common Name	Subpopulation Area (M^2)	Subpopulation Count
RR-01	*Rotala ramosior*	Toothcup	20	7

***Sceptridium rugulosum* Detections:**

CCES detected one (1) new subpopulation of the state-special concern species, *Sceptridium rugulosum* (St. Lawrence Grapefern) within the Site boundary. According to the MN DNR's Rare Species Guide, the best time to search for *S. rugulosum* is from early spring, when snow melts and the plants are revealed, to late autumn, before snowfall can cover them.

S. rugulosum grows in low and moist habitats in brushy or grassy areas and in open forested areas. It can be found growing in mossy areas in fire-dependent forests of *Pinus banksiana* (jack pine) or *P. resinosa* (red pine). *S. rugulosum* also occurs in the transition zone between these habitats and adjacent

habitats. In most locations, there may be only one or a few individuals occurring with relatively more common species of *Sceptridium*, especially S*. dissectum*, and *S. multifidum*, with which this species is easily confused.

The tropophore (leaf) of *S. rugulosum* is semi-evergreen and persists through the winter. When summer approaches, the old leaf deteriorates as the new leaf emerges (USFS 1999). The species epithet "*rugulosum*" refers to the tendency to become more or less wrinkled and convex (Wagner and Wagner 1993). Another common name for this species is ternate grape fern.

The preference of *Sceptridium rugulosum* for open habitats and openings within forests suggests that it may be adapted to exploit certain habitats in early successional communities. This could complicate management because the natural dynamics of early successional and rapidly evolving communities are notoriously difficult to mimic with artificial means. These habitats normally rely on a complex interaction of events as varied as insect outbreak, windstorm, fire, and erosion. Very few of the known habitats of *B. rugulosum* are large enough or "wild" enough to support such ecosystem processes. Immediate threats include development projects, habitat alteration, herbicide, and water level manipulation (USFS 2000).

Subpopulation SR-01 was the only subpopulation of *S. rugulosum* detected within the Site survey boundary. Subpopulation SR-01 occurs in two small sub-locations within Wetland 4, and SR-01 is cumulatively 6 square meters in size. The relatively small subpopulation contained only 5 individuals. Associated species documented in the area where *Sceptridium rugulosum* was detected included: *Ophioglossum pusillum* (northern adder's-tongue fern), *Carex haydenii* (Hayden's sedge), *Phalaris arundinacea* (reed canary grass), *Calamagrostis canadensis* (Canada bluejoint), *Cornus racemosa* (gray dogwood), *Spiraea tomentosa* (steeplebush), *Spiraea alba* (white meadowsweet), *Solidago gigantea* (giant goldenrod), *Viola macloskeyi* var. *pallens* (small white violet), *Rubus idaeus* var. *strigosus* (red raspberry), *Rubus superioris* (superior blackberry), *Carex cryptolepis* (cryptic sedge), and *Betula papyrifera* (paper birch).

Sceptridium rugulosum is a Special Concern species in Minnesota. Therefore, this species is considered to be extremely uncommon in Minnesota, or has unique or highly specific habitat requirements and deserves careful monitoring of its status. However, species listed as Special Concern are not protected by law under the Minnesota Endangered and Threatened Species Statutes (Minnesota Rules 6212.1800). A rare species taking permit would not be required for a potential disturbance of *Sceptridium rugulosum* should future development occur in areas containing this species. Nonetheless, **Figure 4 (Appendix A)** provides an overlay of all rare features detected in relation to the most current site plan concepts (as of February 28, 2021).

Table 4 below provides a summary of the single *Sceptridium rugulosum s*ubpopulation detected in the field. The GPS located and GIS mapped extent of the subpopulation is provided as well as a count of the number of individuals located within the subpopulation. Individuals were counted using the methodology described above.

Table 4. *Sceptridium rugulosum* Subpopulation Detection, Area, and Count of Individuals

Subpopulation No.	Scientific Name	Common Name	Subpopulation Area (M^2)	Subpopulation Count
SR-01	*Sceptridium rugulosum*	St. Lawrence Grapefern	6	5

Summary:

As requested by the Excelsior Group, (Client), Critical Connections Ecological Services, Inc. (CCES) completed required botanical surveys for the presence of Endangered, Threatened, and Special Concern vascular plant species as well as potential habitats to support these species within the Breen/Koepp Properties located within the NE quarter of Section 1 in Township 31 North, Range 23 West in the City of Blaine, Anoka County, Minnesota (see **Appendix A, Figure 1**). The survey area included approximately 38.6 acres associated with a proposed residential development project.

After completing multiple and thorough field surveys between August 1,2020 and October 31, 2020, the 38.6 acre Site survey area associated with the Breen/Koepp properties located in Blaine, Minnesota, CCES has confirmed the presence of one (1) subpopulation of the state-threatened vascular plant species *Viola lanceolata* var. *lanceolata,* one (1) sup-population of the state-threatened vascular plant species, *Rotala ramosior* (toothcup), and one (1) subpopulation of the state-special concern vascular plant species *Sceptridium rugulosum* (St. Lawrence Grapefern). These three subpopulations were located within two separate areas of the Site, with the state-protected *Viola* and *Rotala* located in Wetland 1 and the non-protected *Sceptridium* located to the north in Wetland 4. **Appendix A, Figure 3, Final Survey Results** depicts the locations and extents of these subpopulations within the Site survey boundary following our August 1, 2020 through October 31, 2020, survey effort. **Table 2, Table 3,** and **Table 4** provide individual subpopulation count data for the subpopulation of *V. lanceolata* detected, the subpopulation of *R. ramosior* detected, and the subpopulation of *S. rugulosum* detected within the Site survey boundary, respectively. Individuals of each species' subpopulation were counted or estimated via quadrat sampling. The *Rotala ramosior* subpopulation contained seven (7) annual individuals; the *Sceptridium rugulosum* subpopulation contained five (5) individuals; and the *Viola lanceolata* subpopulation was estimated to contain 6,391 individuals through the use of a quadrat sampling method. Report tables and figures provide the delineated, mapped, and measured spatial extent of each subpopulation and a final field count (or estimated count via quadrat sampling) of the number of individual plants located within each subpopulation.

The spatial extent of all detected and documented subpopulations of *V. lanceolata* (lance-leaf violet; MN-threatened), *R. ramosior* (toothcup; MN-threatened), and *S. rugulosum* (St. Lawrence grapefern; MN Special Concern) were field delineated and located with a sub-foot accuracy Trimble TDC150 GPS unit and incorporated into a geographic information system (GIS) dataset. In addition, representative voucher specimens were collected under Mr. Husveth's special collector's permit, as allowed, and as required by the Minnesota DNR. These GPS data and the voucher specimen will be provided to the

Minnesota DNR along with this final report. Voucher specimens will serve as verification of proper species identification. GPS data shall be incorporated into the Minnesota DNR's NHIS database, and will be used to inform the site development and conservation planning process, and will be used to prepare the pending takings permit application to the MN DNR.

Based on the spatial thoroughness and phenology of the focused botanical surveys, CCES asserts that the surveys are complete and no additional follow-up surveys are necessary.

Species listed as Minnesota Threatened or Endangered are protected by Minnesota Rules, Parts 6212.1800 to 6212.2300, and may not be directly taken without a takings permit issued by the Minnesota DNR. Species listed as Special Concern are not protected by law. Should a takings permit be deemed necessary by the Minnesota DNR and/or the Minnesota Wetland Conservation Act Technical Evaluation Panel, CCES can prepare a takings permit application on behalf of The Excelsior Group. A takings permit application for any future potential impacts will need to be submitted to Bridget Henning-Randa, MN DNR Endangered Species Consultant. **Figure 4 (Appendix A)** provides an overlay of all rare features detected in relation to the most current site plan concepts (as of February 28, 2021).

Thank you for the opportunity to complete rare species botanical surveys and to prepare this final survey report on behalf of The Excelsior Group for the Breen/Koepp Parcels in northeast Blaine, Anoka County, MN. After reviewing this report, please feel free to contact us with any questions you may have regarding the Site, the survey methodology, the survey results, and the relationships of these rare and protected elements to the proposed residential subdivision for the Site.

Respectfully submitted,

Critical Connections Ecological Services, Inc.

Jason J. Husveth, MS
President, Principal Ecologist

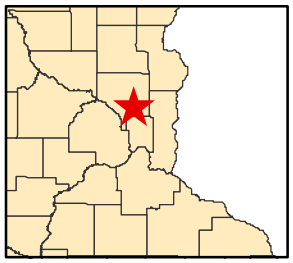
cc: Bridget Henning-Randa, MN DNR Endangered Species Consultant

Lisa Joyal, MN DNR Endangered Species Review Coordinator

Matthew Danzl, Water Resources Regulation Coordinator, Coon Creek Watershed District

APPENDIX A

SUPPORTING FIGURES



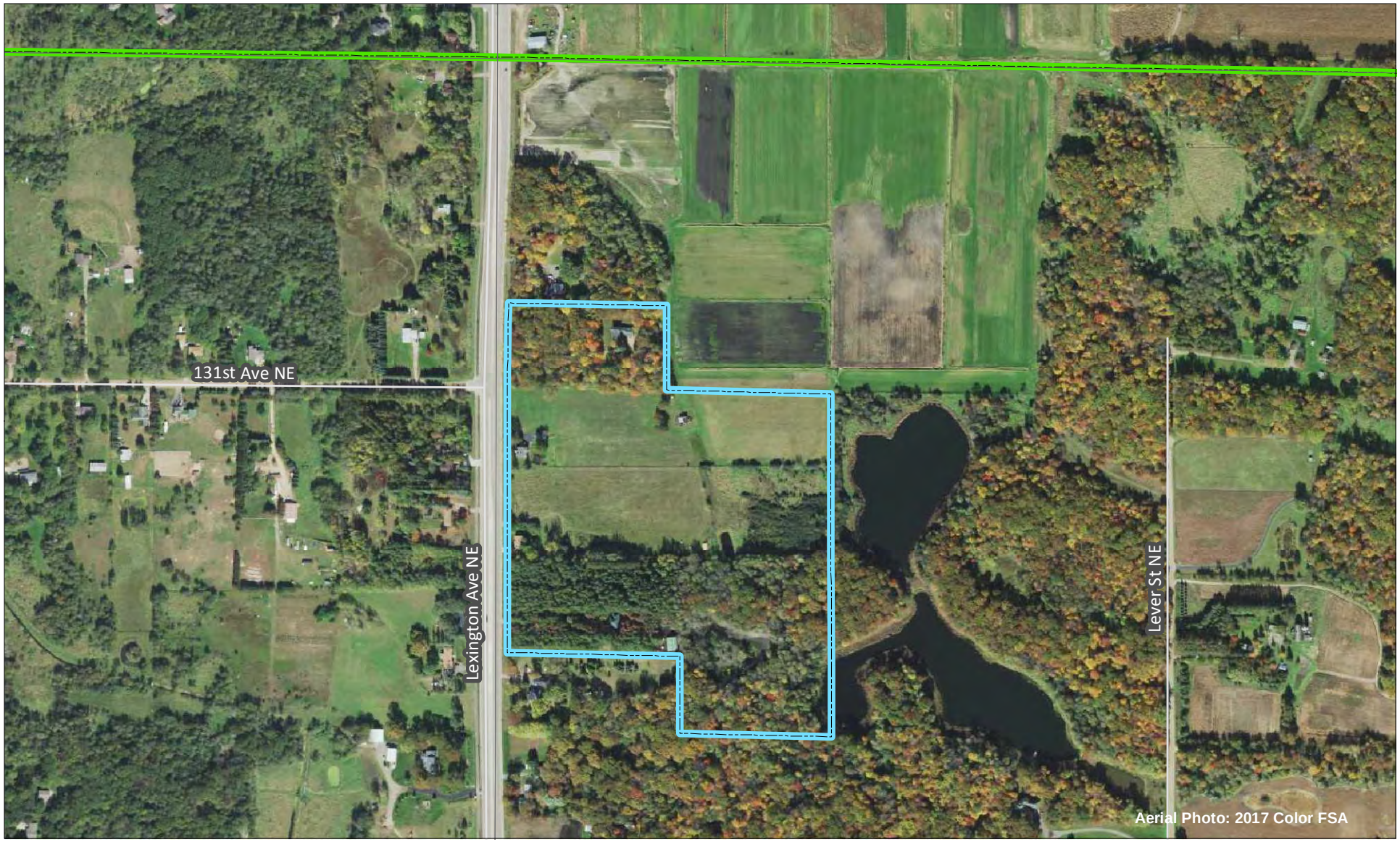
2020 Survey for Minnesota
Endangered, Threatened, and Special Concern
Vascular Plant Species
Final Report
Breen/Koepp Properties (Excelsior Group)
Figure 1: Project Location
February, 2021

Site Location
Municipal Boundary

N

Critical Connections Ecological Services, Inc.

0 0.25 0.5 1 Miles



2020 Survey for Minnesota
Endangered, Threatened, and Special Concern
Vascular Plant Species
Final Report
Breen/Koepp Properties (Excelsior Group)
Figure 2: Survey Boundary
February, 2021

Legend

Survey Boundary (Approx. 38.6 Acres)

Municipal Boundary

Critical Connections
Ecological Services, Inc.

N

0 250 500
Feet

2020 Survey for Minnesota
Endangered, Threatened, and Special Concern
Vascular Plant Species
Final Report
Breen/Koepp Properties (Excelsior Group)
Figure 3: Survey Results: Detections
February 28, 2021

Survey Boundary (Approx. 38.6 Acres)

Rotala ramosior, Threatened. 7 Plants

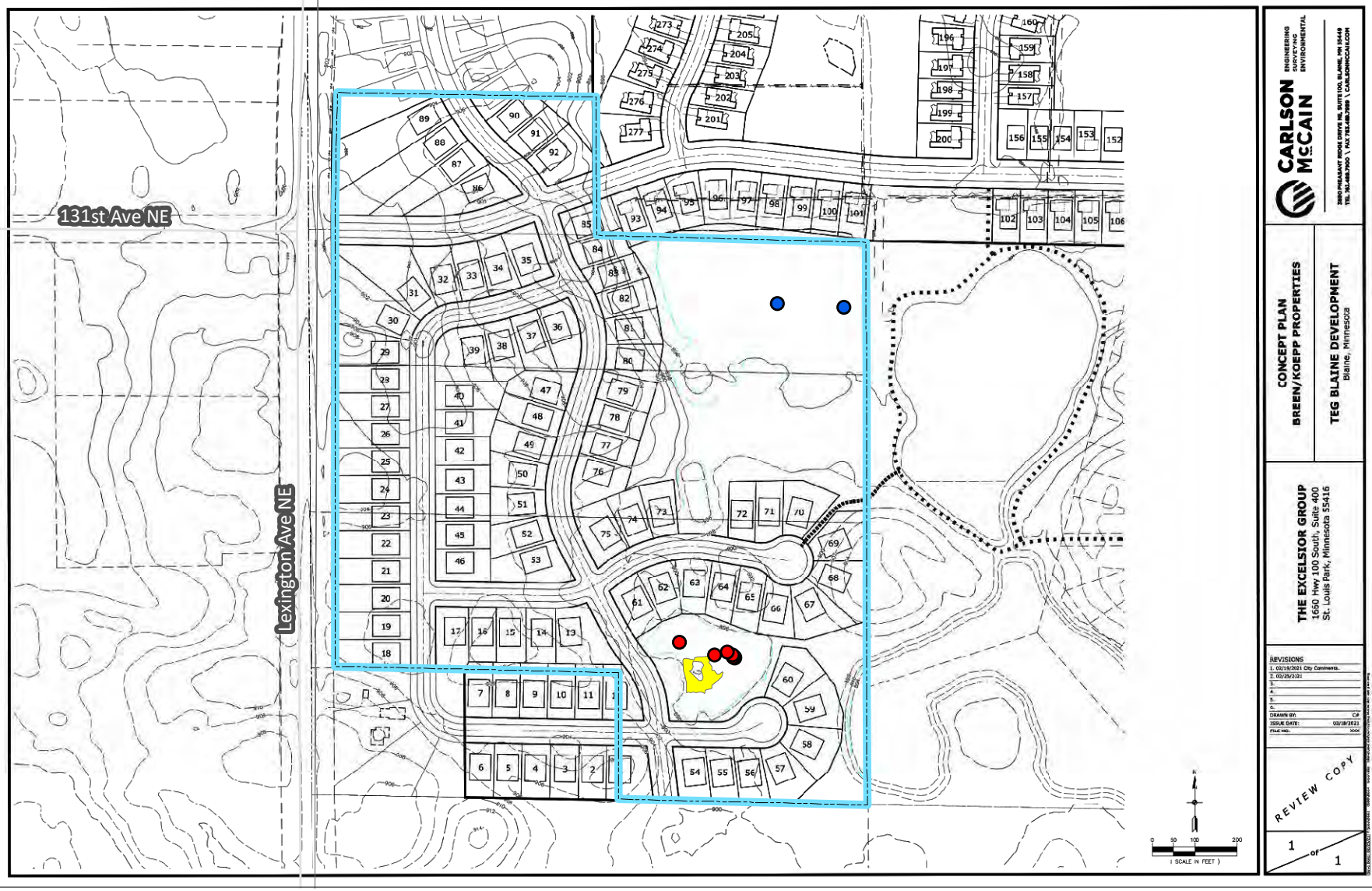
Viola lanceolata, Threatened.
Estimated 6,391 Plants in 440 Sq.M.

Sceptridium rugulosum,
Special Concern. 5 Plants

Critical Connections
Ecological Services, Inc.

N

0 250 500 Feet



2020 Survey for Minnesota
Endangered, Threatened, and Special Concern
Vascular Plant Species
Final Report
Breen/Koepp Properties (Excelsior Group)
Figure 4: Survey Results on Site Concept Plan
February 28, 2021

Survey Boundary (Approx. 38.6 Acres)

Rotala ramosior, Threatened. 7 Plants

Viola lanceolata, Threatened.
Estimated 6,391 Plants in 440 Sq.M.

Sceptridium rugulosum,
Special Concern. 5 Plants

Critical Connections
Ecological Services, Inc.

N

0 250 500
Feet

APPENDIX B

FIELD PHOTOGRAPHS

Habitat of Wetland 1 containing *Viola lanceolata var. lanceolata* (Lance-leaf violet; MN Threatened)

Habitat of Wetland 1 supporting a small population of *Rotala ramosior* (Toothcup; MN Threatened) within a carpet of *Ludwigia palustris* and *Ranunculus sceleratus.*

Habitat of Wetland 4 containing *Sceptridium rugulosum* (St. Lawrence grapefern; MN Special Concern)

Ludwigia palustris (Water purslane, not listed). A common and dominant annual species of the *Onagraceae*, of the Wetland 1 peat flat containing *Rotala ramosior* (few plants).

Rotala ramosior (Toothcup; MN Threatened) detected in Wetland 1, among a carpet of *Ludwigia palustris*. Although *Rotala* and *Ludwigia* appear superficially similar, *Rotala* is of the *Lythraceae* and turns bright red in September through October, while *Ludwigia* is of the *Onagraceae* and fades to pale red, brown and pale green as it senesces. Population was comprised of too few individuals to justify a even a partial specimen collection during the growing season.

Viola lanceolata var. *lanceolata* (Lance-leaf violet; MN Threatened) detected and flagged at the Site within perennially vegetated areas of Wetland 1. 66 x 1 square meter quadrats were sampled and all *Viola lanceolata* were counted within each quadrat. Specimens collected and submitted to MN DNR.

Sceptridium rugulosum (St. Lawrence grapefern; MN Special Concern) detected within Wetland 4 at the Site, associated with other mycoheterotrophs, such as *Ophioglossum pussilum* (Adder's tongue fern, not listed) and *Sceptridium dissectum* var. *obliquum* (Cutleaf grapefern, not listed). Specimen collected and submitted to MN DNR.

APPENDIX C

VOUCHER SPECIMEN LABELS

Plants of the Breen-Koepp Parcels
The Excelsior Group Botanical Surveys
Blaine, Anoka County, Minnesota

Viola lanceolata var. *lanceolata* Linneus

One subpopulation of Viola lanceolata var. lanceolata was detected within a recently grazed and disturbed saturated wet meadow. The population extended 440 square meters in size, and consisted of 6,371 individuals as estimated through quadrat sampling. Full sun to partial shade. Soils are Isanti wet fine sandy loams, with 3 cm of organic sedge peat at the surface. Wetland is perennially saturated to seasonally shallow inundated. Associated with native and weedy invasive species, including: *Setaria* spp., *Ambrosia artemisiifolia*, *Conyza canadensis, Eupatorium perfoliatum*, *Solidago gigantean, Viola macloskeyi, Ludwigia palustris*, *Eleocharis ovata*, *Hypericum canadensis, Phalaris arundinacea*, *Juncus* spp., *Spiraea tomentosa*, *Spiraea alba*, *Onoclea sensibilis*, *Euthamia graminifolia*, *Lycopus americanus*, *Lycopus virginicus, Trifolium* spp., *Lobelia siphilitica*, *Carex* spp., *and Scirpus cyrperinus*.

Lat. 45.204735 Long. -93.159460 T31N R23W SWNW01

Husveth, Jason J., Amy L. Husveth, John F. Storkamp
Critical Connections Ecological Services, Inc. JJH-2020-301
MN DNR Special Permit #22777 September 16, 2020

Plants of the Breen-Koepp Parcels
The Excelsior Group Botanical Surveys
Blaine, Anoka County, Minnesota

Sceptridium rugulosum (W. H. Wagner) Skoda

Two isolated and small subpopulations of *Sceptridium rugulosum* occurring within a partially drained wet meadow on shallow to deep sedge peat soils. Five total plants detected; two in one location and three a second location about 100 meters east of the first. Associated with other mycoheterotrophic fern species, including *Ophioglossum pusillum* and *Sceptridium dissectum* var. *obliquum.* Also associated with *Carex cryptolepis, Carex haydenii, Carex pelitta, Carex lasiocarpa, Carex aurea, Spiraea tomentosa, Spiraea alba, Osmunda regalis, Onoclea sensibilis, Solidago gigantea, Gentiana andrewsii, Calamagrostis canadensis, Phalaris arundinacea,* and *Juncus* spp. Soils are saturated to partially drained within the surface 10 cm. Ditches nearby associated with adjacent sod farms.

Lat. 45.2071787 Long. -93.1586201 T31N R23W SWNW01

Husveth, Jason J., Amy L. Husveth, John F. Storkamp
Critical Connections Ecological Services, Inc. JJH-2020-302
MN DNR Special Permit #22777 September 16, 2020

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Appendix F

MN State Historic Preservation Office Correspondence

Lexington Waters Residential Development EAW

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Rob Bouta

From: MN_MNIT_Data Request SHPO <DataRequestSHPO@state.mn.us>
Sent: Thursday, May 13, 2021 1:40 PM
To: Rob Bouta
Subject: RE: SHPO DATA REQUEST -Lexington Waters Residential Development EAW

Hello Rob,

Our database has no historic records for the given project area.

Jim

SHPO Data Requests
Minnesota State Historic Preservation Office
50 Sherburne Avenue, Suite 203
Saint Paul, MN 55155
(651) 201-3299
datarequestshpo@state.mn.us

Notice: This email message simply reports the results of the cultural resources database search you requested. The database search is only for previously known archaeological sites and historic properties. **IN NO CASE DOES THIS DATABASE SEARCH OR EMAIL MESSAGE CONSTITUTE A PROJECT REVIEW UNDER STATE OR FEDERAL PRESERVATION LAWS –** please see our website at https://mn.gov/admin/shpo/protection/ for further information regarding our Environmental Review Process.
Because the majority of archaeological sites in the state and many historic/architectural properties have not been recorded, important sites or properties may exist within the search area and may be affected by development projects within that area. Additional research, including field surveys, may be necessary to adequately assess the area's potential to contain historic properties or archaeological sites.
Properties that are listed in the National Register of Historic Places (NRHP) or have been determined eligible for listing in the NRHP are indicated on the reports you have received, if any. The following codes may be on those reports:
NR – National Register listed. The properties may be individually listed or may be within the boundaries of a National Register District.
CEF – Considered Eligible Findings are made when a federal agency has recommended that a property is eligible for listing in the National Register and MN SHPO has accepted the recommendation for the purposes of the Environmental Review Process. These properties need to be further assessed before they are officially listed in the National Register.
SEF – Staff eligible Findings are those properties the MN SHPO staff considers eligible for listing in the National Register, in circumstances other than the Environmental Review Process.
DOE – Determination of Eligibility is made by the National Park Service and are those properties that are eligible for listing in the National Register, but have not been officially listed.
CNEF – Considered Not Eligible Findings are made during the course of the Environmental Review Process. For the purposes of the review a property is considered not eligible for listing in the National Register. These properties may need to be reassessed for eligibility under additional or alternate contexts.
Properties without NR, CEF, SEF, DOE, or CNEF designations in the reports may not have been evaluated and therefore no assumption to their eligibility can be made. Integrity and contexts change over time, therefore any eligibility determination made ten (10) or more years from the date of the current survey are considered out of date and the property will need to be reassessed.
If you require a comprehensive assessment of a project's potential to impact archaeological sites or historic/architectural properties, you may need to hire a qualified archaeologist and/or historian. If you need assistance with a project review, please contact Kelly Gragg-Johnson, Environmental Review Specialist @ 651-201-3285 or by email at kelly.graggjohnson@state.mn.us.
The Minnesota SHPO Archaeology and Historic/Architectural Survey Manuals can be found at https://mn.gov/admin/shpo/identification-evaluation/.

Given the Governor's implementation of Stay Safe MN, SHPO staff will continue to work remotely and be available via phone and email, and the SHPO office will be closed to visitors and unable to accommodate in-person research and deliveries. Mail is being delivered to the office via USPS, FedEx and UPS, however, staff have limited weekly access to sort and process mail. Our office will continue to take file search requests via DataRequestSHPO@state.mn.us. Check SHPO's webpage for the latest updates and we thank you for your continued patience.

From: Rob Bouta <robb@kjolhaugenv.com>
Sent: Wednesday, May 12, 2021 12:53 PM
To: MN_MNIT_Data Request SHPO <DataRequestSHPO@state.mn.us>
Subject: SHPO DATA REQUEST -Lexington Waters Residential Development EAW

SHPO Staff,

I am requesting an historical property information/database search for a 115.45-acre site located in the NW ¼ of Section 1, T131N, R23W, City of Blaine, Anoka County, Minnesota.

The Lat/Long coordinates of the site are 45.208385, -93.158444.

I am requesting this search because the Lexington Waters Residential Development is proposed on this property. The project area includes sod field, woodland, grassland (former cropland), wetlands, ditches, and six existing rural homesteads with various outbuildings. I have attached project Location maps and a shapefile of the project boundary for your information.

I would appreciate your prompt attention to this review.

Thank you,

Rob Bouta, CSE, WDC
Senior Environmental Scientist
Kjolhaug Environmental Services Company
2500 Shadywood Road, Suite 130, Orono, MN 55331
RobB@kjolhaugenv.com
Office: 952-401-8757 Ext. 5
Mobile: 612-581-0546
http://www.kjolhaugenv.com

Appendix G
Traffic Study

Lexington Waters Residential Development EAW

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LEXINGTON WATERS

RESIDENTIAL DEVELOPMENT

STS

Swing Traffic Solutions

TRAFFIC IMPACT STUDY

in

Blaine, MN

May 12, 2021

LEXINGTON WATERS

Blaine, MN

TRAFFIC IMPACT STUDY

PROJECT NO. 2021023

May 12, 2021

I hereby certify that this plan, specification, or report was prepared by me, or under my direct supervision, and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota:

Vernon E. Swing, P.E.

Date: 5-12-2021 Lic. No.: 41417

TRAFFIC IMPACT STUDY

LEXINGTON WATERS

BLAINE, MINNESOTA

May 12, 2021

Prepared For:

The Excelsior Group
1660 Highway 100 S., Suite 400
St. Louis Park, MN 55416

Prepared By:

Swing Traffic Solutions, LLC
4290 Norwood Lane North
Plymouth, MN 55442
612-968-4142

Project No. 2021023

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LIST OF FIGURES

TECHNICAL APPENDICES

(Available upon Request)

A. TRAFFIC COUNTS

B. TRIP GENERATION CALCULATIONS

C. RESULTS OF OPERATIONAL ANALYSES

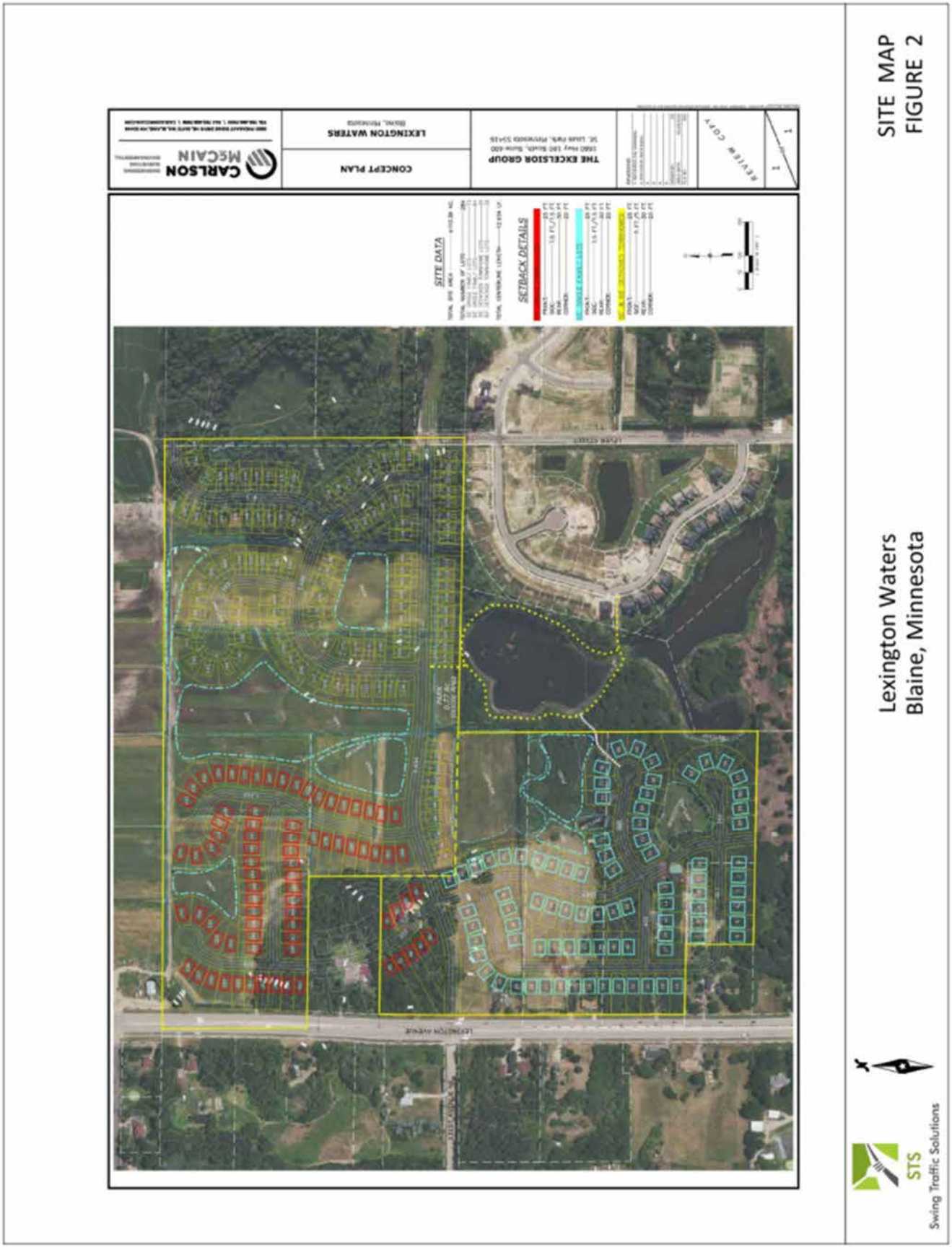
I. INTRODUCTION

The Excelsior Group proposes to develop an approximately 110-acres site referred to as Lexington Waters in Blaine, Minnesota as single family detached residential homes. The project will consist of 296 single-family homes and includes 12 “ghost” lots plus 284 single-family home lots. For the purposes of this study, it is anticipated that construction will be complete, and the facilities fully occupied by 2026.

The proposed site is located approximately ½ of a mile north of 125th Avenue NE and is adjacent to the east of Lexington Avenue NE. The site location is illustrated on Figure 1, "Vicinity Map". Direct access to the site is proposed via two locations, a new public roadway created by the extension of 131st Avenue NE from Lexington Avenue NE eastward into the site, as well as the extension of Lever Street NE along the eastern boundary of the site to connect with the new 131st Avenue NE. Indirect access is available from Bunker Lake Boulevard NE, 125th Avenue NE, 109th Street NE, and Lexington Avenue NE via the intersections with Lever Street NE and 131st Avenue NE. The location of these accesses is illustrated on the Concept Site Plan, Figure 2.

The purpose of this study is to support the EAW completed for the Lexington Waters development, particularly to evaluate the impact of traffic generated by the proposed development on the operations and safety of the adjacent roadway network. The study focuses on the roads and intersections that provide direct and indirect access into the site. This study details the existing and future roadway conditions at studied intersections and includes traffic volumes, lane geometrics and traffic operational analysis results. Recommendations regarding roadway improvements to accommodate site generated traffic, as well as the anticipated growth in background traffic are included as necessary.

SITE LOCATION
Lexington Ave NE
Lexington Ave NE
Lexington Ave NE
125th Ave NE
125th Ave NE
Bunker Lake Blvd NE
THE PRESERVE AT LEGACY CREEK
SAVANNA GROVE
ERS STREET
STS
Swing Traffic Solutions
Lexington Waters
Blaine, Minnesota
VICINITY MAP
FIGURE 1


SITE MAP
FIGURE 2
Lexington Waters
Blaine, Minnesota
STS
Swing Traffic Solutions

I. Existing Conditions

A. Data Collection

The existing conditions of the nearby roadway system were documented by a field inventory conducted during the week of April 4, 2021. The purpose was to identify features that affect roadway capacity, including traffic control, sight distances, turn lanes, speed limits, etc. In addition, turning movement traffic counts were conducted revealing the AM Peak hour occurs at 7:15 – 8:15 AM and the PM Peak hour at 4:15 PM – 5:15 PM at the following intersections:

- Bunker Lake Boulevard NE (CSAH 116) and Lexington Avenue NE (CSAH 17)
- 131st Avenue NE and Lexington Avenue NE
- 125th Avenue NE (CSAH 14) and Lexington Avenue NE
- Lever Street NE and 125th Avenue NE
- 109th Avenue NE (CSAH 12) and Lexington Avenue NE

Figure 3 illustrates the existing AM and PM Peak hour turning movement counts. The COVID-19 pandemic has resulted in large reductions in vehicle trips taken for work and otherwise. Therefore, in order determine the Non-COVID impacted traffic utilizing the surrounding roadways these counts were adjusted up approximately 23 percent based on traffic counts conducted in 2017 that were increased to reflect background growth at a rate derived from Anoka County's 2040 Transportation Plan to the non-pandemic 2021 volume. Figure 4 illustrates the adjusted existing conditions. Also, the 2018-2019 average daily traffic volume in the study area for Bunker Lake Boulevard, 125th Avenue NE, 109th Avenue NE, Lever Street NE, and Lexington Avenue NE has been collected and published by MnDOT as 2,450, 13,700, 8,000, 1,750 and 16,300 vehicles per day, respectively.

B. Roadway Descriptions

The existing geometrics of the Study Area Roadway Network have been document based on a field review. The discussion that follows details specific items such as lane and shoulder layout, roadway classifications, and turn lane storage lengths.

- **Bunker Lake Boulevard NE,** runs generally east/west to the north of the site. It is an Anoka County State-Aid Highway (CSAH 116) and is functionally classified as an A Minor reliever. In the vicinity of the site, it is a 2-lane undivided road with designated left and right turn lanes. It provides indirect access to the site via Lexington Avenue NE. It is signed for 50 mph, has a rural cross-section.

- **131st Avenue NE,** runs generally east-west to the west of the site. It is a City of Blaine MSA roadway and is functionally classified as a Major Collector. It provides direct access to the site, is a 2-lane undivided facility signed for 35-mph, and currently has a rural cross-section. Future improvements will convert 131st Avenue NE to an urban cross-section.

- **125th Avenue NE,** runs generally east-west to the south of the site. It is an Anoka County State-Aid Highway (CSAH 14) and is functionally classified as Principal arterial. In the vicinity of the site, it is a 4-lane divided road with designated left and right turn lanes. However, to the east and west of Lexington Avenue, 125th Avenue NE is reduced to a 2-lane undivided road with turn lanes at intersecting street. It provides indirect access to the site via Lexington Avenue NE and Lever Street NE. It is signed for 55 mph, has an urban cross-section.

- **109th Avenue NE,** runs in generally an east-west direction to the south of the site. It is an Anoka County State-Aid Highway (CSAH 12) and is functionally classified as an A Minor expander. In the vicinity of the site, it is a 4-lane divided road with designated left and right turn lanes. It

provides indirect access to the site via Lexington Avenue NE. It is signed for 55 mph, has a rural cross-section.

- **Lexington Avenue NE,** runs in generally an north-south direction to the west of the site. It is an Anoka County State-Aid Highway (CSAH 17) and is functionally classified as an A Minor expander. In the vicinity of the site, it varies between a 6-lane divided road with designated left and right turn lanes at 125th Avenue NE to a 4-lane divided road with designated left and right turn lanes along the remainder of the corridor. It provides indirect access to the site via the 131st Avenue NE intersection. It is signed for 55 mph, has an urban cross-section.

- **Lever Street NE,** runs generally north-south to the southeast of the site. It is a City of Blaine MSA roadway and is functionally classified as a Major Collector. It provides direct access to the site, is a 2-lane undivided facility with designated left-turn lanes at intersecting streets, is signed for 35-mph, and has an urban cross-section.

AM: XXX
PM: (XXX)
EXISTING
FIGURE 3
Lexington Waters
Blaine, Minnesota
STS
Swing Traffic Solutions
Bunker Lake
131st Ave. NE
125th Ave. NE
Lever St NE
109th Ave. NE
Lexington Avenue
SITE

AM: XXX
PM: (XXX)
125th Ave. NE
Lexington Avenue
109th Ave. NE
Bunker Lake
131st Ave. NE
Lexington Avenue
SITE
Lever St NE
125th Ave. NE
EXISTING - COVID ADJUSTED
Lexington Waters
Blaine, Minnesota
FIGURE 4
STS
Swing Traffic Solutions

C. Intersection Descriptions

- **Bunker Lake Boulevard NE and Lexington Avenue NE,** form a three-legged signalized intersection north of the site. The Bunker Lake Boulevard NW approaches include an eastbound dedicated left turn lane, and a eastbound dedicated right turn. The southbound Lexington Avenue NE approach provides a dedicated right turn lane and two through lanes entering the intersection and two lanes lane exiting the intersection. The northbound Lexington Avenue NE approach provides a dedicated left turn lane and two through lanes entering the intersection and two lanes exiting the intersection.

- **131st Avenue NE and Lexington Avenue NE,** form a three-legged unsignalized intersection at the location of the site. The intersection is stop controlled on the minor 131st Avenue NE west approach with one approach lane and one departure lane. The Lexington Avenue NE approaches include dedicated left and right turn lanes and two through lanes entering the intersection and two through lanes exiting the intersection.

- **125th Avenue NE and Lexington Avenue NE,** form a four-legged signalized intersection south of the site. The 125th Avenue NE approaches include dedicated right and left turn lanes in each direction and two through lanes entering and exiting the intersection. The Lexington Avenue NE approaches also include dedicated left and right turn lanes and include three through lanes entering and exiting the intersection. The south approach also includes a second dedicated left turn lane.

- **109th Avenue NE and Lexington Avenue NE,** form a four-legged signalized intersection south of the site. The 109th Avenue approaches include two dedicated left turn lanes, a dedicated right turn lane and two through in both directions. The Lexington Avenue NE approaches include a dedicated left turn lane and two through lanes entering and exiting the intersection. The right most through lane is shared with right turning vehicles.

- **Lever Street NE and 125th Avenue NE,** form a four-legged signalized intersection to the southeast of the site. The Lever Street NE south approach includes a dedicated left turn lane and a shared through and right turn lane entering the intersection and one lane exiting. The Lever Street NE north approach includes dedicated left and right turn lanes and a through lane entering and exiting the intersection. The 125th Avenue NE approaches include dedicated left and right turn lanes and one through lane entering and exiting the intersection.

III. NO-BUILD ALTERNATIVE

To address the impacts of a development on the surrounding roadway system, it is necessary to predict the traffic that would be present on the roadway system at the time (the design year) of completion of the proposed development, without the inclusion of the proposed development. This is considered the No-Build scenario, and serves as a basis with which to compare Build scenarios. In this study two design years were analyzed 2026, the year after the development is fully built and occupied, and 2040, the current planning year horizon.

A. Background Growth

Review of the latest City of Blaine Comprehensive Transportation Plan and Anoka County 2040 Transportation Plan indicate the traffic in the area is expected to increase. Two methods of estimating future conditions were employed in the comprehensive plan, a factor was applied to background conditions and traffic from Transportation Analysis Zones (TAZs) was considered. For this study a growth factor of 1.5 percent per year was applied to the COVID adjusted existing traffic that combined both methods as the timing of the development of the TAZ is not known. It is noted, the growth factor plus the traffic from proposed development (which is a portion of TAZ 184) marginally exceeds the traffic on Lexington Avenue NE forecast by Anoka County and is slightly less than the City of Blaine estimates. Further, this rate is likely conservative as ITE and the Transportation Research Board suggest traffic patterns will permanently change due to the impact of COVID-19 with fewer home to work and work to home trips likely to occur in the future. Figures 5 and 6 illustrate the anticipated 2026 and 2040 No-Build peak hour traffic volumes.

B. Anticipated Improvements for No-Build Conditions

The 2040 Anoka County Transportation Plan identified road improvements that will be necessary to manage the anticipated growth in traffic. The Plan indicates Lexington Avenue NE is programmed to

expand to 6-lanes divided from I-35W past 125th Avenue NE after 2023, and that 125th Avenue NE will be expanded to 4-lanes divided from Radisson Avenue NE past Lexington Avenue NE after 2023. For the purposes of this study it is assumed that the current roadway condition will remain until after 2026, but that the programmed improvements will be in place by 2040.

C. Results of Analysis

The study area intersections identified in Section II were analyzed for the 2026 and 2040 No-Build scenarios. Complete discussion of the results of these analyses is provided in Section IV, where a comparison with corresponding design year Build alternatives are made.

AM: XXX
PM: (XXX)
2026 NO-BUILD
FIGURE 5
Lexington Waters
Blaine, Minnesota
STS
Swing Traffic Solutions
Bunker Lake
131st Ave. NE
Lexington Avenue
125th Ave. NE
Lever St. NE
SITE
109th Ave. NE

AM: XXX
PM: (XXX)
2040 NO-BUILD
FIGURE 6
Lexington Waters
Blaine, Minnesota
STS
Swing Traffic Solutions
125th Ave. NE
Lexington Avenue
109th Ave. NE
Bunker Lake
131st Ave. NE
Lexington Avenue
SITE
Lever St. NE
125th Ave. NE

IV. BUILD ALTERNATIVE

A. Site-Generated Traffic

The number of vehicle trips generated by the 296 single family homes to be developed as part of the Lexington Waters residential development were estimated for the weekday daily, and AM and PM traffic peak hours using the data and methodologies contained in the 10th Edition of Trip Generation, published by the Institute of Transportation Engineers (ITE). The proposed development will include single-family homes corresponding to ITE Land Use Code 210. Table 1 summarizes the trip generation estimates.

Table 1
Trip Generation

Land Use	AM Peak Hour		PM Peak Hour		Daily Trips
	Enter	Exit	Enter	Exit	
Single Family Homes (296 Homes)	54 Trips	161 Trips	181 Trips	107 Trips	2,822 Trips
TOTAL	**215 Trips**		**288 Trips**		**2,822 Trips**

1. Per the data and methodologies in Trip Generation, 10th Edition, published by ITE.

B. Trip Distribution and Assignment

The distribution of site-generated traffic from and to the adjacent street system was based on existing traffic patterns. Figure 7, titled "Trip Distribution and Trip Assignment," depicts the distribution of the estimated site-generated traffic entering and exiting the study area roadway network, with 45 percent destined to/from the south, 20 percent destined to/from the north, 25 percent to/from the east, and 10 percent to and from the west. Site-generated traffic was assigned to the network accordingly and is also illustrated on Figure 7.

AM: XXX
PM: (XXX)
TRIP DISTRIBUTION &
TRIP ASSIGNMENT
FIGURE 7
Lexington Waters
Blaine, Minnesota
STS
Swing Traffic Solutions
Bunker Lake
131st Ave. NE
125th Ave. NE
109th Ave. NE
Lever St. NE
Lexington Avenue
SITE
20%
10%
45%
25%

C. Build Traffic Volumes

When combined, the site-generated traffic volumes and No-Build scenario traffic volumes result in the Build scenario traffic volumes, shown on Figures 8 and 9 for the 2026 and 2040 design years, respectively.

D. Intersection Operational Analysis Description

The operating conditions of transportation facilities, such as roadways, traffic signals 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 the 6th Edition of Highway Capacity Manual, published by the Transportation Research Board. 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 below summarizes the level of service and delay criteria for signalized and unsignalized intersections.

LOS Designation	Signalized Intersection Average Delay/Vehicle (Sec.)	Unsignalized Intersection Average Delay/Vehicle (Sec.)
A	≤ 10	≤ 10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80	> 50

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.

AM: XXX
PM: (XXX)
2026 BUILD VOLUMES
Lexington Waters
Blaine, Minnesota
FIGURE 8
STS
Swing Traffic Solutions
Bunker Lake
131st Ave. NE
125th Ave. NE
Lever St NE
109th Ave. NE
Lexington Avenue
SITE

AM: XXX
PM: (XXX)
125th Ave. NE
Lexington Avenue
109th Ave. NE
99 (317)
406 (787)
106 (145)
204 (474)
225 (826)
90 (146)
(95) 45
(584) 571
(370) 409
65 (81)
229 (155)
701 (344)
44 (160)
121 (173)
130 (100)
154 (357)
443 (1299)
81 (109)
(187) 80
(270) 100
(264) 173
135 (136)
1150 (749)
61 (128)
Bunker Lake
131st Ave. NE
Lexington Avenue
125th Ave. NE
Lever St. NE
SITE
82 (60)
684 (380)
103 (205)
212 (908)
(136) 165
(90) 61
37 (25)
0 (0)
76 (50)
16 (23)
820 (451)
13 (42)
(33) 23
(16) 56
3 (56)
326 (1095)
27 (86)
0 (0)
92 (85)
512 (1181)
8 (46)
79 (43)
13 (3)
136 (50)
(48) 120
(805) 789
(33) 12
21 (26)
13 (1)
30 (18)
2040 BUILD VOLUMES
Lexington Waters
Blaine, Minnesota
FIGURE 9
STS
Swing Traffic Solutions

E. Results of Analysis

This section contains the results of the intersection operational analyses based on Synchro/Simtraffic, 10th Edition, and provides recommendations, as necessary to mitigate the impacts. Table 2 summarize the results of the operational analyses for the 2026 No Build scenario (assumes 1.5 percent annual growth in traffic from existing conditions). It is noted the intersections of 131st Avenue NE with Lexington Avenue NE is analyzed as side street stop controlled on 131st Avenue NE.

Table 2
2026 No-Build Operations

Intersection	Overall LOS & Delay (sec)		Notes/95th Percentile Q
	AM Peak Hour	PM Peak Hour	
Bunker Lake Blvd NE & Lexington Ave NE	A (5.7)/D ebl (44.9)	B (10.1)/D ebl (42.8)	EBR Q is 83 ft in AM; NBT Q is 105 ft in PM
131st Avenue NE & Lexington Avenue NE	a (5.8)/b nbl (13.6)	a (6.7)/b ebl (12.7)	EB Q is 58 ft in AM; EB Q is 45 ft in PM
125th Avenue NE & Lexington Avenue NE	C (21.8)/C nbl (34.8)	C (25.0)/D ebl (46.8)	EBT Q is 202 ft in AM; EBT Q is 216 ft in PM
109th Avenue NE & Lexington Avenue NE	C (23.9)/D sbl (47.2)	C (28.3)/D ebl (48.0)	SBT Q is 232 ft in AM; NBT Q is 260 ft in PM
Lever Street NE & 125th Ave NE	B (17.1)/C sbt (31.5)	B (17.0)/D ebl (40.9)	EBT Q is 240 ft in AM; WBT Q is 263 ft in PM

1. Overall Level of Service reported from SimTraffic delay, first letter represents intersection LOS, while second letter represents worst LOS of individual approach. Upper case letters indicate signalized intersection, and lower-case letters indicate unsignalized intersection
2. 95th percentile queues are a result from an average of 10 SimTraffic simulations.

The results shown in Table 2 indicate all intersections are expected to operate at acceptable overall LOS in 2026 without the proposed project. Further, the results indicate all intersections will experience short vehicle queues. No intersection modifications are suggested for the 2026 No-Build condition. Table 3 summarizes the operational analyses results for the 2026 Build conditions.

Table 3
2026 Build Operations

Intersection	Overall LOS & Delay (sec)		Notes/95th Percentile Q
	AM Peak Hour	PM Peak Hour	
Bunker Lake Blvd NE & Lexington Ave NE	A (5.7)/D ebl (40.8)	A (9.8)/D ebl (38.3)	EBL Q is 91 ft in AM; EBL Q is 96 ft in PM
131st Avenue NE & Lexington Avenue NE	a (6.5)/c nbl (16.6)	a (7.8)/d wbl (25.1)	WBL Q is 71 ft in AM; EB Q is 62 ft in PM
125th Avenue NE & Lexington Avenue NE	C (23.0)/D nbl (35.4)	C (26.1)/D ebl (47.0)	SBT Q is 192 ft in AM; EBT Q is 190 ft in PM
109th Avenue NE & Lexington Avenue NE	C (26.1)/D ebl (52.7)	C (28.3)/D sbl (49.0)	SBT Q is 249 ft in AM; NBT Q is 269 ft in PM
Lever Street NE & 125th Ave NE	B (18.1)/D sbt (35.8)	C (29.3)/D ebl (54.0)	EBT Q is 230 ft in AM; WBT Q is 636 ft in PM

1. Overall Level of Service reported from SimTraffic delay, first letter represents intersection LOS, while second letter represents worst LOS of individual approach. Upper case letters indicate signalized intersection, and lower-case letters indicate unsignalized intersection.
2. 95th percentile queues are a result from an average of 10 SimTraffic simulations.

The results shown in Table 3 indicate all intersections are expected to operate at acceptable overall LOS in 2026 with the proposed project. Further, the results indicate all intersections will experience short vehicle queues, except in the westbound direction on 125th Avenue NE at Lever Street NE. While this queue occasionally will block access to the westbound left turn lane the SimTraffic simulation shows it clearing during each cycle. That said, it is suggested the improvements planned for 125th Avenue NE to widen the corridor to 4-lanes divided be extended past the Lever Street intersection. Also, the site access at 131st Avenue NE and Lexington Avenue NE was review and shows adequate operations, however, this intersection should be monitored to ensure traffic control changes are not needed to reduce delay and provide safe operations.

F. 2040 Operations

The long-range planning horizon year is 2040, as mentioned in the No-Build section. The results of the analysis of the 2040 No-Build traffic conditions, which continue to reflect a 1.5 percent annual growth rate, assume the modifications to Lexington Avenue NE and 125th Avenue NE will be completed by this time. Table 4 summarizes the 2040 No-Build operations at the study area intersections.

Table 4
2040 No-Build Operations

Intersection	Overall LOS & Delay (sec)		Notes/95th Percentile Q
	AM Peak Hour	PM Peak Hour	
Bunker Lake Blvd NE & Lexington Ave NE	A (7.4)/D ebl (43.9)	B (11.2)/D ebl (41.9)	SBT Q is 94 ft in AM; EBL Q is 121 ft in PM
131st Avenue NE & Lexington Avenue NE	a (7.0)/c ebl (19.0)	a (8.9)/d ebl (28.7)	EB Q is 80 ft in AM; EB Q is 78 ft in PM
125th Avenue NE & Lexington Avenue NE	C (23.7)/D nbl (37.5)	C (29.6)/D nbl (49.6)	EBT Q is 212 ft in AM; WBT Q is 216 ft in PM
109th Avenue NE & Lexington Avenue NE	C (24.0)/D sbl (41.4)	C (27.8)/D sbl (50.4)	NBL Q is 168 ft in AM; NBL Q is 261 ft in PM
Lever Street NE & 125th Ave NE	B (12.9)/C wbl (29.8)	B (13.2)/C sbl (34.2)	EBT Q is 117 ft in AM; WBT Q is 206 ft in PM

1. Overall Level of Service reported from SimTraffic delay, first letter represents intersection LOS, while second letter represents worst LOS of individual approach. Upper case letters indicate signalized intersection, and lower-case letters indicate unsignalized intersection
2. 95th percentile queues are a result from an average of 10 SimTraffic simulations.

The results shown in Table 4 indicate all intersections are expected to operate at acceptable overall LOS in 2040 without the proposed project. Further, the results indicate all intersections will experience short vehicle queues. No intersection modifications beyond those identified in the 2040 Plan are suggested for the 2040 No-Build conditions. Table 5 summarizes the results of the 2040 Build traffic operational analyses, assuming no additional improvements or mitigation beyond those described.

Table 5
2040 Build Operations

Intersection	Overall LOS & Delay (sec)		Notes/95th Percentile Q
	AM Peak Hour	PM Peak Hour	
Bunker Lake Blvd NE & Lexington Ave NE	A (6.9)/D ebl (36.2)	A (10.0)/D ebl (48.5)	SBT Q is 123 ft in AM; EBT Q is 103 ft in PM
131st Avenue NE & Lexington Avenue NE	a (7.2)/c ebl (20.6)	b (10.1)/f wbl (60.5)	WBL Q is 71 ft in AM; WBL Q is 75 ft in PM
125th Avenue NE & Lexington Avenue NE	C (23.8)/D nbl (38.4)	C (31.8)/D nbl (49.4)	EBT Q is 219 ft in AM; NBT Q is 229 ft in PM
109th Avenue NE & Lexington Avenue NE	C (23.2)/D sbl (48.0)	C (29.7)/D sbl (49.5)	SBT Q is 196 ft in AM; NBL Q is 248 ft in PM
Lever Street NE & 125th Ave NE	B (14.9)/C sbl (24.9)	B (14.1)/C sbl (33.4)	WBT Q is 148 ft in AM; WBT Q is 215 ft in PM

1. Overall Level of Service reported from SimTraffic delay, first letter represents intersection LOS, while second letter represents worst LOS of individual approach. Upper case letters indicate signalized intersection, and lower-case letters indicate unsignalized intersection.
2. 95th percentile queues are a result from an average of 10 SimTraffic simulations.

The results shown in Table 5 indicate all intersections are expected to operate at acceptable overall LOS in 2040 with the proposed project. Further, the results indicate all intersections will experience short to moderate vehicle queues, which are typical for peak hour conditions. However, the westbound approach to the 131st Avenue NE intersection with Lexington Avenue NE is forecast to experience long delays during the PM Peak hour. This condition may result in drivers becoming impatient and accepting unsafe gaps in traffic. It is suggested that in 2040 this intersection be monitored to determine if movements should be limited or if a traffic control change may be needed. No other intersection modifications are suggested for the 2040 Build condition to improve operations.

V. SUMMARY AND SUGGESTIONS

The preceding analysis has evaluated the potential traffic impacts of the proposed development of the Lexington Fields residential project, on the operations of the study area intersections. The site is located adjacent to the east side of Lexington Avenue NE approximately half a mile north of the 125th Avenue NE in Blaine, Minnesota.

Two design years were considered in this study, 2026 to correspond to the year after build-out and 2040 to remain consistent with the long range planning horizon. For both design years a No-Build and Build scenario, was analyzed and compared to assess the development's impact, and the area's future infrastructure needs. Development of the Lexington Waters residential project on the site by 2026 is expected to result in approximately 2,822 new vehicle trips on the study area roadway network per average weekday. Peak hour trips generated by the development are estimated at 215 during the AM peak hour and 288 during the PM peak hour.

The site access will include the extension of 131st Avenue NE eastward from Lexington Avenue NE into the site and the extension of Lever Street NE to intersect with 131st Avenue NE. It is assumed the new 131st Avenue NE intersection with Lexington Avenue NE will include a dedicated left turn lane and a shared through and right turn lane.

Growth in background traffic at a rate of 1.5 percent per year was accounted for in the analysis. Also, by 2040 it is assumed Lexington Avenue will be expanded from 4-lanes divided to 6-lanes divided from I-35W to beyond 125th Avenue NE; and it is assumed 125th Avenue NE will be expanded to 4-lanes undivided from Radisson Avenue NE to beyond Lexington Avenue NE. Results of the operational analyses in the 2026 and 2040 No-Build and 2026 and 2040 Build scenarios indicate all the intersections will operate at

acceptable levels of service with typical Peak Hour short to moderate vehicle queues. No additional improvements to the roadways or intersections within the study area are required.