

ENVIRONMENTAL ASSESSMENT WORKSHEET

Project: Pleasant Valley Farms

Location: Nininger Township / City of Hastings, MN

July 2026

Prepared for:



Prepared by:



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APPENDICES

Appendix A: Figures

Appendix B: Agency Reviews

Appendix C: Geotechnical Evaluation Report

Appendix D: Phase I Environmental Site Assessment

(Truncated report provided. Full version of report available upon request.)

Appendix E: Greenhouse Gas (GHG) Calculator Analysis

Appendix F: Traffic Impact Study

ENVIRONMENTAL ASSESSMENT WORKSHEET

This most recent Environmental Assessment Worksheet (EAW) form and guidance documents (December 2022 version) are available on the Environmental Quality Board's website at: <https://www.eqb.state.mn.us/>. The EAW form provides information about a project that may have the potential for significant environmental effects. Guidance documents provide additional detail and links to resources for completing the EAW form.

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

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

1. PROJECT TITLE

Pleasant Valley Farms

2. PROPOSER

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City, State, ZIP Lakeville, MN 55044
Phone: (952) 322-8700 (office), (952) 322-8790 (direct)
Email: Todd.Stutz@traditiondevelopment.com

3. RESPONSIBLE GOVERNMENTAL UNIT (RGU)

Contact Person: John Hinzman, AICP
RGU: City of Hastings
Title: Community Development Director
Address: 101 4th Street E
City, State, ZIP Hastings, MN 55033
Phone: (651) 480-2378 (direct), (651) 755-5914 (mobile)
Email: JHinzman@hastingsmn.gov

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):

EAW, Minnesota Rules 4410.4300, Subp. 19(D). Residential development.

5. PROJECT LOCATION

County:	Dakota County
City/Township:	Nininger Township (to be annexed into City of Hastings)
PLS Location:	NW ¼ of SW ¼, NE ¼ of SW ¼, SW ¼ of SW ¼, SE ¼ of SW ¼, and SE ¼ of NW ¼ of Section 20, Township 115N, Range 17W
Watershed (81 major watershed scale):	Mississippi River – Twin Cities
GPS Coordinates:	Latitude 44.751000, Longitude -92.888416
Tax Parcel Numbers:	300200029010 300200030011 300200050010 300200051011 300200052013 See Appendix A – Figure 1 Project Location and Figure 2 USGS Quad Map

6. PROJECT DESCRIPTION

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

The proposed project, Pleasant Valley Farms, is a new residential development in the City of Hastings, Minnesota. Pleasant Valley Farms will be built on approximately 158.0 acres and will be developed with up to 407 residential homes consisting of 341 single-family detached units and 66 townhomes. The development will also include a homeowners' association area, curvilinear roads, stormwater management areas, and open spaces.

The City of Hastings and Nininger Township adopted a Joint Resolution for Orderly Annexation of property primarily owned by Conzemius Family Limited Partnership. Upon approval and sale of the property for development, the land will be transferred from Township to City jurisdiction.

- 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 waste, 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.

Tradition Development Corp. ("Proposer") is proposing to develop a residential neighborhood that will include up to 407 homes including 341 single-family detached units and 66 townhomes, stormwater management areas, open spaces, and a homeowners' association area ("Project"), as shown in Appendix A – Figure 3 Concept Plan. The Project will be developed on approximately 158.0 acres of land ("Project Site") which has historically been used for agricultural production. The Project Site is located south of County State Aid Highway (CSAH) 42 (132nd Street E/Nininger Road), one-half mile east of Jacob Avenue, north of Featherstone Road, and west of the existing Pleasant Valley Addition residential development (commonly referred to as the "Presidents Addition").

The City of Hastings and Nininger Township adopted a Joint Resolution for Orderly Annexation of property primarily owned by Conzemius Family Limited Partnership. Transfer of the land from Township to City jurisdiction will occur after development approvals are obtained and the sale of the property is completed. The subject property to be annexed is approximately 166 acres and includes the five parcels that comprise the Project Site plus two additional parcels: Oakwood Cemetery (Parcel ID 300200053010) and the Gail Conzemius-Thomas Lewanski homestead located at 10979 140th Street E (PID 300200053010). If the Conzemius land is annexed, then the two additional parcels would no

longer be contiguous with Nininger Township, so the annexation is necessary to prevent the parcels from becoming “islands” of the Township within the City of Hastings. Annexed parcels are shown in Appendix A – Figure 4.

The Project is proposed to be developed in phases starting with clearing and mass grading of the full Project Site anticipated to begin in spring 2027 followed by home construction starting in fall 2027. The development is anticipated to be phased over ten years, and home construction is planned to generally progress from south to north in four phases – see Appendix A – Figure 5.

Existing Property

The 158.0-acre Project Site includes five existing Dakota County parcels: PIDs 0300200029010, 300200030011, 300200050010, 300200051011, and 300200052013. The parcels are currently in agricultural use with some forested areas with steep slopes. The Project Site generally slopes downward from south to north as the site approaches the Mississippi River which is approximately one-quarter mile to the north. Adjacent parcels include agricultural and undeveloped land to the north and west, industrial and a single-family home to the northeast, residential homes to the east, a private cemetery to the southeast, and residential homes and Hastings High School to the south.

General Development Plan

Appendix A – Figure 3 Concept Plan shows the extent of the Project, including all proposed development phases. The Project includes 407 residential units, summarized as follows:

Residential Development Summary

The Project includes 341 detached single-family residential units and 66 attached townhome units which are shown on the Concept Plan:

- Hilltop Area
 - 50-foot-wide – 48 lots
 - 55-foot-wide – 48 lots
 - 65-foot-wide – 46 lots
 - 75-foot-wide – 31 lots
- Valley Area
 - 50-foot-wide – 41 lots
 - 65-foot-wide – 127 lots
 - Townhomes – 66 units

Infrastructure and Public/Semi-Public Uses

The following uses are interwoven throughout the development and are planned to support the proposed residential development. The areas identified are approximations based on the Concept Plan and will be refined during the plat process.

- Wetlands – 2.2 acres
- Forested Areas and Open Space – 34.3 acres
- Stormwater Management Areas – 6.0 acres
- Major Collector Right-of-Way (CSAH 42) – 2.8 acres
- Major Collector Right-of-Way (General Sieben Dr extension) – 6.1 acres

Infrastructure and Project Site Improvements

Demolition, Grading, and Utilities

Clearing, mass rough grading, and grading of stormwater management facilities for the majority of the Project Site will occur at the start of the first construction phase in spring 2027.

The Project Site will be served by gravity sanitary sewer to be extended from an existing 15-inch PVC sewer line at Hamilton Dr. The Project Site will also be served by three watermain connections at Featherstone Rd, Hamilton Drive and north of CSAH 42 at Riverdale Dr. Sanitary sewer and watermain serving individual lots will generally be constructed concurrently with each development phase.

Road Improvements

Primary access points to the development will be at CSAH 42 (one access), Featherstone Rd (one access), and to the existing Pleasant Valley Presidents Addition residential development to the east (two accesses). Three access connections to potential future development to the west are shown on the Concept Plan. These connections will be stubbed to the property line as part of the Project and are planned to be extended when future development occurs.

The first phase of development will include the construction of a north-south extension of General Sieben Dr from Featherstone Rd, creating a full movement primary access at the General Sieben Dr/Featherstone Rd intersection. The first development phase will also include construction of local roadways and cul-de-sacs connecting individual lots, secondary access connections to the existing Pleasant Valley Presidents Addition residential development to the east at the Roosevelt Rd roadway stub, and a roadway stub terminating at the west property line. The second phase of development will extend General Sieben Dr north, through the bluff area, connecting to CSAH 42. Lock Blvd is proposed to be realigned to the west to line up with the new General Sieben Dr, providing another full-movement primary access at the intersection of CSAH 42/General Sieben Dr/Lock Blvd. Subsequent development phases will construct a second access connection to the existing Pleasant Valley residential development at the Hamilton Dr roadway stub, and local roads and cul-de-sacs connecting individual lots. The final phase of development proposes to terminate roadways to potential future development to the west at the property line, for extension when future development occurs.

Stormwater Management

The stormwater management system will include the construction of curb and gutter, catch basins, and storm sewer pipes throughout the Project Site that will connect to proposed stormwater ponds. The stormwater ponds will be designed to meet all City of Hastings and Vermillion River Watershed Joint Powers Organization (VRWJPO) requirements for rate, volume, and water quality. Infiltration benches are anticipated around stormwater ponds where appropriate based upon site conditions.

During site construction, erosion and sediment controls (such as silt fence, inlet protection, etc.) will be installed and maintained per the Stormwater Pollution Prevention Plan (SWPPP) and NPDES Construction Stormwater Permit requirements.

Small Utilities

Small utilities including power, gas, cable, and fiber will be extended to serve the development, and installation will align with the phased development.

Construction Phasing

Grading and development of the Project Site is assumed to occur in four phases. The first phase will generally begin with residential development in the south and progress north. The number of units anticipated to be developed in phases from 2027 to approximately 2037 is described in Table 1 and shown in Appendix A – Figure 5.

Table 1. Anticipated Project Schedule Summary

PHASE	ANTICIPATED DATE	ACTIVITY
Phase I	Spring 2027 – 2029	Site grading of entire Project Site. Construction of north-south roadway with access to Featherstone Rd, local road with access to the existing Pleasant Valley development, and other local roads internal to development. Buildout of +/-120 single-family residential units on southern portion of site starting fall 2027. Public and private utilities to be installed concurrently with road construction.
Phase II	2030 – 2032	Construction of +/-95 single-family residential units in central portion of site with adjacent roadways. Public and private utilities to be installed concurrently with road construction.
Phase III	2033 – 2035	Construction of +/-80 single-family residential units and 66 townhomes in northeastern portion of site with adjacent roadways, including access to CSAH 42 and the existing Pleasant Valley development. Public and private utilities to be installed concurrently with road construction.
Phase IV	2036 – 2037	Construction of remaining (+/-40) single-family residential units with adjacent roadways. Roadways connecting to potential future development to the west terminated at property line. Public and private utilities to be installed concurrently with road construction.

- c. Project magnitude:

The project magnitude is summarized in Table 2.

Table 2. Project Magnitude

DESCRIPTION	SIZE (APPROXIMATE)
Total Project Acreage	158.0
Linear project length	N/A
Number and type of residential units	407 residential units (341 single-family detached, 66 townhomes)
Residential building area (in square feet)	N/A
Commercial building area (in square feet)	N/A
Industrial building area (in square feet)	N/A
Institutional building area (in square feet)	N/A
Structure height(s)	Maximum 25 feet

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

The purpose of the Project is to develop a new residential neighborhood in northwest Hastings. The development will support Hastings' projected population growth and the increasing demand for additional housing as described in the City's 2040 Comprehensive Plan.

- 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.

- 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.

7. CLIMATE ADAPTATION AND RESILIENCE

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

Present and anticipated future shifts in Minnesota's climate include greater intensity rainfall events, increased instances of localized flooding, more frequent freeze/thaw cycles, diminished snow cover, extreme heat, drought, and associated infrastructure damage and safety hazards. The following assesses climate trends as they pertain to the Project Site.

Temperature Trends

The Project Site is situated in the Mississippi River – Twin Cities major watershed. Per the Minnesota Climate Explorer tool¹, the average annual temperature (1895-2024) has trended upward by approximately 0.23°F/decade within the Major Watershed District (Appendix A – Figure 6).

The average annual temperature in 2024 was 48.89°F in the major watershed which is higher than the average temperature of 43.95°F since 1895. Climate models generally predict an increase in average temperature, with average annual temperature ranges from 43.8°F to 52.55°F during mid-century (2040-2059) (Appendix A – Figure 7). The Minnesota Department of Natural Resources State Climatology Office anticipates warming winters and an increase in the severity, coverage, and duration of heat waves through the end of this century.

Urban Heat Island

Surfaces and structures such as roads, parking lots, and buildings absorb and re-emit more heat from the sun than natural landscapes. This can significantly raise air temperature and overall extreme heat vulnerability in urban areas where there are dense concentrations of these surfaces. This is referred to as urban heat island effect. According to the Metropolitan Council's Extreme Heat Map Tool, the Project Site is generally located in an area of low heat susceptibility under existing conditions due to minimal impervious surfaces.² Heat susceptibility is expected to increase with development of the Project Site which will create more impervious surfaces.

¹ "Minnesota Climate Explorer," MN DNR, accessed 5/7/2025, <https://climate-explorer.dnr.state.mn.us/main/historical>

² "Extreme Heat Map Tool," Metropolitan Council, accessed 5/12/2026, <https://arcgis.metc.state.mn.us/portal/apps/experiencebuilder/experience/?id=0e9f54914498477c898a6d1c0b33d5a6>

Precipitation Trends

Per the Minnesota Climate Explorer tool, the average annual precipitation for the Mississippi River – Twin Cities major watershed has trended upward by approximately 0.28 inches/decade in the period from 1895 to 2024. The annual rainfall in 2024 was 35.51 inches, which is higher than the average of 29.58 inches/decade since 1895 (Appendix A – Figure 8). Climate models generally predict an increase in average annual precipitation with ranges from 24.29 inches to 38.31 inches during mid-century (2040-2059) (Appendix A – Figure 9). The Minnesota Department of Natural Resources State Climatology Office anticipates a continued increase in the frequency and magnitude of extreme rainfall events through the end of this century.

Flood Risk

Climate change is contributing to the increased frequency and intensity of extreme rainfall events and flooding. Regionally, the Metropolitan Council is working with local watershed districts and communities to plan for and evaluate flood risks of certain areas beyond those traditionally evaluated by the Federal Emergency Management Area (FEMA).

Metropolitan Council's Localized Flood Map Tool

Using LiDAR topographic data, the Metropolitan Council developed a Localized Flood Map Screening Tool³ to determine what areas may be subject to potential localized flood risk during short-term, extreme rain events. Localized flood hazards are broken into risk categories based on potential flood water depth. Using the tool, a localized flood map for climate vulnerability for the Project Site is shown in Appendix A – Figure 10. As shown on the localized flood map, the Project Site has some areas of high flood risk that generally align with wetland areas identified in the preliminary wetland delineation on the west side of the site, and in lower elevation areas on the north and east sides of the site where townhomes are proposed. As described in subsequent sections of this EAW, minimal impact to existing wetlands areas is planned as part of the proposed Project. In addition, stormwater management features are planned in the townhome area to accommodate post-construction runoff.

FEMA Floodplain

According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (panels 27037C0144E and 27037C0257E, dated 12/2/2011), the Project Site does not intersect any special flood hazard areas or other areas of flood hazard.⁴

As part of the preparation of design and development plans, hydrologic modeling will be required to analyze the stormwater management facilities and ensure adequate stormwater volume is retained in post-construction conditions. Modeling should consider precipitation trends and account for the potential increase in frequency and magnitude of extreme rainfall events.

Solar Suitability Analysis

The City's 2040 Land Use Plan addresses alternative energy and establishes goals to protect and support the development of access to direct sunlight for solar energy, including by enforcing solar access protections provided for by the uniform implementation of lot and building performance standards of the adopted codes. Solar access protections are provided by the uniform implementation of lot and building performance standards adopted as part of Chapter 155 Zoning Code of the City Code.

³ "Localized Flood Map for Climate Vulnerability Screening," Metropolitan Council, accessed 5/12/2026, <https://gisdata.mn.gov/dataset/us-mn-state-metc-env-local-flood-screening>

⁴ "FEMA Flood Map Service Center," FEMA, 12/2/2011, <https://msc.fema.gov/portal/search?AddressQuery=lakeville%2C%20mn>

According to the Minnesota Solar Suitability Analysis⁵, the Project Site apart from areas with tree cover is an area of optimal solar suitability, which is consistent with the open nature of the agricultural land use presently on the site. Development of the site will impact solar suitability as structures and improvements are constructed. However, during the site design process, opportunities to leverage solar resources through site design and building orientation are possible and should be evaluated in the design of lots, open space and stormwater management systems.

National Risk Index for Natural Hazards

According to the FEMA National Risk Index for Natural Hazards which illustrates the U.S. communities most at risk for 18 types of natural hazards, Dakota County is rated relatively moderate compared to the rest of the U.S.⁶ This rating is based on a relatively moderate expected annual loss rating, a very low social vulnerability rating, and a very high community resilience rating.

Thirteen of the eighteen hazard types contribute to the expected annual loss for Dakota County, Minnesota. One hazard type is rated as very high risk (strong wind); five hazard types are rated as relatively high risk (cold wave, hail, lightening, tornado, winter weather); two hazard types are rated as relatively moderate risk (heat wave, inland flooding); three hazard types are rated as relatively low risk (drought, ice storm, landslide); and two hazard types are rated as very low risk (earthquake, wildfire).

The expected loss each year due to natural hazards in Dakota County is moderate as compared to the rest of the U.S. The social vulnerability for each type of hazard is rated very low, which means social groups in Dakota County have very low susceptibility to the adverse impact of natural hazards when compared to the rest of the U.S. The community resilience for each type of hazard is rated very high, which means communities in Dakota County have very strong abilities to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions as compared to the rest of the U.S.

⁵ "Minnesota Solar Suitability Analysis," University of Minnesota, accessed 5/12/2026, <https://solar.maps.umn.edu/>

⁶ "National Risk Index," FEMA, accessed 5/20/2026, <https://hazards.fema.gov/nri/map>

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

Table 3. Project Resource Category and Climate Trend Interaction

RESOURCE CATEGORY	CLIMATE CONSIDERATIONS	PROJECT INFORMATION	
		CLIMATE CHANGE RISKS AND VULNERABILITIES	ADAPTATIONS
PROJECT DESIGN & LAND USE (SEE ITEMS 6 & 10 FOR MORE DETAIL)	In the future, the Project Site is anticipated to experience increased annual temperatures and increased heat island effects. Conversion of cropland to suburban development will increase impervious surface coverage. Development also presents opportunities to leverage existing solar resources.	Heat susceptibility is expected to increase with the increased impervious surfaces caused by development of the Project Site. Development of the site will impact solar suitability as structures and improvements are constructed. The presence of new buildings will alter solar availability from existing conditions and offer new opportunities to leverage solar resources. Increased impervious surface will contribute to heat island effects as temperatures rise. Building architecture, materials choices and site design have the potential to negatively affect urban heat island conditions in the area. Dark roofing and siding materials absorb heat during daylight hours and emit heat at night, contributing to heat island effects and potentially contributing to warming trends. Redevelopment may reduce established, deep-rooted vegetation which may result in increased erosion and washouts in high rainfall events.	Design standards for building materials and landscaping should be considered to incorporate light/reflective colors, tree placement, and incorporation of native vegetation around ponding, open space and natural areas to most effectively mitigate against heat island effect. Buildings should be oriented and materials selected with consideration of urban heat island conditions and leveraging solar resources (i.e., maximizing south-facing roof opportunities, placement of trees to minimize rooftop shading where lot orientations support solar options, etc.). The Project Site should be designed with snow storage in mind and to reduce for potential for ice accumulation, thereby reducing potential chloride use. Energy efficient appliances and lighting will be incorporated into building design. Landscaping will be selected and planted per City requirements. Proposed native trees and landscaping will reduce runoff and mitigate heat island effect. Landscape plans should consider tree cover and vegetation that will establish deep roots to minimize erosion and washouts.

RESOURCE CATEGORY	CLIMATE CONSIDERATIONS	PROJECT INFORMATION	
		CLIMATE CHANGE RISKS AND VULNERABILITIES	ADAPTATIONS
WATER RESOURCES (SEE ITEM 12 FOR MORE DETAIL)	In the future, the Project Site is anticipated to experience increased annual precipitation and freeze/thaw cycles, and more frequent and heavier rainfall events. Increased annual average precipitation may increase the risk of flooding. Extreme droughts may also be an issue in the future.	The Project will increase impervious surface coverage. Alterations of topography have the potential to impact stormwater storage volumes. Surface and groundwater resources may increase in temperature, pollutant content, and volume due to increased temperatures and precipitation. Severe storm events are projected to increase in frequency which will require drainage systems to be adequately designed and maintained to accommodate the increase in water volume and flow rates. With increased impervious surfaces, there is potential for more chloride to be used on roads in winter which may impact water sources.	Stormwater BMPs will be designed to meet City of Hastings and VRWJPO requirements for rate, volume, and water quality. Water efficient design should be considered in the development of landscaping plans. Water reuse systems for landscaping areas and irrigation should be considered to reduce water usage. Native plants and perennials are recommended for landscaping within water resources buffers and within landscape areas. Low-input, drought-tolerant turf species, such as fescue grass, in place of traditional lawn blends should be considered. Consider incorporating chloride management strategies to reduce use of chlorides on site. Developers should consider water softeners that do not use salt to reduce chlorides going to the wastewater treatment plant.
CONTAMINATION/ HAZARDOUS MATERIALS/WASTES (SEE ITEM 13 FOR MORE DETAIL)	Current Minnesota climate trends and anticipated climate change in the general location of the Project may influence the potential environmental effects of generation/use/ storage of hazardous waste and materials.	The proposed residential development is unlikely to generate hazardous waste.	While the proposed residential land use is unlikely to generate hazardous waste, any hazardous waste that is present on site or generated as part of operations should be managed using proper procedures: - Determination of hazardous waste. - Proper storage and labeling. - Tracking waste with manifests. - Following disposal regulations based on generator status.

RESOURCE CATEGORY	CLIMATE CONSIDERATIONS	PROJECT INFORMATION	
		CLIMATE CHANGE RISKS AND VULNERABILITIES	ADAPTATIONS
FISH, WILDLIFE, PLANT COMMUNITIES, AND SENSITIVE ECOLOGICAL RESOURCES (RARE FEATURES) (SEE ITEM 14 FOR MORE DETAIL)	Current Minnesota climate trends and anticipated climate change in the general location of the project may influence the local species and suitable habitat.	Suitable habitat for species may become unsuitable due to land use changes, increased temperatures, and increased runoff.	Climate-appropriate native plantings and stormwater BMPs will provide suitable habitat for small mammals, insects, and bird species.

8. COVER TYPES

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

The Project Site is 158.0 acres in size. Approximately 65% of the Project Site has been altered from pre-development conditions to support current agricultural use.

Existing cover types as determined by the Minnesota Land Cover Classification System (MLCCS) are shown in Table 4 and Appendix A – Figure 11. Post development cover types are estimated based on the Concept Plan (Appendix A – Figure 3). Infiltration areas may be incorporated near stormwater ponding where appropriate based on the presence of a drinking water supply management area (DWSMA) – see Item 12. Water Resources for more information.

Table 4. Cover Types, Before and After

COVER TYPES	BEFORE (acres) ¹	AFTER (acres) ²
<50% Impervious	4.5	102.5
>50% Impervious	2.7	21.0
Agricultural land	107.1	-
Forest/Tree Plantation	30.1	27.8
Wetland Emergent Vegetation	4.0	-
Grasses	9.6	-
Wetlands ³	-	0.6
Stormwater Ponding	-	6.0
TOTAL	157.9	157.9

¹ Source: Minnesota Department of Natural Resources. Minnesota Land Cover Classification System, <https://gisdata.mn.gov/dataset/biota-landcover-mlccs>. See Figure 11 for map of existing cover types.

² Approximated based on Appendix A - Figure 3 Concept Plan and rounded to the nearest acre.

³ Based on preliminary wetland delineation.

The Proposer will be required to follow Hastings Tree Preservation Guidelines which identify tree preservation requirements, allowable tree removal, and a tree replacement schedule. In addition, Section 155.53 Landscape Standards of the City's Municipal Code includes tree and vegetative cover requirements for residential development. Per the code, boulevard trees shall be planted every 50 feet along public rights-of-way, and one front yard tree shall be planted outside of city right-of-way as a minimum requirement. Table 5 provides the approximate tree cover anticipated to be removed based on the Concept Plan, and an approximate number of new trees to be planted. The number of new trees required will be refined and finalized during the land use and development permitting process.

Table 5. Tree Canopy, Before and After

Approximate tree canopy removed for development ¹	2.3 acres
Number of new trees planted ²	830 trees

¹ Estimated based on Concept Plan.

² Number of new trees estimated based on City of Hastings City Code Section 155.53 Landscape Standards and Hastings Tree Preservation Guidelines. Actual number of trees to be planted to be determined during the land use and development permitting process.

9. PERMITS AND APPROVALS REQUIRED

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

Table 6. Permits and Approvals

UNIT OF GOVERNMENT	TYPE OF APPLICATION	STATUS
Federal		
US Army Corps of Engineers (USACE)	Section 404 Clean Waters Act – Wetland Permit	Not Anticipated (To be applied for, if required)
State		
Minnesota Pollution Control Agency (MPCA)	Section 401 Water Quality Certification	To be applied for, if applicable
	National Pollutant Discharge Elimination System (NPDES) Stormwater Construction Permit	To be applied for
	Stormwater Pollution Prevention Plan (SWPPP)	To be applied for
	Sanitary Sewer Extension Permit	To be applied for
Minnesota Department of Natural Resources (MDNR)	MN Natural Heritage Database Review	Complete
	Temporary Groundwater Appropriation Permit for Construction Dewatering	To be applied for, if applicable
	Public Waters Work Permit	To be applied for, if applicable
Minnesota Department of Health (MDH)	Water Main Plan Review and Water Supply Connection	To be applied for
	Well Sealing Permit	To be applied for, if applicable
Regional		
Metropolitan Council	Comprehensive Plan Amendment Review	To be submitted
	Sanitary Sewer Extension Review & Approval	To be submitted
Local		
City of Hastings	Orderly Annexation	In Progress, Anticipated Completion Q2/Q3 2026
	Comprehensive Plan Amendment (CPA)	In process; subject to EAW determination and completion
	Rezoning	To be applied for
	Preliminary and Final Plat	To be applied for

UNIT OF GOVERNMENT	TYPE OF APPLICATION	STATUS
	Wetland Conservation Act (WCA) Wetland Boundary/Type and Replacement Plan Decisions	To be applied for
	Building, Plumbing and Mechanical Permits	To be applied for
	EAW Findings of Fact and Record of Decision	To be considered
Dakota County	Driveway & New Street Permit	To be applied for
	General Permit for Work in the Right-of-Way	To be applied for
	Well Sealing Permit	To be applied for

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

10. LAND USE

a. Describe:

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

The Project Site has predominantly been used for agricultural production and includes cultivated land, forested areas, some wetlands, and open space. Some areas are characterized by steep slopes. The Project Site's existing land use is Agricultural/Undeveloped/Vacant per Dakota County's Comprehensive Plan ("DC2040").⁷ Existing land use maps are shown in Appendix A – Figure 12 (City of Hastings) and Appendix A – Figure 13 (Nininger Township). The following uses are currently adjacent to the Project Site:

Table 7. Existing Land Use Designations

LOCATION (Jurisdiction)	EXISTING LAND USES
North (Township)	CSAH 42, agricultural, woods
South (City)	Featherstone Rd, Hastings High School
East (City)	Single family homes, woodlands, rural residential, Oakwood Cemetery
West (Township)	Rural residential and woodlands

Source: City of Hastings 2040 Comprehensive Plan, Dakota County 2040 Comprehensive Plan

The Project Site is near several community facilities and resources including trails, a school, and a cemetery as shown in Appendix A – Figure 14. The Project Site is directly north of Featherstone Rd and Hastings High School. Oakwood Cemetery, a 5.5-acre private cemetery, is located directly adjacent and southeast of the Project Site and was included in the orderly annexation into the City of Hastings. The Mississippi River Greenway, a regional multi-use trail, is adjacent to the Project Site near the intersection of CSAH 42 and Lock Blvd, and continues southeast on Nininger Blvd. The Greenway connects Hastings to St. Paul along the Mississippi River.

The Project Site is within one mile of several parks, including:

- Featherstone Park Ponding Basin is immediately east of the Project Site.
- Benjamin – Lewis Sculpture Park is directly across CSAH 42 in the northeast quadrant of the intersection with Lock Blvd.
- Eagle Bluff Park, a City park, is approximately 0.3 miles to the northeast of the Project Site, abutting the Mississippi River.
- Crestview Park, another City park, is approximately 0.5 miles southeast of the Project Site.
- Lake Rebecca Park, a community park, is located 0.7 miles northeast of the Project Site, across Lake Rebecca. The 4.1-acre park is closely related to Jaycee Park (public access to the Mississippi River), Hastings River Flats (nature park), and Lock & Dam No. 2 (observation deck owned by the Federal government and open to the public).
- Imperial Estates Park and Lions Park ballfields are located approximately 0.6 and 0.8 miles southeast of the Project Site, respectively.

⁷ "Dakota County, Minnesota 2040 Comprehensive Plan (DC2040)," Dakota County, MN, amended 7/20/2021, <https://www.co.dakota.mn.us/Government/Planning/CompPlan/Documents/2040ComprehensivePlanAmendment.pdf>

- Spring Lake Park Reserve, a 1,110-acre Dakota County park and recreation area, is located approximately 1.0 mile north/northwest of the Project Site in Nininger Township.

The Project Site is not within or adjacent to any Wildlife Management Areas (WMA), Waterfowl Production Areas (WPA), or National Wildlife Refuges (NWR).⁸

According to the Natural Resources Conservation Service (NRCS) Web Soil Survey, approximately 88.5 acres or 56% of the Project Site is classified as prime farmland. Prime Farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. Impacts to farmland will occur due to development since land will be converted from agricultural use to urban development patterns.

- 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 Project Site is in northeastern Dakota County, approximately 20 miles southeast of Minneapolis and St. Paul. The City of Hastings is in the seven-county metropolitan area which is under the regional planning jurisdiction of the Metropolitan Council. While the Project Site is in Dakota County, parts of the City of Hastings also extend into Washington County. Due to the proximity to the Twin Cities urban core, new development in this area is anticipated and planned for by the community.

Annexation of Project Site

Prior to annexation, the Project Site parcels are within Nininger Township and are guided in Dakota County's Comprehensive Plan, DC2040 as Rural or Large Lot Residential (southern two parcels), and Agricultural (northern three parcels). An orderly annexation agreement was adopted by the City and Township, and the Project Site will be brought under the jurisdiction of the City of Hastings upon development approvals and the sale of the property to the Project Proposer. At the time of annexation, a Comprehensive Plan Amendment (CPA) will be required to reguide the Project Site from rural/township designations to the City's urban designations, and to extend the Metropolitan Urban Service Area (MUSA) boundary to provide municipal utilities to the Project Site. Parcels are anticipated to be guided Low Density Residential with a density range of 3-6 dwelling units/acre, and Medium Density Residential with a density range of 8-20 dwelling units per acre in the CPA. As the default zoning of all annexed property is Agriculture, rezoning to R-3 PRD would likely occur following the CPA process.

Table 8 describes the anticipated future land use of the Project Site and adjacent parcels. Upon re-guiding, the Project Site will be compatible with surrounding land uses within the City and will provide a transition area from agricultural uses in the Township.

⁸ "Minnesota Natural Resource Atlas," Natural Resources Research Institute, accessed 5/20/2026, https://mnatlas.org/gis-tool/?id=k_0047

Table 8. Planned Land Use Designations

LOCATION (Jurisdiction)	LAND USE DESIGNATION
Project Site	Low Density Residential, Medium Density Residential
North (Township)	Agricultural
South (City)	Institutional, Medium Density Residential
East (City)	Low Density Residential, Medium Density Residential
West (Township)	Agricultural

Source: City of Hastings 2040 Comprehensive Plan, Dakota County 2040 Comprehensive Plan

City of Hastings 2040 Comprehensive Plan

The City of Hastings 2040 Comprehensive Plan (“Hastings 2040”), adopted by the City Council in 2020, establishes Hastings’ vision for growth and development for the 2020-2040 planning period.⁹ The following is a summary of Hastings 2040 as it relates to the Project Site and proposed Project:

Chapter 4: Land Use

Land use designations for the City of Hastings are described in Chapter 4 Land Use, and the adopted Future Land Use Map is shown in Appendix A – Figure 15. The Project Site is outside the City limits and therefore not included in Stage 1 of the City’s planned development at the time Hastings 2040 was adopted (i.e., land within the 2020 City limits, planned for development in the 2020-2040 planning period). However, it is within the Stage 2 Development area which includes growth beyond the 2020 City limits – see Appendix A – Figure 16 Future Development Staging. Anticipated future land uses are shown in the Development Staging Map which Hastings 2040 indicates will be refined as development is proposed.

Table 9 provides a summary of the Concept Plan’s land uses in comparison to uses identified in the City’s Development Staging Map. Residential densities assume that wetlands, stormwater management areas, and other passive natural areas will be owned by the City and are therefore excluded from density calculations; however, maintenance and ownership of these systems and areas will be determined during the land use and development permitting process.

Table 9. Concept Plan Land Use Summary & 2040 Comprehensive Plan Comparison

2040 COMPREHENSIVE PLAN			PLEASANT VALLEY FARMS PROJECT – CONCEPT PLAN			
Future Land Use	Required Density (DU/ac)	Comp Plan area (ac)	Uses	# of Dwelling Units (DU)	Proposed Area (ac)	Density (DU/ac)
Low Density Residential	3-6	68	Low Density Residential (Single Family Detached)	341	99.7	3.4
Medium Density Residential	8-20	29	Medium Density Residential (Townhomes)	66	6.9	9.6
High Density Residential		16	-	-	-	-

⁹ “Hastings 2040,” Hastings, MN, 2020, <https://www.hastingsmn.gov/business-development/planning-and-zoning/comprehensive-plan/>

2040 COMPREHENSIVE PLAN			PLEASANT VALLEY FARMS PROJECT – CONCEPT PLAN			
Future Land Use	Required Density (DU/ac)	Comp Plan area (ac)	Uses	# of Dwelling Units (DU)	Proposed Area (ac)	Density (DU/ac)
Subtotal Residential				407		
Upland Conservation Area	-	45	-	-	-	-
			Wetlands	-	2.2	-
			Stormwater Management	-	6.0	-
			Passive Natural Areas	-	34.3	-
			ROW (CSAH 42 & General Sieben Dr)	-	8.9	-
TOTAL				407	158.0	2.6

While the City’s Development Staging Map anticipated future development of the Project Site, the site is outside of the Metropolitan Council’s 2040 and 2050 MUSA boundaries. Expansion of the MUSA will be required to serve the proposed Project with municipal utilities, and appropriate amendments to the City’s MUSA and Development Staging maps must be completed as part of the CPA process.

Chapter 5: Transportation

The City’s transportation plan identifies the extension of General Sieben Dr between CSAH 42 and Featherstone Rd as a new Major Collector roadway. The extension of General Sieben Drive through the Project Site generally aligns with the proposed north-south roadway shown in the Concept Plan. Another new Major Collector roadway on is also shown on the west side of the Project Site, approximately halfway between Jacob Ave and the extended General Sieben Dr.

CSAH 42’s functional classification is Major Collector. Featherstone Rd is currently classified as a Minor Collector east of General Sieben Dr, and local road to the west. Featherstone Rd west of General Sieben Dr is proposed to be reclassified to Minor Collector in the future.

Chapter 10: Parks, Trails and Open Space

Planned destination trails with adjacent natural greenways and open space corridors are identified on the City’s Planned & Existing Parks & Trails Map. Planned features include a destination trail through the Project Site, connecting to the Mississippi River Greenway regional trail and CSAH 42 bike route.

Chapter 11: Mississippi River Corridor Plan

The Project Site is outside of the Mississippi River Corridor Critical Area (MRCCA), bluff impact zone, shore impact zone, and 100-year floodplain.

Chapter 12: Water Supply

The City’s Water Supply Plan details the existing conditions and future needs for the City’s water supply system. The Water Supply Plan evaluated existing conditions and future water supply, storage, and trunk water main needs based on projected future land uses. Future growth outside the 2020 City limits, including development of the Project Site to

urbanized land use, was included in water supply modeling and projections. The Project Site is adjacent to the existing main pressure zone. There are existing 10-inch trunk watermain shown in Figure 2 – Existing Trunk Water System and Pressure Zones of the Water Supply Plan which the proposed development will connect to. More information on water supply to the Project Site is included in Item 12. Water Resources.

Chapter 13: Sanitary Sewer

The City’s Comprehensive Sanitary Sewer Plan (“Sewer Plan”) details the existing conditions and future needs for the City’s wastewater collection and treatment system. Like the Water Supply Plan, development outside the 2020 City limits, including the Project Site, was included in the wastewater modeling and projections of the Sewer Plan. The Sewer Plan includes the Project Site within the 2040 Sewer Service Area, with phasing in the 2020-2025 and 2025-2030 timeframes for the east half and west half, respectively. The Project Site is also contemplated to be part of the North West Ultimate Sewer District (see Figure 6-1 Ultimate Sewer Districts) and to be serviced by a 10-inch sanitary sewer main (see Figure 6-2). See Figure 4-2 Future Development Phasing of Hastings 2040 and Figure 6-2 2040 Trunk System of the Sewer Plan. More information on wastewater facilities to support development of the Project Site is included in Item 12. Water Resources.

Chapter 14: Stormwater

The City’s Watershed Management Plan (WMP) is a comprehensive guide to managing stormwater and surface water resources throughout the City. Policies of the WMP are consistent with requirements of the Vermillion River Watershed Joint Powers Organization (VRWJPO). More information on water resources on and near the Project Site is provided in Item 12. Water Resources.

Metropolitan Council Long-Range Plans

The City of Hastings adopted its 2040 Land Use Plan in compliance with the Metropolitan Council’s *Thrive MSP 2040* regional long-range plan and development guide.¹⁰ The 2040 Land Use Plan is the City’s adopted policy for this planning period, which is defined as 2020-2040, with statutorily required decennial updates. The Metropolitan Council adopted its *Imagine 2050* regional long-range plan on February 12, 2025, which sets the regional policy for the next comprehensive planning period which is defined as 2030-2050.¹¹

In September 2025, the Metropolitan Council distributed system statements to each city in the seven-county metropolitan region which cities will use along with the *Imagine 2050* framework to update local comprehensive plans by December 31, 2028. Until a city’s 2050 comprehensive plan is formally adopted, *Thrive MSP 2040* is the current regional policy, and the city’s adopted 2040 comprehensive plan remains the active local policy. For purposes of this EAW, the adopted 2040 Plan is considered the City’s approved local policy. However, the *Imagine 2050* will be referenced as applicable given that the development of the Project Site is anticipated to be phased and may span both planning periods.

¹⁰ “Thrive MSP 2040,” Metropolitan Council, MN, 5/28/2014, <https://metro council.org/Planning/Imagine-2050/Thrive-2040.aspx>

¹¹ “Imagine 2050,” Metropolitan Council, MN, 2/12/2025, <https://imagine2050.metro council.org/>

Community Designation

The City of Hastings is designated as an “Emerging Suburban Edge” community designation in *Thrive MSP 2040*. Emerging Suburban Edge communities are expected to plan for forecasted population and household growth at an average density of at least 3 to 5 dwelling units per acre.

While the *Imagine 2050 Land Use Policy Plan*¹² has reassigned Emerging Suburban Edge communities to the Suburban Edge community designation, the City of Hastings is one of two cities that have been redesignated to the Suburban community designation for the next comprehensive planning period. The minimum net density required for Suburban communities will be 7 units per acre. By comparison, the Suburban Edge designation requires a minimum net density of 3.5 units per acre.

Metropolitan Urban Service Area (MUSA)

The Metropolitan Urban Service Area (MUSA) is a boundary established by the Metropolitan Council to define the limits of municipal sanitary sewer service. The Project Site is outside of the 2040 MUSA¹³ and 2050 MUSA boundaries.¹⁴

Long-Term Service Area

The long-term [sewer] service area (LTSA) is the Metropolitan Council’s ultimate long-range service area to which the MUSA is eventually anticipated to be extended and served. The Project Site is indicated to be a “Future Study Area” within the LTSA.¹⁵ In areas outside of the current MUSA and within the LTSA, the City is required to maintain a maximum density of four dwelling unit per forty acres (4 DU/40 ac) prior to MUSA extension. Wastewater effluent from Hastings is currently treated at a Metropolitan Council wastewater treatment facility in Hastings. Metropolitan Council plans to close the facility in the future and is currently studying options for a relocated facility west of the City limits.

Regional Parks & Trails

The Imagine 2050 Regional Parks & Trails includes existing and planned regional park and trail facilities. As noted above, Spring Lake Park Reserve and the Mississippi River Greenway regional trail are existing facilities near the Project Site. No planned facilities within or near the Project Site are identified in *Imagine 2050*.

Dakota County Comprehensive Plan

Dakota County’s 2040 Comprehensive Plan, DC2040, is the County’s 10-year update of its comprehensive plan to guide County transportation systems, parks and open space, natural resources, and land planning.

Chapter 3: Transportation

¹² “Imagine 2050 – Land Use Policy Plan,” Metropolitan Council, MN, 2/15/2025, <https://imagine2050.metrocouncil.org/media/gxslfmi/imagine-2050-land-use-plan-ada.pdf>

¹³ “2020, 2030, and 2040 Metropolitan Urban Service Area, Dakota County,” Metropolitan Council, January 2025, https://giswebsite.metc.state.mn.us/mapgallery/pdfs/MUSA_letter_size/MUSA_sm_Dakota%20County.pdf

¹⁴ “Metropolitan Urban Service Area Composite – 2050 MUSA,” Metropolitan Council, 4/13/2026, <https://gisdata.mn.gov/dataset/us-mn-state-metc-plan-musa-composite>

¹⁵ “2050 Regional Wastewater Long-Term Service Areas,” Metropolitan Council, MN, accessed 5/8/2026, <https://imagine2050.metrocouncil.org/reference-materials/water/appendix-b-long-term-service-area-map/>

CSAH 42 borders the Project Site to the north. CSAH 42 is classified as Major Collector. The Cities of Rosemount, Inver Grove Heights, Nininger Township, Hastings, South St. Paul, and West St. Paul are within the Eastern Dakota Transit Study Area, completed in 2020. The study recommended a redesign of public transportation routes to better target employment, educational, retail, and medical hubs.

Chapter 4: Dakota County Parks

The Parks Chapter of DC2040 establishes the vision and direction for the Dakota County Park System through 2040. Facilities near the Project Site include Spring Lake Park Reserve (approximately 1.0 mile north/northwest), and the Mississippi River Regional Trail.

Chapter 5: Land Use

Cities and townships in Dakota County independently administer zoning and comprehensive land use controls through their zoning and land use plans. Dakota County does not have land use authority in cities and does not exercise its land use authority in townships, except in rural floodplain and shoreland areas. However, Dakota County does evaluate the collective impact of individual planning processes of cities and townships to determine if they will affect the delivery of County services and coordination of multi-agency plans.

Future development of the Project Site is acknowledged in DC2040 as shown in Figure 5.5: City-identified Major Projects in 2040 Comprehensive Plans.

City of Hastings Capital Improvement Plan

The City's 2026-2030 Capital Improvement Plan (CIP) identifies local streets in the adjacent Pleasant Valley residential development for reconstruction in 2028, and General Sieben Dr south of Featherstone Rd as receiving a mill and overlay in 2028.

Dakota County Capital Improvement Program

The County's 2026-2030 CIP¹⁶ identifies CSAH 42 from Lock Blvd to TH 61 as receiving pedestrian and intersection improvements including a pavement mill and overlay, and improved trail crossings by 2027.

Vermillion River Watershed Management Plan

The Project Site is located within the Vermillion River Watershed Joint Powers Organization's (VRWJPO) jurisdiction. VRWJPO has developed and implements the 2026-2035 Vermillion River Watershed Management Plan¹⁷ which includes watershed standards and rules. The City's adopted Watershed Management Plan and ordinances are consistent with the VRWJPO Watershed Plan. The City of Hastings is the LGU within the watershed and operates their own permitting program for surface water management in compliance with the requirements of VRWJPO and other agencies that may have jurisdiction (e.g., MN DNR, USACE, Board of Water and Soil Resources). The Project will be required to demonstrate compliance with all applicable rules and standards as part of the land use and development permit process.

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

¹⁶ "Capital Improvement Program for Fiscal Year 2026-2030," Dakota County, MN, <https://www.co.dakota.mn.us/Government/BudgetFinance/2026/Documents/2026-2030CIP.pdf>

¹⁷ "2026-2035 Vermillion River Watershed Management Plan," VRWJPO, adopted April 22, 2026, <https://www.vermillionriverwatershed.org/wp-content/uploads/2026/04/FINAL-2026-2035-Vermillion-River-Watershed-Management-Plan.pdf>

Table 10 describes the existing zoning of the Project Site and adjacent properties.

Table 10. Existing Zoning

AREA (Jurisdiction)	ZONING
Project Site (Township)	A – Agriculture
North (Township)	A – Agriculture
South (City)	R-3 Planned Residential Development (PRD), R-1 Low Density Residence (two parcels)
East (City)	R-3 PRD
West (Township)	A – Agriculture

Sources: City of Hastings 2040 Comprehensive Plan

As discussed in Item 7, according to FEMA FIRM Panels 27037C0144E and 27037C0257E, there are no special flood hazard areas or other areas of flood hazard within the Project Site.

The Project Site is not within a designated shoreland district.

There are no wild and scenic rivers or other critical areas in or near the Project Site.¹⁸ While portions of the Mississippi River northwest of the Twin Cities are classified as scenic and recreational, those classifications do not apply to the Mississippi River near the Project Site.

The Project Site is not enrolled in the Agricultural Preserves program.¹⁹

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

The northeastern portion of the Project Site is near but outside the special flood hazard area of the Mississippi River. No critical facilities are proposed in floodplain areas or other areas identified as at risk for localized flooding.

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

Compatibility with Adjacent Land Uses

The proposed Project Site is in a transition area between the Township, which has predominantly rural residential and agricultural land uses, and the City, which is characterized by urban development. The Project is anticipated to be developed under the City's urban Low and Medium Density Residential land use designations that will be comprised of single-family detached and attached residential uses, providing a reasonable transition between the rural development patterns and the more urban patterns within the City. The proposed General Sieben Dr extension will be directly adjacent to the west side of Oakwood Cemetery, and public roadways and residential development are generally considered compatible with cemeteries.

As shown on the Appendix A – Figure 3 Concept Plan, there is a proposed mix of 50, 55, 65, and 75-foot single-family residential lots, in addition to 66 townhome units. The product/lot types are clustered into neighborhoods in areas of higher elevation (Hilltop units) and lower elevation (Valley units) and organized around open space and wetland areas where there are steep elevation changes. As

¹⁸ "River Classifications," MN DNR, accessed 5/11/2026, https://www.dnr.state.mn.us/waters/watermgmt_section/wild_scenic/wsrivers/classification.html

¹⁹ "Agricultural Preserves 2024," Metropolitan Council, 12/31/2024, <https://gisdata.mn.gov/dataset/us-mn-state-metc-agri-agricultural-preserves2024>

indicated on the concept plan and in Hastings 2040, parts of Hastings and the surrounding area are characterized by natural features – such as steep slopes and wetlands – that are managed by protective ordinances. Accordingly, these areas will be removed from the Project’s density calculations since they are prohibited from development under the adopted ordinances and are considered undevelopable. Final density range and calculations will be completed as part of the land use and development permit processes and the development must demonstrate compliance with the guided land use.

Compatibility with Comprehensive Plan

The proposed Project will require a CPA after annexation to re-guide the Project Site and extend the MUSA boundary. The proposed Project is compatible with all other aspects of the City’s Comprehensive Plan.

Compatibility with Zoning

After annexation, the City of Hastings will be responsible for rezoning the annexed property to a district contained in the City’s zoning code. Section 155.03 of the City Code states that annexed territory shall be designated by an ordinance of the Council to a proper use zoning district after annexation, after referral to and recommendation by the Planning Commission and prior to issuance of any permits.

Following annexation, the property is anticipated to be zoned R-3 PRD, Medium Density Residence Planned Residential Development. A PRD is designed to encourage open space and clustering of housing units. The PRD district would adopt the underlying zoning district uses while allowing for certain flexibility from the strict interpretation of the base zoning district to achieve a more desirable development pattern.

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

A CPA is required due to the recent annexation of the parcel and the proposed Project to re-guide the Project Site and extend the MUSA boundary. The CPA must be approved by the Metropolitan Council at which time the City will rezone the property for consistency with the Project. Details regarding the site design, stormwater management facilities, road network, parks and open space will be evaluated as part of the land use and development process. Rezoning will follow the CPA process.

11. GEOLOGY, SOILS AND TOPOGRAPHY/LANDFORMS

a. Geology

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

Surficial Geology

Per Plate 3, Surficial Geology of the C-57 Geologic Atlas of Dakota County²⁰, the southern portion of the Project Site is primarily underlain by mixed sediment – a loose, reworked sediment that includes hillslope debris from steep Paleozoic bedrock cliffs, and flat-lying material where bedrock is less than 10 feet to the surface. The northern portion of the site is undifferentiated terrace deposits of sand and gravel. Escarpments – steep cliffs formed by folded or layers of rock – exist through the center of the site. These cliffs fall downward to the north and mark the banks of ancient meltwater channels of high-volume glacial rivers.

The Department of Natural Resources maps pollution sensitivity in its “Pollution Sensitivity of Near-Surface Materials” mapping.²¹ The southern half of the Project Site is within an active karst area which is very sensitive to pollution. Karst is a terrain with distinctive landforms and hydrology created primarily from the dissolution of soluble rocks. Karst geology is characterized by underlying limestone rock with systems of holes, channels, and tunnels. Karst influences water quality, aquifer pollution sensitivity and other land-use decisions because of their potential to cause fast and direct movement of water and contaminants directly from the surface to groundwater. Active karst areas are underlain by carbonate bedrock with less than 50 feet of sediment cover. The remainder of the Project Site has high sensitivity to pollution, with a small band of moderate sensitivity.

Bedrock Geology

Per Plate 6, Bedrock Topography of the County Geologic Atlas, the depth to bedrock ranges between around 0-25 feet below the ground surface in the south/southwest portion of the Project Site up to 150 feet below ground surface in the north/northeast.

Plate 2, Bedrock Geology identifies around 75% of the southwest portion of the Project Site is underlain by Prairie du Chien Group, Shakopee Formation. This bedrock is composed of dolostone, sandy dolostone, sandstone, and shale. Bedrock thickness beneath the Project Site is approximately 80 feet. The remainder of the Project Site in the northeast is underlain by Prairie du Chien Group, Oneota Dolomite which is composed of dolostone that generally lacks sedimentary features characteristic of the Shakopee Formation; and Jordan Sandstone, quartz sandstone and feldspathic sandstone with lenses of siltstone and shale. Diagonally through the northern portion of the site is a thrust fault, an uplift of the Paleozoic bedrock. Faults are recognized in parts of the Project Site where changes in the elevation of a bedrock contact occur within a very short distance – generally elevation changes of 50 feet or more within 1,000 feet. Bedrock that has dropped alongside a fault (shown as D on the map) preserves relatively younger formations at the surface, and bedrock that has lifted (shown as U on the map) brings older formations closer to the surface. Most of the Project Site is within areas of upward vertical displacement. See Appendix A – Figure 17 Geologic Features.

²⁰ “C-57 Geologic Atlas of Dakota County,” University of Minnesota, 2023, <https://conservancy.umn.edu/items/5d8d0fa7-2cc7-4db5-ba02-e33702bf3573>

²¹ “Pollution Sensitivity – Near-Surface Materials,” MNDNR, 12/10/2022, <https://mnatlas.org/resources/pollution-sensitivity-near-surface-materials/>

Geological Limitations

A Geotechnical Exploration Report was completed by Braun Intertec (see Appendix C). The geotechnical exploration included fourteen (14) standard penetration test (SPT) borings to nominal depths of 15 to 20 feet below grade, and fifteen (15) test pit (TP) excavations depths of 6 to 18 feet below grade across the site to isolate shallow bedrock locations and evaluate utility and building construction constraints.

The geotechnical borings confirmed information from the County Geologic Atlas that shallow limestone bedrock was identified generally across the south portion of the site at depths as shallow as 5 feet below existing grades. Each house pad will require easily excavatable soil (not bedrock) a minimum of four (4) feet below the proposed low floor grade for walk-out, look-out or finished basement, and a minimum of six (6) feet below slab-on-grade foundations to allow the installation of water and sanitary sewer services, foundations (spread footings and poured foundation walls), and interior plumbing (including drain tile and sump baskets) below the lowest floor. Based on proposed basement floor grades and lowest floor elevations in the preliminary grading plan, the report anticipates areas of bedrock conflicts. Any areas where bedrock is found with less than 4 feet of separation, bedrock removal for the full extent of the proposed house pad envelope should be removed, in addition to providing proper bedding for sanitary sewer and watermain.

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 or highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 12.b.ii.

Topography

Based on Dakota County GIS data, the ground surface elevations across the Project Site range from approximately 780 feet above mean sea level (AMSL) in the northeast corner to 910 AMSL. The existing site generally drains north/northeast, toward the Mississippi River. Parts of the Project Site, especially in the existing forested areas, have significant slopes of over 20 percent.

Grading plans are in the process of being developed and will be finalized as part of the land use and development approval process. Based on the Concept Plan, topography of the site is anticipated to generally maintain current grades and drainage patterns. The Geotechnical Evaluation Report anticipated cuts and fills to be less than 10 feet from existing grades. Site clearing and mass grading is anticipated to occur in one phase at the start of construction.

Soils

The NRCS Web Soil Survey identifies eighteen (18) different soil types on the Project Site. NRCS soil information is shown in Table 11 and in map format in Appendix A – Figure 18. Over 70% of the site's soils are classified into hydrologic soil groups A and B which are known to have moderate to high infiltration rates. Parts of the site where home construction is proposed are primarily comprised of silt loam soils which have high moisture retention, leading to compression and weak load-bearing capacity when wet.

Most site soils also have moderate susceptibility to sheet and rill erosion by water, and low to moderate susceptibility to erosion by wind. While the Project Site is outside of the Mississippi River Corridor

Critical Area (MRCCA) shore impact zone, 100-year floodplain, and bluff impact zone, the northernmost area is within the MRCCA soil erosion susceptibility zone.

Results of the soil borings and test pits, advanced as part of the Geotechnical Evaluation Report included in Appendix C, generally show 1.5-7 feet of sandy lean clay topsoil over 2-10 feet of a sand, silty sand, and clayey soil mixture on the site.

Table 11. NRCS Soil Classifications

MAP UNIT SYMBOL	MAP UNIT NAME	AREA IN AOI (acres)	% OF AOI	SLOPE	SOIL EROSION FACTOR (K _w) ¹	WIND ERODIBILITY GROUP ²	HYDROLOGIC SOIL GROUP ³
7C	Hubbard loamy sand	3.5	2.2	6-12%	0.05	2	A
7D	Hubbard loamy sand	3.7	2.4	12-18%	0.05	2	A
39B	Wadena loam	7.1	4.5	2-6%	0.28	6	B
39C	Wadena loam	2.5	1.6	6-12%	0.28	6	B
41A	Estherville sandy loam	5.6	3.5	0-2%	0.15	3	A
41B	Estherville sandy loam	3.9	2.5	2-6%	0.20	3	A
173F	Frontenac silt loam	3.8	2.4	25-40%	0.20	6	B
250	Kennebec silt loam	18.1	11.5	-	0.37	6	C
251D	Marlean loam	9.7	6.2	12-18%	0.24	6	B
285B	Port Byron silt loam	10.7	6.8	2-6%	0.32	4L	B
301B	Lindstrom silt loam, till plain	14.6	9.3	2-6%	0.43	5	B
411B	Waukegan silt loam	14.2	9.0	1-6%	0.32	5	B
411C	Waukegan silt loam	8.9	5.7	6-12%	0.32	6	B
415A	Kanaranzi loam	21.9	13.8	0-2%	0.20	6	B
415B	Kanaranzi loam	1.5	0.9	2-6%	0.20	6	B
1827B	Waukegan silt loam, bedrock substratum	23.8	15.1	2-6%	0.32	6	C
1827C	Waukegan silt loam, bedrock substratum	4.3	2.7	6-12%	0.32	6	C
1848B	Sparta loamy sand, bedrock substratum	0.2	0.1	2-8%	0.10	2	B
TOTALS FOR AREA OF INTEREST		158.0	100%				

Source: "Web Soil Survey," United States Department of Agriculture: Natural Resources Conservation, <https://websoilsurvey.nrcs.usda.gov/app/>

¹ Erosion factor K_w indicates the susceptibility of a whole soil profile (including rocks) to sheet and rill erosion by water. The estimates in Table X are based primarily on percentage of silt, sand, and organic matter, and on soil structure and saturated hydraulic conductivity (K_{sat}). Values of K_w range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

² A wind erodibility group consists of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to erosion, while those assigned to group 8 are the least susceptible.

³ Soils are classified by the NRCS into four hydrologic soil groups, A, B, C, and D with A having the lowest runoff potential (high infiltration rate) and D having the greatest runoff potential (low infiltration rate). If a soil is assigned to a dual hydrologic soil group (e.g., A/D), the first letter is for drained areas and the second letter is for undrained areas. Only the soils that in their natural condition are in group D are assigned dual classes.

Construction Activity Impacts

Development of the Project Site will alter the existing soil and topographic conditions through grading and construction activities. Post-development, site topography may be altered from its current

condition to support construction of single-family lots; however, the site will generally maintain existing grades and will continue to slope downward to the north. It is anticipated that approximately 125 acres of the Project Site's soils will be disturbed by grading or filling activities. Soil balance and grading volumes are not yet known and will be determined as the design and grading plans are further developed.

Existing soils will be disturbed during grading activities. Vegetation, topsoil, and organic soils are compressible and are not suitable for foundation, roadway, or utility support and will need to be removed from below these areas and replaced with suitable compacted engineered fill, as needed, to attain site grades and to provide adequate foundation support. Fill may be introduced to create more suitable conditions for building pads, and surface soils are likely to be different from what is present today.

Construction activities will temporarily expose soils to an increased risk of erosion from wind and precipitation. Appropriate erosion and sediment control best management practices (BMPs) will be selected and defined by a project's Stormwater Pollution Prevention Plan (SWPPP), National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit, and local stormwater permitting conditions. BMPs may include erosion control blankets with anchoring devices, mulches, riprap, tackifiers and soil stabilizers, temporary seeding and stabilization, and turf reinforcement mats. BMP selections will be based on the potential risk of erosion, current site conditions, and maintenance through the duration of each construction phase to reduce the potential of sedimentation occurring to surface water resources or migrating offsite. Temporary BMPs will be inspected and maintained per the NPDES Construction Stormwater Permit until permanent vegetation and stabilization has been placed.

Operational Activity Impacts

Post-construction, permanent BMPs will be established to stabilize soils and prevent erosion. Once BMPs are established, erosion and sedimentation will be minimized during normal site operations. The project plans and SWPPP will identify BMPs (seed, mulch, stormwater ponds, vegetated swales, permanent landscaping, infiltration as appropriate) to manage erosion and stormwater runoff after construction is complete.

12. WATER RESOURCES

a. Describe surface water and groundwater features on or near the site in a.i. and a.ii. below.

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

The Project Site is within the Mississippi Direct hydrologic sub watershed of the Vermillion River Watershed. There is an intermittent stream that runs east-west through the center of the site, lying north of the existing forested area. The topography of the site causes surface water to primarily flow northeast toward the Mississippi River.

Surface Waters

Surface water features within one mile of the Project Site are shown in Appendix A – Figure 19 and include data from the Minnesota DNR Public Water Inventory (PWI).²² The names and associated PWI numbers of the public waters are provided in Table 12.

Table 12. Public Waters within 1 Mile of Project Site

PUBLIC WATER NAME	TYPE	AUID	PWI NUMBER	303d IMPAIRED WATER
U.S. Lock & Dam #2 Pool (Main Channel)	Public Water Basin	19-0005-99	19-5	No
U.S. Lock & Dam #3 Pool (Main Channel)	Public Water Basin	25-0017-99	25-17	No
Lake Rebecca	Public Water Basin	19-0003-00	19-3	Yes
Unnamed Lake	Public Water Basin	19-0324-00	19-324	No
Mississippi River	Public Watercourse	07010206-814	01001a	Yes

Source: Public Waters Inventory (PWI) Maps, DNR, https://www.dnr.state.mn.us/waters/watermgmt_section/pwi/maps.html

As required by the federal Clean Water Act, the MPCA assesses all waters of the state and creates a list of impaired waters every two years. The list includes waterbodies that fail to meet water quality standards and uphold that waterbody's designated use. A review of the MPCA's 2024 Impaired Waters List identified no impaired waters within the Project Site.²³ Table 13 lists impaired waters within one mile of the Project Site.

Table 13. Impaired Waters within 1 Mile of Project Site

PUBLIC WATER NAME	AUID	AFFECTED DESIGNATED USE	POLLUTANT OR STRESSOR
Lake Rebecca	19-0003-00	Aquatic Consumption	Mercury in fish tissue Perfluorooctane sulfonate (PFOS) in fish tissue
		Aquatic Recreation	Nutrients

²² "Public Waters (PW) Basin and Watercourse Delineations," MN DNR, 5/7/2026, <https://gisdata.mn.gov/dataset/water-mn-public-waters>

²³ "Minnesota impaired waters list," MPCA, 2024, <https://www.pca.state.mn.us/air-water-land-climate/minnesotas-impaired-waters-list>

PUBLIC WATER NAME	AUID	AFFECTED DESIGNATED USE	POLLUTANT OR STRESSOR
Mississippi River (including river pools)	07010206-814	Aquatic Consumption	PFOS, PFOS in fish tissue, mercury in water column, PCBs in fish tissue, mercury in fish tissue
		Aquatic Life	Aluminum, nutrients, total suspended solids (TSS)
		Aquatic Recreation	Fecal coliform

Source: MN Draft 2026 Impaired Waters List, <https://www.pca.state.mn.us/sites/default/files/wq-iw1-85.xlsx>

According to the DNR's Infested Waters List,²⁴ Mississippi River, Pools #2 and #3 are listed as infested waterbodies due to the presence of aquatic invasive species that could spread to other waters or because these waterbodies are connected to bodies of water where an aquatic invasive species is present. The Mississippi River Pool waterbodies have been listed for the following aquatic invasive species: zebra mussel, silver carp, bighead carp, Eurasian watermilfoil, grass carp, and flowering rush.

Per DNR geospatial data, there are no wildlife lakes²⁵ or migratory waterfowl feeding/resting lakes²⁶ within or adjacent to the Project Site. The Mississippi River – U.S. Lock & Dam #2 Pool (main channel), approximately one-quarter mile northeast of the Project Site, is a lake of biological significance²⁷ with an “outstanding” rating. Lakes of biological significance have been selected by the Minnesota Department of Natural Resources (MN DNR) based on the presence of unique plant or animal communities (including aquatic plants, fish, birds, and amphibians).

There are no floodways or floodplains within the Project Site, nor are there any shoreland classifications.

Wetlands

A preliminary wetland delineation was completed by Kjolhaug Environmental Services Company, Inc. (Kjolhaug). Results are pending completing of the wetland delineation report and review and approval by the technical evaluation panel. The wetland delineation preliminarily calculated approximately 0.63 acres of naturally occurring wetlands on the Project Site which are identified in Table 14 and shown in Appendix A – Figure 21.

Table 14. Delineated Wetlands on Project Site

WETLAND ID	ONSITE AREA (acres)
1	0.6
2	0.03

Source: Preliminary Wetland Delineation, Kjolhaug Environmental Services Company, Inc.

- 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

²⁴ “Infested Waters Map,” EDD Maps, accessed 5/12/2026, <https://www.eddmaps.org/project/midwest/tools/infestedwaters/?page=map>

²⁵ “Designated Wildlife Lakes,” DNR, 12/8/2016, <https://gisdata.mn.gov/dataset/env-designated-wildlife-lakes>

²⁶ “Migratory Waterfowl Feeding and Resting Areas,” DNR, 4/1/2025, <https://gisdata.mn.gov/dataset/env-migratory-waterfowl-areas>

²⁷ “Lakes of Biological Significance,” DNR, 7/2025, <https://gisdata.mn.gov/dataset/env-lakes-of-biological-significance>

and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.

Groundwater Sources

Dakota County is in the South-Central Province of Minnesota's Groundwater Provinces.²⁸ This province is characterized by thick loam and clay loam sediment with limited extent surficial and buried sand aquifers, overlying thick and extensive Paleozoic (sandstone and carbonate) aquifers. The City of Hastings' municipal water supply comes from groundwater from the Prairie du Chien-Jordan aquifer.

The Minnesota Natural Resource Atlas, the depth to the shallow, unconfined water table is 0 to 10 feet in the north and central parts of the Project Site, and over 50 feet near Featherstone Rd. However, the Geotechnical Evaluation Report (Appendix C) did not observe groundwater while advancing any of the borings which were performed to nominal depths of 15 to 20 feet below grade across the site. Therefore, it appears that groundwater is below the depths explored. Project planning should still anticipate seasonal and annual fluctuations of groundwater.

Wells

The Minnesota DNR's Cooperative Groundwater Monitoring (CGM) database²⁹ and the Minnesota Department of Health (MDH) Well Index³⁰ were reviewed to identify groundwater sources within or near the Project Site with the goal of understanding groundwater conditions and identifying any well sealing needs. The CGM database did not list any wells on or near the Project Site. The MDH Well Index identified two (2) potential existing wells on the Project Site as listed in Table 15. These unverified wells were derived from the descriptive location reported on the well construction record; however, the accuracy of the information has not been confirmed by a site visit. Several wells within one-half mile of the Project Site are identified in the MN Well Index and are shown in Table 16 and Appendix A – Figure 22.

Table 15. Unverified Wells on Project Site

WELL ID	WELL NAME	USE	WELL DEPTH
1000002166	O'Connell, James	Domestic	Unknown
1000002167	Kranz, Ed	Domestic	Unknown

Table 16. Wells within One-Half Mile of Project Site

WELL ID	WELL NAME	USE	WELL DEPTH
408158	Hoffman, Ebba	Domestic	155
636386	Langlais, Richard	Domestic	315
255874	-	Sealed	410
506610	Avent, Sharon	Domestic	384
104181	-	Sealed	250
1000020518	Birk, William	Domestic	200
692876	Skogstad, Louis	Domestic	360

²⁸ "Minnesota Groundwater Provinces 2021," DNR, 2021, https://files.dnr.state.mn.us/waters/groundwater_section/mapping/provinces/2021-provinces.pdf

²⁹ "Cooperative Groundwater Monitoring Database," accessed 5/13/2026, <https://www.dnr.state.mn.us/waters/cgm/index.html>

³⁰ "Minnesota Well Index", MN Department of Health, accessed 5/12/2026, <https://mnwellindex.web.health.state.mn.us/>

WELL ID	WELL NAME	USE	WELL DEPTH
186304	Siemers, Mark	Domestic	300
402569	Henry, David	Domestic	300
159505	Ring, Mike	Domestic	305
672578	Independent School District	Irrigation	500
603062	ISD No 200	Irrigation	500
424080	Test Well	Sealed	180
509073	Monitor Well 4	Sealed	180
554231	Monitor Well	Sealed	186
424085	Monitor Well	Sealed	196
509072	Monitor Well 6	Sealed	185
424084	Monitor Well 3	Sealed	196

Source Water Protection Areas

Based on the Minnesota Department of Health's (MDH) Source Water Protection data,³¹ parts of the southern portion of the Project Site are in the Hastings Wellhead Protection Area (WHPA). WHPAs are areas surrounding public water supply wells that contribute groundwater to the well. In these areas, contamination on the land surface or in water can affect the drinking water supply. The southern part of the Project Site is also in the Hastings Drinking Water Supply Management Area (DWSMA) for groundwater, the administrative boundary for the WHPA around which there are elevated nitrate concentrations. The Hastings groundwater DWSMA is categorized as highly vulnerable, meaning that there is high likelihood that activities on the land surface may degrade drinking water quality at a public supply well. Further description regarding Project mitigation given the presence of the WHPA and DWSMA is provided in Item 12.b.ii.

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.

MUSA Boundaries & Expansions

The MUSA delineates the boundary of the urban service areas (sewer service areas) in the seven-county metropolitan area based on a community's comprehensive plan. The Project Site is currently outside of the Metropolitan Council's 2040 and 2050 MUSA boundaries and is not served by municipal wastewater services. However, the City identified the proposed expansion of the municipal sanitary sewer system in its Sewer Plan during the 2020-2025 and 2025-2030 time periods for the east and west halves of the Project Site, respectively. As discussed in Item 10. Land Use, the Project Site is within the Metropolitan Council's planned future LTSA which includes current and potential future wastewater service areas for the Twin Cities seven county area, determined using MUSA boundaries and the comprehensive planning process. A CPA to expand the MUSA and change the

³¹ "Source Water Protection Web Map Viewer," Minnesota Department of Health, accessed 5/12/2026, <https://experience.arcgis.com/experience/14825b159b2e4dc686736d98e39ebce7>

land use designation has been initiated and was sent to adjacent communities on July 9, 2026, for a 60-day review period with comments due on September 8, 2026. See Appendix A – Figure 3 for the limits of the 2040 and 2050 MUSA boundaries.

Projected Wastewater Flows

The Project proposes development of the Project Site with Low Density Residential and Medium Density Residential land uses. The MUSA boundary will be extended to include the entire Project Site. The Project Site will connect to an existing 15-inch sanitary sewer main in Hamilton Dr. See Appendix A – Figure 23 for proposed utility connections. The sanitary sewer system will be designed in accordance with the City’s adopted Sewer Plan.

The Metropolitan Council’s Sewer Access Charge (SAC) system estimates average daily sanitary sewer flow on a per unit basis as 274 gallons per unit per day. Table 17 conservatively estimates sanitary sewer flow rates from the Project Site based on this flow rate as it is higher than the City of Hastings’ metered average of 180 gallons per unit per day. Per the City’s Sewer Plan, a peak factor of 2.37 should be applied to the average daily flow when sizing sanitary facilities such as pipes and lift stations.

Table 17. Estimated Sanitary Sewer Flow Rates

LAND USE	UNITS	RATE (gal/unit/day)	AVERAGE GALLONS PER DAY (gpd)
Low Density Residential	341	274	93,434
Medium Density Residential	66		18,084
TOTAL			111,518

Municipal Wastewater Infrastructure

Per the City’s Sewer Plan, sanitary sewer modeling completed as part of the plan evaluated system capacity based on the future land uses shown in the adopted 2040 Future Land Use Plan in addition to potential growth areas outside the 2020 City limits, including the Project Site. The Project Site was identified as being part of the North West Ultimate Sewer District. Modeling indicates that the City’s trunk sanitary sewer system has the capacity to convey the anticipated peak flows associated with the proposed development. Wastewater flow from the North West Sewer District is collected at the Highway 55 Lift Station which pumps wastewater via a 12-inch forcemain to the West Central sewer district. The Highway 55 Lift Station has a capacity of 1,200 gallons/minute and will not require an increase of pumping capacity resulting from development of the Project Site.

The Project Site will connect to an existing 15-inch PVC sanitary sewer pipe at Hamilton Dr, and effluent will flow eastward through gravity pipe.

The Proposer will coordinate with the City through the land use and development process on any necessary infrastructure improvements to support the proposed development. The Proposer and/or future developers would be responsible for sanitary sewer connection fees related to the proposed development (Metropolitan Council SAC charges), construction of local sewer components to serve the development and associated fees, and MPCA/NPDES sanitary sewer extension permits.

Wastewater Treatment

Wastewater collected in Hastings is carried by City pipes and discharged to the Metropolitan Council Environmental Services (MCES) Hastings Wastewater Treatment Plant (WWTP) where it is treated before ultimately being discharged to the Mississippi River. The WWTP provides advanced secondary treatment with chlorination/dichlorination. The average design flow for the WWTP is 2.96 million gallons per day (MGD), and the actual average flow to the facility over the 12 months ending in September 2025 was 1.48 MGD which indicates that the facility has a sufficient capacity of 1.48 MGD to treat the estimated 0.17 MGD additional wastewater flow from the Project Site.

There are no identified wastewater pre-treatment measures included in the Project scope.

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

Wastewater discharge will not be to a subsurface sewage treatment system (SSTS) or septic system.

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

Wastewater will not be discharged to any surface water due to the Project. No effects are anticipated to surface or groundwater as effluent will be directed to the MCES Hastings WWTP.

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

Pre-Development Stormwater Runoff

The existing condition and uses on the Project Site include primarily cultivated agricultural land with forested areas interspersed in areas of steep slopes and grassland. Currently, there is no active, manmade on-site stormwater management. In storm events where runoff exceeds any infiltration capacity, runoff enters wetland areas, the intermittent stream, other natural depressions, and tributaries. The existing site slopes downward from the south to the north with steeper slopes on the south part of the site, and slopes greater than 20 percent in some areas. Typically, agricultural

fields are irrigated and fertilizers containing nitrogen, phosphorous, and potassium are commonly applied, so it is possible that existing runoff from the Project Site may contain these elements.

For stormwater management purposes, the City has divided parts of the City within the Vermillion River Watershed into major drainage areas. The Project Site is within the Mississippi River Watershed (drainage district) and West Mississippi River sub-watershed.

Temporary Measures for Runoff During Construction

Temporary Best Management Practices (BMPs) during construction may include sediment basins, ditch checks, erosion control measures to safeguard environmentally sensitive areas, dust control, along with any constructed infiltration or filtration practices.

Post-Development Stormwater Runoff

The existing site is used primarily for agricultural production, and stormwater runoff is not currently managed by any manmade or designed stormwater management quantity or quality controls. As land is developed for suburban and urban use, some of the soil cover will be changed to impervious surfaces, and soils in the remaining areas can be significantly disturbed and altered. Development also often results in consolidation of the soil and tends to reduce infiltration capacity of otherwise permeable soils, resulting in greater amounts of runoff. The change in land use to a suburban residential development will likely decrease the amount of suspended solids and increase other components typical of urban runoff, such as oil, grease, and chemicals. The creation of open space within the development will provide some mitigation of potential adverse effects from the increased impervious surfaces. However, it is expected that the total volume of runoff will increase over existing conditions during significant storm events because of the increase in impervious surface area.

A summary of post-development stormwater impacts is as follows:

- Estimated area disturbed by development: 125+ acres
- Land Use: 63% low density residential development; 4% medium density residential development
- Assumed impervious is <30% in the Low Density Residential area and <50% in the Medium Density Residential area. In addition to roadways and trails, this conservatively equates to approximately 34 acres of resulting impervious area.

Post-construction, stormwater will be managed and stored onsite through a system of curb and gutter, catch basins, pipes, infiltration areas (where appropriate based on-site conditions), and stormwater ponds. The site will be graded to facilitate proper management of stormwater, and BMPs will be located at points of low topography.

Stormwater will be managed in accordance with applicable City, VRWJPO, Dakota County, and MPCA standards and rules, including the City's WMP, and goals and priorities of the 2026-2035 Vermillion River Watershed Management Plan. A stormwater management plan in accordance with Chapter 152 Stormwater Management of the Hastings City Code must be submitted with any future land use or site development application.

A summary of the City's stormwater policies is as follows:

Surface Water Quality

- The City requires that land disturbing activity greater than one acre includes post-construction stormwater runoff quality measures consistent with the NPDES Construction Stormwater Permit.
- For land disturbing activity equal to or greater than one acre, the City requires stormwater discharges have no net increase in total phosphorous and total suspended solids from pre-project conditions for new development.

Stormwater Runoff Rate and Volume

- The City requires that peak runoff rates for proposed land disturbing activities do not exceed the existing peak runoff rates for the 1-year, 10-year, and 100-year 24-hour storm events, or the 100-year, 4-day storm event.
- The City requires that land disturbing activities provide volume control such that there is no increase in runoff volume from the 2-year, 24-hour storm event relative to existing conditions.
- The City will require new development to be compliant with VRWJPO Stormwater Management and Floodplain Criteria.

Where appropriate, the project may incorporate infiltration practices in the north area of the site. Because the southern part of the Project Site is in a DWSMA of high vulnerability and in a WHPA of an aquifer exhibiting fracture flow and with less than 50 feet of unfractured geologic cover, infiltration is generally not appropriate in the southern area due to the potential for adverse effects to the aquifer used for drinking water supply per MPCA guidance.

Climate Trends

Considering current and future climate trends, it is likely that the volume and frequency of large rainfall events would increase over time. This trend should be considered when designing and implementing stormwater infrastructure and BMPs, including the need to review adjustments to comprehensive site plans during potential phases of 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. Discuss how the proposed water use is resilient in the event of changes in total precipitation, large precipitation events, drought, increased temperatures, variable surface water flows and elevations and longer growing seasons. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation. Describe contingency plans should the appropriation volume increase beyond infrastructure capacity or water supply for the project diminish in quantity or quality, such as reuse of water, connections with another water source, or emergency connections.

Temporary Construction Water Appropriation (Dewatering)

As discussed in Item 12.a.ii Water Resources – Groundwater, the depth to the perched, unconfined aquifer may be 0-10 feet in the north and central parts of the Project Site, although soil borings did not encounter groundwater. In these areas, dewatering for construction may be necessary if groundwater is encountered. Where granular soils are encountered, sumps and pumps

could be used to manage the groundwater conditions for shallower excavations while well points may be required for dewatering of deeper excavations.

Any groundwater encountered during utility installation or other excavation will be discharged into temporary sediment basins within the Project Site. If water use exceeds 10,000 gallons per day (GPD) or one million gallons per year, a water appropriation permit must be obtained from the Minnesota DNR. The Proposer must evaluate the expected water usage as part of the land use and development permit process and is required to obtain the necessary permit from the DNR.

Water Sources

As identified in the City of Hastings, Water System Master Plan, the City obtains its drinking water from six municipal water wells extending into the Jordan aquifer. The City's municipal water supply wells have a total firm capacity of 8.64 MGD which is greater than the design maximum day demand of 6.5 MGD. The City's three water storage tanks have a usable capacity of 2.75 million gallons (MG) which exceeds the recommended water storage volume of 1.95 to 2.5 MG.

Water Appropriation

The Project Site is not currently connected to municipal water services but is proposed to be connected when the area develops. The 2040 Plan anticipated providing municipal water service to the Project Site and included development of the site in capacity calculations. The Project Site would be included under the City's current DNR water appropriations permit.

Table 18 provides an estimate of the anticipated gallons per day required by development of Project Site and assumes that the development will accommodate household sizes of an average of 2.42 persons. The estimated use per resident was determined by using water usage rates from Chapter 12 Water Supply of Hastings 2040. The average day demand for development of the Project Site is estimated at 0.11 MGD. Applying a maximum day demand ratio of 2.6, the maximum day demand is estimated at 0.28 MGD. There is sufficient capacity in the City's municipal water supply wells to support this additional future demand.

Three connections to existing watermain are proposed: at a 10-inch watermain at Featherstone Rd, 8-inch watermain at Hamilton Dr, and 8-inch watermain on the north side of CSAH 42 at Riverdale Dr.

Table 18. Estimated Water Supply

LAND USE	PROPOSED DEVELOPMENT (units)	AVERAGE HOUSEHOLD SIZE (residents/HH)	ESTIMATED NUMBER OF RESIDENTS ¹	WATER USE RATE (GPCD) ²	TOTAL DAILY WATER DEMAND (MGD)
Low Density Residential	341	2.42	826	110	90,860
Medium Density Residential	66		160		17,600
TOTAL					108,460

¹ Average household size of 2.42 (in 2016) per City of Hastings 2040 Comprehensive Plan, Chapter 3 Population & Growth

² Per capita water demand per City of Hastings 2040 Comprehensive Plan, Chapter 12 Water Supply

Well Sealing

Additional wells that are not recorded in the MDH Minnesota Well Index or DNR's database may exist on the Project Site. Construction crews should be notified of the presence of any wells, and wells should be protected from damage and contamination and should be properly sealed if not planned for use. Wells on the Project Site that will not have a future use or unmapped wells that may be found during development should be examined by a licensed well contractor or Dakota County well inspector to determine status. A Dakota County well inspector must be present during any well searches to legally rule out the presence of a well. Well sealing must be completed by a licensed well contractor prior to redevelopment activities. Sealing must meet MDH well-sealing requirements and the requirements of the Dakota County Delegated Well Program.

iv. Surface Waters

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

A preliminary wetland delineation completed by Kjolhaug identified 0.63 of wetlands on the site. Finalization of wetland boundaries is pending completion of the wetland delineation report and approval by the technical evaluation panel. Based on the preliminary wetland delineation and proposed Concept Plan, wetland impacts are proposed to be largely avoided.

If there are any impacts to wetlands as a result of the Project, these impacts will be regulated by the Minnesota Wetland Conservation Act (WCA) and, potentially, the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act if determined to be waters of the United States and/or the Minnesota DNR for impacts to PWI wetlands. The City of Hastings is the WCA local governmental unit (LGU).

Any impacts to non-USACE or non-DNR regulated wetlands or wetland buffers must comply with all wetland replacement or mitigation rules and regulations established by the City of Hastings 151.06.5 Wetland Areas in 10-6-1 Wetland Standards of the City Code, and the priority order requirements of the 2026-2035 Vermillion River Watershed

Management Plan and VRWJPO Standards. Where a buffer is required, the City requires protection of the buffer under a conservation easement or inclusion of the buffer in a dedicated outlot as part of platting and subdivision approval.

The USACE, LGU and other appropriate stakeholders will be consulted during the wetland delineation and any required replacement permit processes. An approved jurisdictional determination from the USACE must be obtained to confirm that impacted wetlands are not subject to USACE jurisdiction. Although not anticipated, if impacted wetlands are subject to USACE jurisdiction, a Section 404 permit will be required. If the total impact on USACE jurisdictional wetlands falls below 0.5 acres, the project impact would likely meet the requirements of a Nationwide Permit. If the impacts exceed 0.5 acres, an individual permit from the USACE may be required.

Construction and erosion control BMPs such as silt fence, sediment control logs, rock construction entrances, etc., must be used during construction to protect wetlands from runoff and sedimentation. Stormwater management must be designed to treat stormwater runoff and control runoff volume to minimize impacts to water resources and is further described in Item 12.b.ii above.

Climate trends in the Project Site predict a wetter, warmer climate, and more intense precipitation events. Wetlands are important natural features that attenuate and store runoff from precipitation events. Opportunities to minimize wetland impacts should be evaluated during the development of the final design plans for proposed development. In addition to maintaining wetlands within the Project Site, proposed development will incorporate stormwater features to mitigate the impacts of runoff from precipitation events on wetlands and other water features within the Project Site.

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

As indicated on the preliminary wetland delineation map provided in Appendix A – Figure 21, intermittent flow paths leading to wetland areas are observed on the west side of the site. The flow path areas are preliminarily identified as non-wetland but are noted to transport water occasionally. Portions of these paths are proposed to remain, especially where connecting directly to wetland areas, however, some portions are likely to be removed and/or regraded by construction.

13. CONTAMINATION/HAZARDOUS MATERIALS/WASTES

a. Pre-project site conditions

Describe existing contamination or potential environmental hazards on or proximate 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.

What's in My Neighborhood

A review of the Minnesota Department of Agriculture's What's in My Neighborhood database³² was conducted to identify known and potential sources of agricultural chemical soil and groundwater contamination within or near the Project Site. No contaminated agricultural sites are identified within the Project Site or within one mile.

A review of the MPCA's What's in My Neighborhood database³³ was also conducted to identify environmental information about the Project Site and surrounding area. The database includes properties that were previously contaminated, those being investigated for contamination, facilities with air, water, and other environmental permits and registrations, facilities the MPCA has penalized for environmental violations, projects under environmental review, and pollution prevention projects. No active MPCA sites were identified within the Project Site boundaries. Within one-quarter mile of the Project Site, two active sites were identified. Table 19 summarizes potential sites within one-quarter of the Project Site. Approximate locations are shown in Appendix A – Figure 24.

Table 19. MPCA Potentially Contaminated Sites

SITE ID	LOCATION	MPCA PROGRAM	STATUS
<i>Within One-Quarter Mile of Project Site</i>			
27566	Conzemius Companies, Inc., 13335 Lock Blvd	Aboveground tanks	Active
		Hazardous waste, very small quantity generator	Active
59433	ISD 200 High School, 200 General Sieben Dr	Hazardous waste, very small quantity generator	Active
		Petroleum remediation, leak site investigation and cleanup	Inactive
		Underground tanks	Inactive

Source: "What's in My Neighborhood," MPCA,
<https://mpca.maps.arcgis.com/apps/webappviewer/index.html?id=9d45793c75644e05bac197525f633f87>

The Project will not directly impact any of the nearby existing potentially contaminated sites; thus, adverse effects during construction or operations of the Project are not anticipated.

Phase I Environmental Site Assessment

A Phase I Environmental Site Assessment (Phase I ESA) was completed by Braun Intertec and is included in Appendix D. The purpose of the Phase I ESA was to identify recognized environmental

³² "What's in My Neighborhood," MN Department of Agriculture, accessed 5/21/2026,
<https://mnag.maps.arcgis.com/apps/webappviewer/index.html?id=85bade4ea512411aa32a80079246255f>

³³ "What's in My Neighborhood," MPCA, accessed 5/21/2026,

conditions. The Phase I ESA revealed no recognized environmental conditions (REC), controlled recognized environmental conditions (CREC), historical recognized environmental conditions (HREC), or significant data gaps in connection with the Project Site.

An additional consideration not meeting the definition of a REC, CREC, HREC was identified during the Phase I ESA:

- Exposed and disturbed soil was evident on the west-central portion of the Project Site on aerial photographs from 1937 to 1997. Based on information obtained from Dakota County this was described as the Conzemius Fill Site. Photographs provided by the County indicated that discarded materials consisted of pieces of concrete and asphalt. Based on the Phase I ESA observations of the Project Site, there were no indications of concrete, asphalt, debris, filled in areas or any other evidence of dumping that part of the Project Site. It is unknown if the debris associated with the Conzemius Fill Site was left in place or hauled away for disposal. There is a potential that buried materials are present at the Project Site that may require management as solid waste if encountered during redevelopment activities.

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.

Construction Waste

Construction waste will be typical for the construction of new structures, utilities, and roadways. Construction waste will be primarily non-hazardous and would be managed as municipal solid waste (MSW) or construction/demolition debris. All construction generated waste would be managed and disposed in accordance with MPCA and all other applicable regulatory requirements.

Operational Waste

Post-construction, residents will generate MSW which will be hauled away by licensed garbage haulers. Waste generation estimates are provided in Table 20 and are based on the MPCA's municipal solid waste average generation rate per person. The collection of MSW must be managed by a licensed waste hauler. All MPCA requirements and other regulations pertaining to the use, handling and disposal of solid waste will be adhered to. Recycling areas will be provided in compliance with the Minnesota State Building code.

Table 20. Estimated Operational Solid Waste Generation

LAND USE	ESTIMATED SIZE	EST. RESIDENTS ¹	RATE (tons/person/year)	TOTAL (tons/year)
Residential	407 units	985	1.0	985

¹ Average household size of 2.42 (in 2016) per City of Hastings 2040 Comprehensive Plan, Chapter 3 Population & Growth

c. Project related use/storage of hazardous materials

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

chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.

Construction Waste

Hazardous materials in the form of used oil/lubricants, waste paints, or other materials may be used during construction. All construction generated waste would be managed and disposed in accordance with MPCA and all other applicable regulatory requirements.

Operational Waste

As the Project will result in the construction of residential homes, significant use of hazardous waste is not expected during operations.

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

Construction Waste

No significant amount of hazardous waste is anticipated to be generated during construction. If and when hazardous waste is generated, the contractor will be required to manage and dispose of hazardous waste consistent with applicable laws and regulations during construction. Any amount of hazardous materials or waste will be stored in locked containers during construction.

Operational Waste

As the Project will result in the construction of residential homes, significant generation of hazardous waste is not expected during operations.

14. FISH, WILDLIFE, PLANT COMMUNITIES, AND SENSITIVE ECOLOGICAL RESOURCES (RARE FEATURES)

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

The Project Site is in the Eastern Broadleaf Forest Province (222), the Minnesota and NE Iowa Morainal Section (222M), and is bisected by the Oak Savannah Subsection (222Me)³⁴ in the south and the St. Paul-Baldwin Plains Subsection (222Md)³⁵ in the north as defined by the Minnesota Department of Natural Resources (DNR) in the Field Guide to the Native Plant Communities of Minnesota – The Eastern Broadleaf Forest Province.

As shown in Table 4. Cover Types Before and After, and Appendix A – Figure 11 sourced from the Minnesota Land Cover Classification System (MLCCS), the existing site's coverage is predominantly classified as agricultural land, which is consistent with the existing land use. The other predominant cover types are forest/tree plantation, grassland, and some isolated wetland areas. Land to the west is primarily agricultural, forest/tree plantation, and shrubland. Land to the east and south is developed with housing and a school.

The presence of grassland, wetlands, trees and agricultural land are likely to provide nesting, foraging, and travel habitat for a variety of wildlife species including squirrels, rabbits, deer, coyotes, foxes, passerine birds, raptors, and other small mammals. Reptiles and amphibians may be present in and near wetland areas. Post-construction, the development will cause changes to existing habitats.

The Minnesota Natural Resource Atlas has identified parts of the peninsula northeast of Lake Rebecca and the Lake Rebecca shoreline, approximately one-quarter mile east of the Project Site, as areas of biodiversity significance with “moderate” ratings. The ranking is determined based on the number or rare species, the quality of the native plant communities, the size of the site, and the site's context within the landscape. These areas may contain high quality native plant communities, rare plants, rare animals, and/or animal aggregations and can be given priority for preservation.

The United States Fish and Wildlife Service (USFWS) designates specific geographic areas that contain features essential for the conservation of threatened or endangered species and that may require special management and protection. There are no critical habitats designated by the USFWS within or near the Project Site.³⁶

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

³⁴ “Oak Savannah Subsection,” MN DNR, accessed 5/21/2026, <https://www.dnr.state.mn.us/ecs/222Me/index.html>

³⁵ “St. Paul-Baldwin Plains and Moraines Subsection, MN DNR, accessed 5/21/2026, <https://www.dnr.state.mn.us/ecs/222Md/index.html>

³⁶ “Critical Habitat for Threatened & Endangered Species,” U.S. Fish and Wildlife Service, accessed 5/21/2026, <https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>

Minnesota Biological Survey

The Minnesota Biological Survey Sites of Biodiversity Significance, Natural Communities and Rare Species of Dakota County, Minnesota map was reviewed, and no natural communities or rare species are identified on or proximate to the Project Site.³⁷

MnDNR Natural Heritage Review

A DNR Natural Heritage Information System (NHIS)³⁸ review request through the Minnesota Conservation Explorer (MCE) system was submitted as part of this EAW process, and an automated Natural Heritage Review (NHR) letter (MCE# 2026-00383) was received from the MnDNR on June 24, 2026 (see Appendix B).

The NHR letter identifies the following state-listed threatened or endangered species that have the potential to be impacted by the proposed Project:

Loggerhead shrikes

Loggerhead shrikes (*Lanius ludovicianus*), a state-listed endangered bird, have been documented in the vicinity of the Project Site. Loggerhead shrikes use grasslands that contain short grass and scattered perching sites such as hedgerows, shrubs, or small trees. They can be found in native prairie, pastures, shelterbelts, old fields or orchards, cemeteries, grassy roadsides, and farmyards.

Bell's vireo

Bell's vireo (*Vireo bellii*), a state-listed bird species of special concern, has been documented in the vicinity of the proposed Project. In Minnesota, Bell's vireo prefers shrub thickets within or bordering open habitats such as grasslands or wetlands.

Bats

All of Minnesota's bats, including the federally endangered northern long-eared bat (*Myotis septentrionalis*), can be found throughout Minnesota. During the active season (approximately April – November) bats roost underneath bark, in cavities, or in crevices of both live and dead trees.

USFWS Federally Protected Species

The USFWS Information for Planning and Consultation (IPaC) tool³⁹ was queried to identify federally listed threatened and endangered species within or near the Project Site. The response is included in Appendix B (Project Code: 2026-0100239). Six federally listed threatened, endangered, or candidate species were listed that may occur within or near the Project Site.

- Tricolored Bat (*Perimyotis subflavus*) – Proposed Endangered
- Whooping Crane (*Grus americana*) – Experimental Population, Non-Essential
- Higgins Eye (pearlymussel) (*Lampsilis higginsii*) – Endangered
- Salamander Mussel (*Simpsonaias ambigua*) – Proposed Endangered
- Monarch Butterfly (*Danaus Plexippus*) – Proposed Threatened
- Western Regal Fritillary (*Argynnis idalia occidentalis*) – Proposed Threatened

³⁷ "Natural Communities and Rare Species of Dakota County, Minnesota," Minnesota Biological Survey, 1997, <https://files.dnr.state.mn.us/eco/mcbs/maps/dakota.pdf>

³⁸ "Natural Heritage Information System," DNR, <https://www.dnr.state.mn.us/nhnrp/nhis.html>

³⁹ "Information for Planning and Consulting (IPaC)," DNR, accessed 6/8/2026, <https://ipac.ecosphere.fws.gov/>

Other species are identified by the USFWS as having potential to be impacted by projects in or near the Project Site if these species are found to be present:

Bald and Golden Eagles

The bald eagle has been removed from the endangered species list; however, this species and the golden eagle are protected by the Bald and Golden Eagle Act and the Migratory Bird Treaty Act. The Proposer is required to survey the area for any migratory bird nests prior to the commencement of site work.

Migratory Birds

The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Service. The Proposer is encouraged to implement recommendations that minimize potential impacts to migratory birds.

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

The proposed Project will alter the land cover and habitat within the Project Site. As previously described, over 60 percent of the Project Site has been used for agricultural production and the land has been moderately to significantly disturbed by human activity. If the current agricultural production were maintained, climate trends would likely exacerbate the continued degradation of the site given the likelihood of increasing rainfall and storm events.

Impacts to State-Listed Species

Loggerhead shrikes: Loggerhead shrikes have the potential to be impacted by tree and shrub removal.

Bell's vireo: Bell's vireo has the potential to be impacted by tree and shrub removal.

Because bats were also included in the USFWS letter, impacts to these species are addressed under Impacts to Federally Listed Species below.

Impacts to Federally Listed Species

The list of federally listed species was submitted to the USFWS to solicit an effects determination of the Project on the identified species. The following list of species and determinations of effect is provided by USFWS (see Appendix B for letters from USFWS):

Table 21. Federally Listed Species in/near Project Site and Effects Determination

SPECIES	STATUS	EFFECTS DETERMINATION
Tricolored Bat (<i>Perimyotis subflavus</i>)	Proposed Endangered	No determination
Whooping Crane (<i>Grus americana</i>)	Experimental Population, Non-Essential	No effect
Higgins Eye (pearlymussel) (<i>Lampsilis higginsii</i>)	Endangered	May affect

SPECIES	STATUS	EFFECTS DETERMINATION
Salamander Mussel (<i>Simpsonaias ambigua</i>)	Proposed Threatened	May affect
Monarch Butterfly (<i>Danaus Plexippus</i>)	Proposed Threatened	No effect
Western Regal Fritillary (<i>Agrynnis idalia occidentalis</i>)	Proposed Threatened	No determination

A determination was not provided by the USFWS for the Tricolored Bat. The USFWS's Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key was completed and concluded that a Phase I Habitat Assessment for potentially suitable hibernacula should be completed and reviewed by the appropriate Ecological Services Field Office, and then the D-Key submitted through IPaC.

Determinations of “may affect” were provided for the Higgins Eye and Salamander Mussel as they have the potential to be present on or near the Project Site, and projects affecting local hydrology, and/or indirectly or directly impacting a stream or riparian zone may affect these species.

A determination was not provided by the USFWS regarding the Western Regal Fritillary; however, their habitat is similar to the Monarch Butterfly per USFWS species information. Both the Western Regal Fritillary and the Monarch Butterfly are pollinators found in tall-grass prairies with milkweed and other native flowering plants. Given that the USFWS determined that development of the Project Site was determined to have no effect on the Monarch Butterfly, it is assumed that the conclusion is the same for the Western Regal Fritillary.

Post-development, approximately 34 acres of the Project Site is proposed to remain as passive open space and forested area. Some areas may experience habitat quality improvement under the proposed Project since the agricultural land cover will transition from cultivated fields to residential uses that include stormwater management areas and open spaces. Disturbed areas within the open space are recommended to be seeded with pollinator plants to promote suitable habitat for pollinating species.

Removal of existing trees will be limited to areas where it is necessary to extend General Sieben Dr from Featherstone Rd to CSAH 42, and provide trail corridors through the development. Tree removal has the potential to negatively impact bats by destroying roosting habitat, especially during the pup rearing season when females are forming maternity roosting colonies and the pups cannot yet fly.

Invasive Species

Invasive species are a major cause of biodiversity loss and are considered biological pollutants by the DNR. Invasive species can be transported on construction equipment, landscaping equipment, and other debris. Invasive species pose a significant threat to native ecosystems and biodiversity, and their spread is a major concern during both the construction and operational phases of a project. These species can be unintentionally introduced through construction equipment, vehicles, and materials that carry seeds, plant fragments, or soil from invested areas. Once established, invasive species can outcompete native vegetation, alter soil chemistry, and degrade habitat quality for wildlife. Disturbed soils and exposed areas created during construction provide ideal conditions for these species to take hold and spread rapidly. Without proper management, invasive species can lead to long-term ecological imbalances and increased maintenance costs.

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

The following mitigation measures are identified by the DNR and USFWS to avoid and minimize adverse impacts to protected species and wildlife habitats. The Proposer will be responsible for complying with the following recommended mitigation:

State Listed Species

The Proposer and its contractors must comply with the following measures:

Loggerhead shrikes

Tree and shrub removal must be avoided during the breeding season, April through July. Proposer must contact Review.NHIS@state.mn.us to confirm that the above avoidance measures will be implemented or to inform the DNR if that avoidance is not feasible. If avoidance is not feasible, a qualified surveyor needs to conduct a survey for active nests before any trees or shrubs are removed.

Bell's vireo

If feasible, Proposer should avoid tree and shrub removal from May 15 through August 15 to avoid disturbance of nesting birds.

Tricolored Bat, Northern Long-Eared Bat, and other bats

To minimize impacts, the DNR recommends tree removal be avoided from June 1 through August 15. In addition, as noted above from USFWS correspondence regarding the tricolored bat, the USFWS's Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key was completed and concluded that a Phase I Habitat Assessment for potentially suitable hibernacula should be completed and reviewed by the appropriate Ecological Services Field Office, and then the D-Key submitted through IPaC.

Bald Eagles, Golden Eagles, and migratory birds

To avoid impacts to Bald Eagles, Golden Eagles, and other migratory birds, a visual survey of the area planned for tree clearing should be performed to look for any migratory bird nests. Avoid and minimize disturbances to eagles whenever practicable. If eagle disturbance cannot be avoided, a permit must be sought for any removal, relocation, or obstruction of an eagle nest. If presence of migratory birds is indicated, avoid removing these trees March 1 through August 30 to minimize potential impacts to their nesting season.

15. HISTORIC PROPERTIES

Describe any historic structures, archeological sites, and/or traditional cultural properties on or proximate 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.

The Minnesota Statewide Historic Inventory Portal⁴⁰ was queried and did not identify any historic properties that have been documented within the Project Site. Within one-half mile of the Project Site, three historic properties have documented, listed in Table 22. DK-HTC-00257, a farmstead with several buildings, was evaluated and determined to be not eligible for the National Register of Historic Places (NRHP). DK-HTC-00174 and DK-HTC-00249 were previously evaluated and deemed to have insufficient available information to determine NRHP eligibility. The Project Site is not visible from the properties listed in Table 22.

Within one mile of the Project Site, there are many more historic properties in SHPO's inventory associated with Hastings' historic downtown. None of the properties have a view of the Project Site or will have direct impacts resulting from the Project.

Per the Office of the State Archaeologist's (OSA) public viewer⁴¹, the northern part of the Project Site is within the same Section as one previously recorded archaeological site and overlaps with a Minnesota Indian Affairs Council (MIAC) spatial layer. A project review request was sent to MIAC on June 15, 2026.

Table 22. Historic Properties within 1/2 mile of Project Site

HISTORIC INVENTORY NO.	PROPERTY TYPE	NAT'L REGISTER LISTED OR ELIGIBLE
DK-HTC-00257	C.M. Liddle Farmstead, 1300 Nininger Rd	Not eligible
DK-HTC-00174	Bakken Farmstead, 1402 4 th St W	Undetermined
DK-HTC-00249	Follet Stock Farm, 120 Farm St	Undetermined

Source: Minnesota Statewide Historic Inventory, SHPO, <https://mnship.gisdata.mn.gov/public-map>

16. VISUAL

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

The proposed Project will create a new single-family residential neighborhood, roadways, stormwater facilities and open spaces where there are currently agricultural fields. The transition of the Project Site from agricultural use to a residential development will impact views of the site, as the existing use may be perceived as undeveloped by adjacent properties. There are no state-designated scenic views or vistas that would be impacted by development of the Project Site.

Views from the Oakwood Cemetery may change with the construction of the General Sieben Dr extension and removal of trees. Potential methods to mitigate viewshed impacts will be identified during the land use process.

No vapor plumes, glare or intense light is anticipated because of the Project. Post construction, any proposed exterior/site lighting associated with the Project will be required to be downcast and must meet

⁴⁰ "Minnesota Statewide Historic Inventory," MN SHPO, accessed 5/26/2026, <https://mnship.gisdata.mn.gov/public-map>

⁴¹ "Office of the State Archaeologist Portal – Public Map," Minnesota Department of Administration, State Archaeologist, accessed 5/26/2026, <https://osaportal.gisdata.mn.gov/public-map>

footcandle requirements at the property lines in compliance with the City's ordinances. Landscaping including vegetated setback areas, street trees and other open spaces will be integrated into the development plan. The landscape plan, including any recommended screening, berms, fencing, and vegetation will be addressed as part of the land use and development permitting process.

During construction, appropriate screening of truck entrances, garbage enclosures, and other development features that may adversely impact adjacent residential areas may be required.

17. AIR

- a. **Stationary source emissions** - Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used 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 Project will not generate stationary source emissions exceeding the mandatory EAW thresholds specified in Minnesota Rules Part 4410.4300, Subp. 15, nor will it require an air permit from the Minnesota Pollution Control Agency (MPCA). Per Item 18, greenhouse gas (GHG) emissions from this Project are not expected to have significant environmental effects. The Project's air emissions will be typical of those of residential developments, potentially including sources like natural gas and oil-powered appliances and equipment, fertilizer use, and heating and cooling systems. These emissions generally fall under Conditionally Insignificant Activities and Conditionally Exempt Stationary Sources according to Minnesota Rules Part 7007.1300.

- 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.

Motorized vehicles affect air quality by emitting airborne pollutants. Motor vehicle emissions will be generated by construction equipment to perform the construction activities, from increased trips to and from the site post-construction.

During construction, trucks and equipment will not be permitted to idle while not in use or if parked on site. Following development, vehicle related emissions including carbon monoxide levels are anticipated to rise slightly due to new vehicle trips; however, the Project scope does not include any transportation improvements that are considered regionally significant per 40 CFR Part 93, Subpart A. Therefore, no further air quality analysis is warranted.

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

The Project is not anticipated to produce significant dust or odors during construction, material export, or operation. Any odors generated during construction will be typical of those associated with residential development, such as exhaust from diesel or gasoline-powered equipment.

Grading, construction, and material export activities will temporarily generate dust. To mitigate this, BMPs such as dust control by using watering trucks or other methods as agreed to with the City to protect the adjacent neighborhoods will be implemented. The nearby existing residential neighborhoods will be the nearest receptors of dust and odors, which should be monitored throughout

the construction process by the Proposer. Odors generated during construction will be mitigated by proper maintenance of the equipment according to the manufacturer's specifications.

18. GREENHOUSE GAS (GHG) EMISSIONS/CARBON FOOTPRINT

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

The EQB provides the Minnesota Environmental Review Climate Calculator to help assess a proposed project's climate impacts. The Calculator was utilized for the following analysis regarding the Proposed Project. The calculations assume that all 407 residential units will be occupied upon full build. Further, the on-road vehicles calculation assumes that the Proposed Project will produce 3,484 weekday average daily traffic (ADT) at full build and that the proposed north-south collector road will be approximately 0.8-miles in length.

Per Table 23 below, the Project's projected annual greenhouse gas (GHG) emissions are approximately 10,901 CO₂e. Calculations and references to methods used to quantify emissions are included within the calculation tables in Appendix E.

Table 23. Construction Emissions

PHASE	CUMULATIVE CO ₂ e EMISSIONS (TONS/YEAR)	ANNUALIZED CO ₂ e EMISSIONS (TONS/YEAR)
CONSTRUCTION		
Construction Equipment	3,902.62	73.63
Land use change (construction)	17.92	0.34
Total Construction	3,920.55	73.97
OPERATION		
Building energy consumption	510,418.11	9,630.53
HFC leakage	23,123.91	436.30
On-road vehicles	13,855.27	261.42
Treatment of waste off-site	26,436.33	498.80
Total Operation	573,833.63	10,827.05
PROJECT TOTAL	577,754.17	10,901.02

a. GHG Assessment

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

The following are potential design strategies and sustainability measures that are under consideration for the proposed development to reduce emissions:

- Use energy efficient appliances, equipment, and lighting
- Energy efficient and electricity-reliant HVAC systems
- Energy efficient and low embodied carbon (LEC) building materials
- Implement waste best management practices (BPMs) and to recycle and compost appropriate material when applicable
- On-site landscaping will absorb water

- Additional native landscaping will be planted to improve local air quality, absorb greenhouse gas emissions, and reduce local urban heat island effect
 - Buildings will be constructed with rooftop-ready infrastructure for solar power generation
 - Provide electric vehicle ready charging infrastructure
 - Implementation of the above strategies will be evaluated on a case-by-case basis based on code requirements, feasibility, availability of materials, schedule, and tenant considerations.
- ii. Describe and quantify reductions from selected mitigation, if proposed to reduce the project's GHG emissions. Explain why the selected mitigation was preferred.
- The potential mitigation listed in Item 18.b.i. was selected to comply with best management practices for new construction and reduce GHG emissions where practicable during operations.
- iii. Quantify the proposed projects predicted net lifetime GHG emissions (total tons/# of years) and how those predicted emissions may affect achievement of the Minnesota Next Generation Energy Act goals and/or other more stringent state or local GHG reduction goals.

The project does not have an estimated lifetime. It is estimated that the project will emit a total of 577,754 CO₂e metric tons over the next 50 years and 10,901 CO₂e annually. This includes construction and operation phases. The proposer will evaluate implementing the sustainability measures listed in Item 18.b.i. to reduce operational emissions to the extent practicable. The proposed project will be built in compliance with state regulations and city building codes.

The Minnesota Next Generation Energy Act set goals to reduce greenhouse gas emissions by 80% between 2005 and 2050 while maintaining reliable and affordable energy. In 2023, the state Legislature updated these goals to reflect the state's Climate Action Framework which includes reducing greenhouse gas emissions 50% by 2030 from a 2005 baseline and achieve net-zero emissions by 2050. Development of the Project Site will perpetuate reliance on personal vehicles. The emissions generated from Development will increase GHG emissions if mitigation is not incorporated into a project. The Proposer should consider mitigations such as those listed in 18.a.i. above and others such as green building technologies, low-maintenance landscaping with native plantings, options for electric vehicle charging, grey water reuse for irrigation to mitigate for increased emissions.

19. NOISE

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

During construction of the Project, there will be additional noise generated beyond existing conditions. A temporary increase in noise levels will occur during the construction phase and the noise level intensity will vary based on the type of construction equipment used. To minimize the potential effects of noise pollution, construction volumes and work hours will be limited to those established by the City of Hastings' City Code Section 95.24. Construction hours will be limited to daytime hours, with additional restrictions to comply with all local and state rules and ordinances.

Typical noise levels associated with different types of equipment are provided in Table 24 at 50 feet from the noise source. Over distance, sound attenuates or is reduced in amplitude and is perceived as becoming quieter. When the distance is doubled from a point source, such as construction equipment, the sound level decreases 6 decibels.

Table 24. Roadway Construction Noise Model (RCNM) Default Noise Emission Reference Levels

EQUIPMENT DESCRIPTION	ACTUAL MEASURED L _{MAX} @ 50 FEET (dBA, slow)
Backhoe	65 dBA
Air Compressor	70 dBA
Excavator	81 dBA
Front End Loader	79 dBA
Paver	77 dBA
Roller	80 dBA

Source: FHWA Construction Noise Handbook, Table 9.1 RCNM Default Noise Emission Reference Levels and Usage Factors, 8/24/2017, https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm

Post-construction, the site will likely generate an increase in noise over existing conditions due to increased traffic and will be roughly equivalent to the levels generated by residential and commercial developments in other parts of the City. However, the Project Site is adjacent to suburban and institutional development and is a logical location for new development, so this increase is anticipated. The Minnesota Pollution Control Agency (MPCA) enforces noise standards (Minnesota Rules Chapter 7030). Table 25 is a summary of the statutory noise limit standards for residential (NAC1) and retail/commercial receptors (NAC2).

Table 25. Statutory Noise Limit Standards

USE	DAYTIME (7 am – 10 pm)		NIGHTTIME (10 pm – 7 am)	
	L ₁₀ *	L ₅₀ **	L ₁₀	L ₅₀
Residential (NAC1)	65 dBA	60 dBA	55 dBA	50 dBA
Retail, business, and government services (NAC2)	70 dBA	65 dBA	70 dBA	65 dBA

Source: Minnesota Pollution Control Agency (2015). A Guide to Noise Control in Minnesota.

<https://www.pca.state.mn.us/sites/default/files/p-gen6-01.pdf>

*L₁₀ calculation is the noise level that is exceeded for 10% of an hour.

**L₅₀ calculation is the noise level exceeded for 50% of an hour.

The Project is required to operate in compliance with Minnesota Noise Standards. If noise impacts are determined to be above the state standards, potential contributions will be assessed to pinpoint primary sources and determine optimal methods for noise reduction.

20. TRANSPORTATION

- 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.

A Traffic Impact Study was completed by SSTs, LLC which evaluated the traffic impacts of the proposed Project on the operations and safety of the adjacent roadway network and proposed new access locations. The Traffic Impact Study is provided in Appendix F.

As is detailed in Item 6. Project Description, General Sieben Drive is proposed to be constructed through the development as a north-south collector roadway. On the south side of the development, General Sieben Dr will be extended north from Featherstone Rd, creating full-movement primary access at the intersection of General Sieben Dr/Featherstone Rd. On the north side of the development, Lock Blvd is proposed to be realigned to the west to line to line up with the new General

Sieben Dr, providing another full-movement primary access at the intersection of 132nd st E (CSAH 42)/General Sieben Dr/Lock Blvd. Minor access will be provided by two connections to the existing neighborhood east of the site at Roosevelt Rd and Hamilton Dr.

The traffic study evaluated the following scenarios in three study years, Existing (2026), and Future (2030 and 2040). In 2040, two access scenarios were evaluated based on development potential. “Full Access Scenario” includes all four access points as described above, whereas “Three Access Scenario” excludes the General Sieben Drive connection to CSAH 42.

- **2026 Existing Conditions:** Current operations within the study area
- **2030 Conditions**
 - **No-Build:** Operations without the proposed Project
 - **Phase 1 Build:** Operations with development of the southern portion of Project Site, consisting of 119 single-family homes
- **2040 Conditions**
 - **No-Build:** Operations without the proposed Project
 - **Full Build – Full Access Scenario:** Operations with full development and all four accesses
 - **Full Build – Three Access Scenario:** Operations with full development, excluding the General Sieben Dr connection to CSAH 42

The typical weekday AM peak hour was 7:15-8:15 a.m. for all intersections, while the PM peak hour varied by intersection between 4:00-6:00 p.m. Hastings High School influences traffic conditions at the nearby General Sieben Dr/4th St W and General Sieben Dr/Featherstone Rd intersections. Classes begin at 7:50 a.m. and dismiss at 2:31 p.m. During the AM peak hour, a pronounced traffic peak occurs between 7:30-7:45 a.m. In the afternoon, traffic during school dismissal exceeds typical evening PM peak hour volumes at these two intersections. To capture these conditions, the traffic impact study evaluated an additional School PM peak hour from 2:15-3:15 p.m. for the two key intersections.

Table 26 provides the estimated total average daily traffic generated by full development of the Project. The analysis was completed using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 12th Edition.

Table 26: Trip Generation Summary

ITE CODE	LAND USE	SIZE	TRIPS GENERATED						
			AM PEAK		SCHOOL PM*		PM PEAK		WEEKDAY ADT
			ENTER	EXIT	ENTER	EXIT	ENTER	EXIT	
210	Single-Family Detached Housing	337	64	172	110	93	194	119	3,063
215	Single-Family Attached Housing	64	7	23	12	13	19	14	421
TOTALS			71	195	122	106	213	113	3,484
			265		228		346		

* School PM Peak trips based on ITE's TGM Time of Day Distribution Appendices

The City of Hastings is outside the Metropolitan Council's Transit Taxing District, and there is currently no daily regular-route transit service in the City. The LOOP, a service provided by DARTS, provides circulator bus service on a fixed route around the City with scheduled stops and the flexibility to request a stop nearby. Other transit service in the area is primarily commuter express bus service with some fixed-route local service providing basic coverage. General public dial-a-ride services are available where fixed-route service is not available.

Proposed on-street and off-street parking for residential units will be provided in compliance with City Code.

- 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.

Analysis of the above-described scenarios yields the following model results for the build conditions:

- **2030 Conditions**

- **Phase 1 Build:** All study area intersections operate acceptably for 2030 Phase 1 Build Conditions, with overall intersection and lane group LOS of B or better. Existing intersection and proposed access geometry adequately accommodate vehicle queues at all intersections, including during the AM and PM school peak periods. For site access, it is recommended that the General Sieben Dr/Featherstone Rd intersection operate as a side-street stop-controlled intersection, maintaining existing geometry for the eastbound, westbound, and northbound approaches. The proposed southbound approach should be stop-controlled and include two exit lanes: a dedicated southbound left-turn lane and a shared southbound through/right-turn lane. No additional measures are recommended to mitigate traffic operations.

- **2040 Conditions**

- **Full Build – Full Access Scenario:** All study area intersections operate acceptably for the 2040 Full Build – Full Access Scenario condition, with overall intersection LOS of C or better and lane group LOS of D or better. Existing intersection and proposed access geometry adequately accommodate vehicle queues at all intersections, including during the AM and PM School peak periods. For site access, it is recommended that General Sieben Dr/Featherstone Rd intersection be designed as noted in the 2030 Build recommendation. It is recommended that the CSAH 42 (132nd St E)/General Sieben Dr/Lock Blvd intersection be side-street stop-controlled, with single-lane northbound and southbound approaches, and two-lane eastbound and westbound approaches consisting of a shared left/through lane and a dedicated right-turn lane. No additional measures are recommended to mitigate traffic operations.
- **Full Build – Three Access Scenario:** All study area intersections operate acceptably for the 2040 Full Build – Three Access Conditions, with overall intersection LOS of C or better and lane group LOS of D or better. Existing intersection and proposed access geometry adequately accommodate vehicle queues at all intersections, including during the AM and PM School peak periods. For site access, it is recommended that General Sieben Dr/Featherstone Rd intersection operate as a side-street stop-controlled intersection, maintaining the existing geometry for the eastbound, westbound, and northbound approaches. The proposed southbound approach should be stop-controlled and include two exit lanes: a dedicated southbound left-turn lane and a shared southbound through/right-turn lane. No additional measures are recommended to mitigate traffic operations.

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

Access recommendations from the Traffic Impact Study are consistent across all development scenarios and include:

- **General Sieben Drive/Featherstone Road intersection:**
 - Operate as a side-street stop-controlled intersection with General Sieben Dr stopped.
 - Maintain existing geometry for the eastbound /westbound approaches (single lane) and northbound approach (two lanes: shared left/through and a right-turn lane).
 - Construct a stop-controlled southbound approach with one dedicated southbound left turn lane and one shared southbound through/right-turn lane.
 - Install ADA-compliant pedestrian curb ramps on the north leg of the intersection.
- **132nd Street E (CSAH 42)/General Sieben Drive/Lock Blvd intersection:**
 - Operate as a side-street stop-controlled intersection with General Sieben Dr/Lock Blvd stopped.
 - Provide single lane (shared left/through/right) northbound and southbound approaches.
 - Provide two-lane eastbound/westbound approaches with a shared left/through lane and a dedicated right-turn lane designed per Dakota County standards.
 - Work with the County and City on the intersection realignment design in conjunction with the multi-use trail crossing design. ADA-compliant pedestrian curb ramps are

recommended for all corners as well as appropriate trail crossing signing and pavement markings.

- **Pedestrian and bicycle network recommendations:**

- Construct a multi-use trail along the east side of General Sieben Dr as part of the development.
- Work with the City and County for the Lock Blvd realignment plans for the northern site access in conjunction with the planned 2027 Nininger Rd (CSAH 42) Trail Improvement project to ensure trail continuity and safety for all users.

- **General study area recommendations:**

- The City should require traffic impact studies for development of parcels west of the site. As these areas develop, Jacob Avenue will likely be upgraded, which may slightly shift study area traffic volumes.

21. CUMULATIVE POTENTIAL EFFECTS

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

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

Cumulative potential effects have been addressed under the applicable EAW items above.

Any environmental impacts must comply with all Federal, State, and local rules and regulations and appropriate permits must be obtained. Required mitigation measures and permit conditions must be followed. Potential impacts outside the permitting process have been properly evaluated as part of this EAW. Therefore, there are no cumulative impacts from the Proposed Project anticipated provided proper mitigation is followed.

- 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.

There are no other known immediate development plans, but future development in the area is anticipated as the City of Hastings expands. Any future development that exceeds mandatory thresholds will be required to complete the requisite environmental review process per statutory rules.

- 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.

Development of the Proposed Project is not anticipated to cause adjacent development activities. The surrounding agricultural area in Nininger Township has potential for future urban expansion. Urban expansion may trigger the need for additional environmental review processes in the future. Given the information contained within this EAW analysis, there are no known impacts that are not addressed through recommended mitigation within this review.

22. OTHER POTENTIAL ENVIRONMENTAL EFFECTS

If the project may cause any additional environmental effects not addressed by items 1 to 20, describe the effects here, discuss how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

No additional environmental effects have been identified.

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 _____

John Hinzman

Date _____

8/3/26

Title _____

Community Development Director

APPENDICES

Appendix A – Figures

Appendix B – Agency Reviews

Appendix C – Geotechnical Exploration Report

Appendix D – Phase I Environmental Site Assessment

Appendix E – Greenhouse Gas (GHG) Emissions Calculator

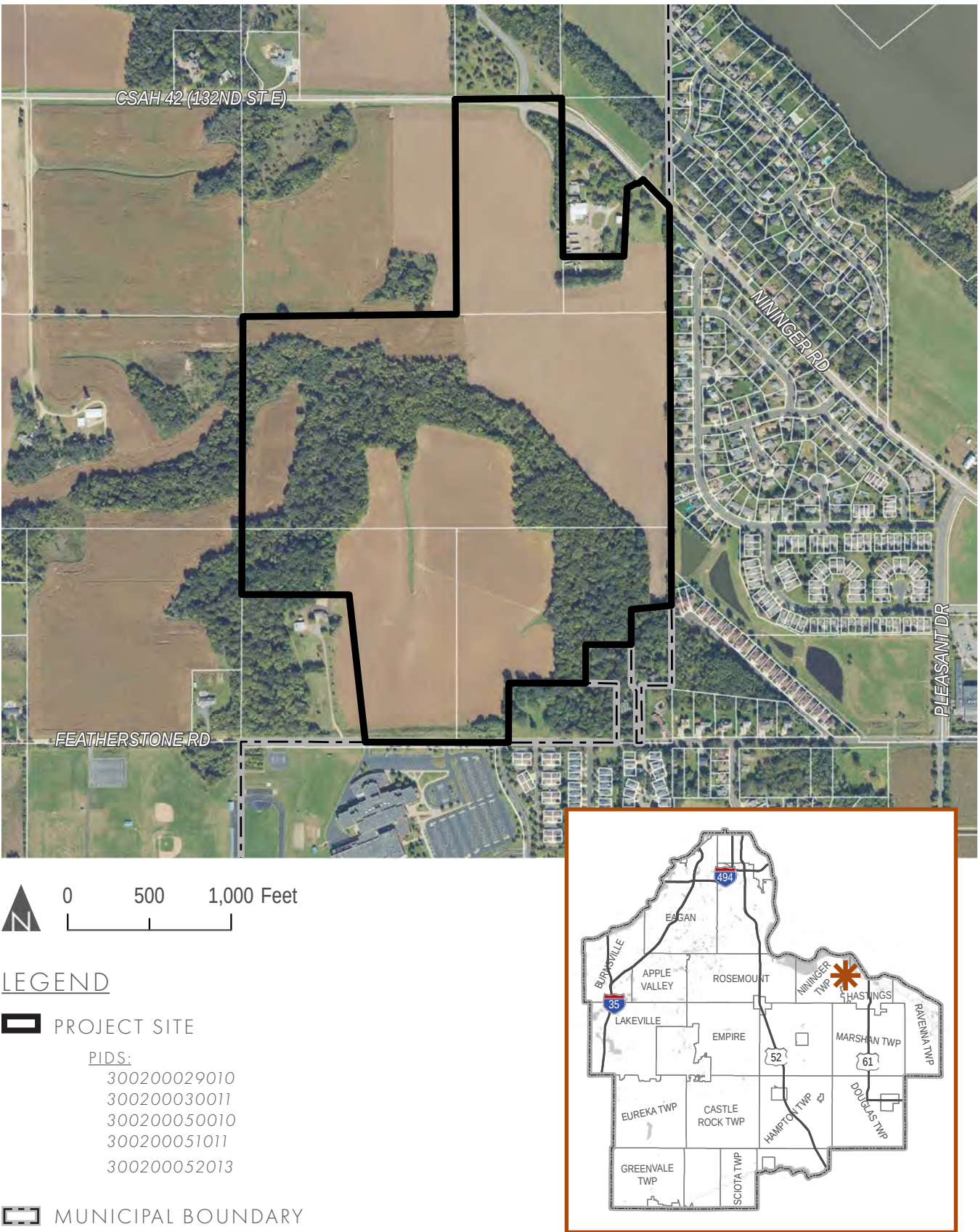
Appendix F – Traffic Impact Study

APPENDIX A

Figures

- Figure 1. Project Location*
- Figure 2. USGS Quad Map*
- Figure 3. Concept Plan*
- Figure 4. Property Annexation*
- Figure 5. Construction Phasing Plan*
- Figure 6. Average Annual Temperature*
- Figure 7. Projected Average Annual Temperature*
- Figure 8. Average Annual Precipitation*
- Figure 9. Projected Average Annual Precipitation*
- Figure 10. Localized Flood Map for Climate Vulnerability Screening*
- Figure 11. MLCCS Existing Cover Types*
- Figure 12. Hastings – Existing Land Use*
- Figure 13. Nininger Township – Existing Land Use*
- Figure 14. Parks, Trails & Community Facilities*
- Figure 15. Hastings – Future Land Use*
- Figure 16. Hastings – Future Development Staging*
- Figure 17. Geologic Features*
- Figure 18. NRCS Web Soil Survey*
- Figure 19. Surface Water Resources*
- Figure 20. Watersheds & Subwatersheds*
- Figure 21. Preliminary Wetland Delineation*
- Figure 22. Wells within One-Half Mile of Project Site*
- Figure 23. Proposed Utilities*
- Figure 24. Environmental Information*

FIGURE 1. PROJECT LOCATION



Source: Metropolitan Council, MNGEO

FIGURE 2. USGS QUAD MAP

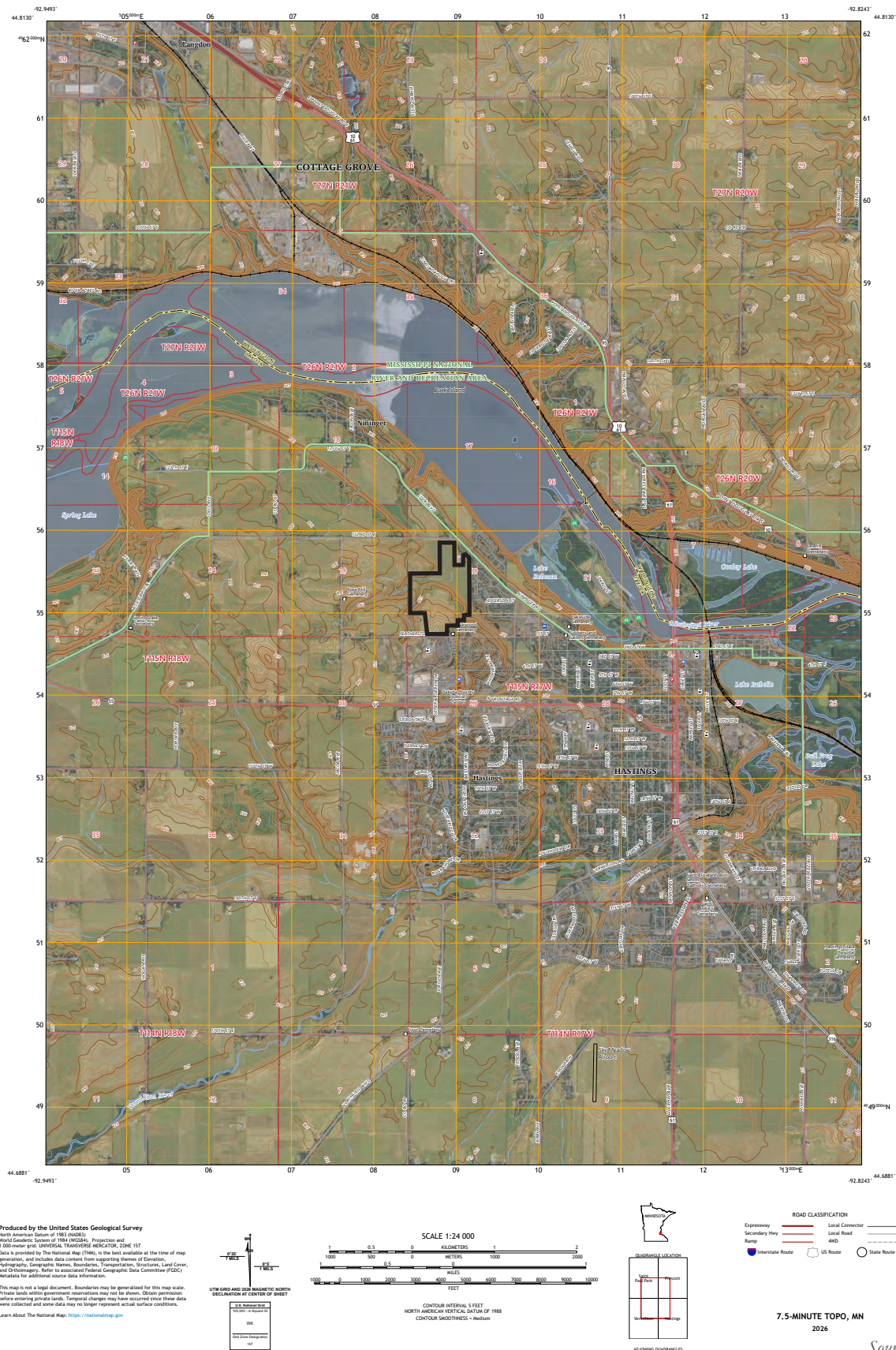
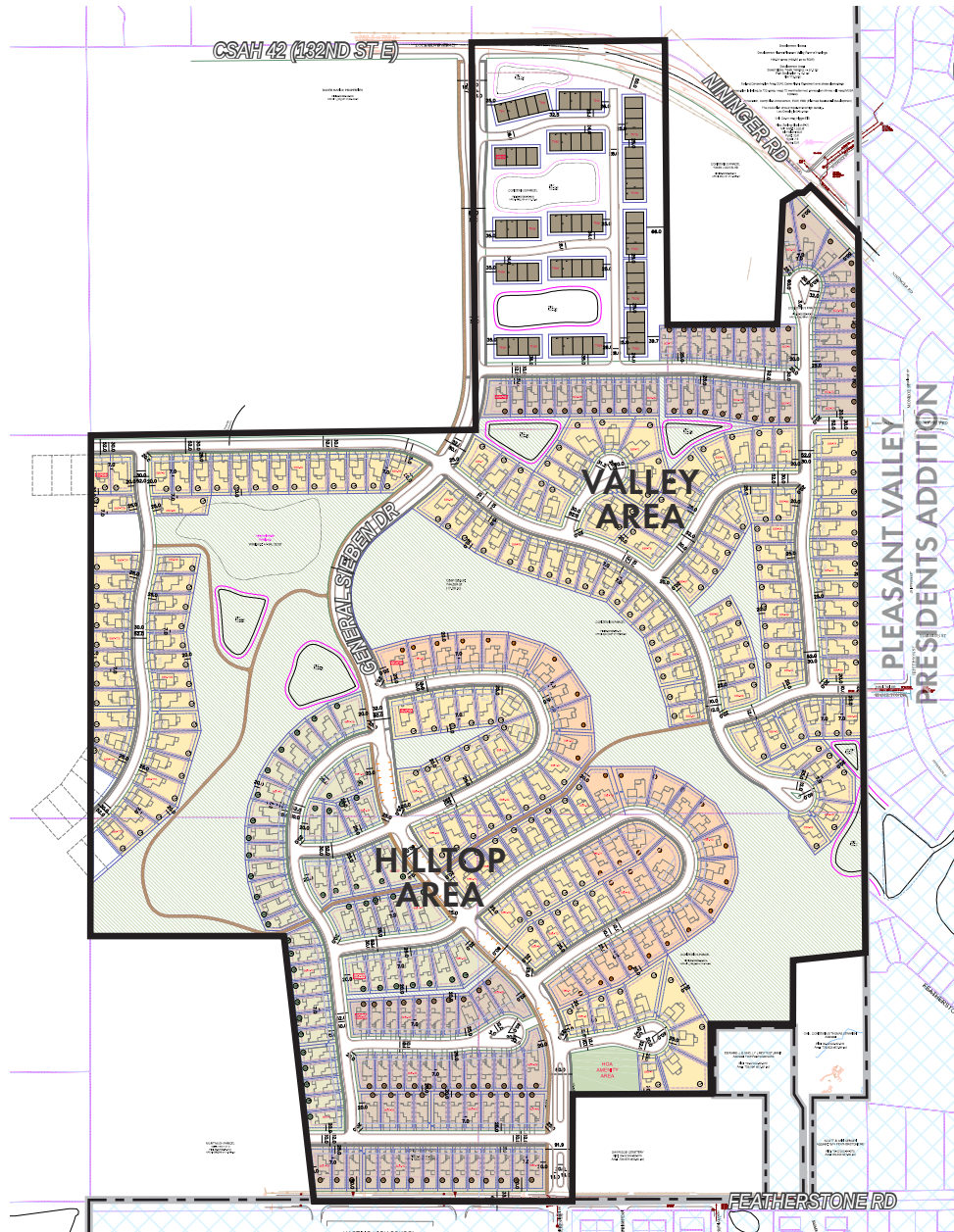


FIGURE 3. CONCEPT PLAN



LEGEND

- PROJECT SITE
- MUNICIPAL BOUNDARY

MUSA PHASING

- 2040 + 2050 MUSA BOUNDARY

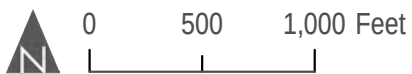
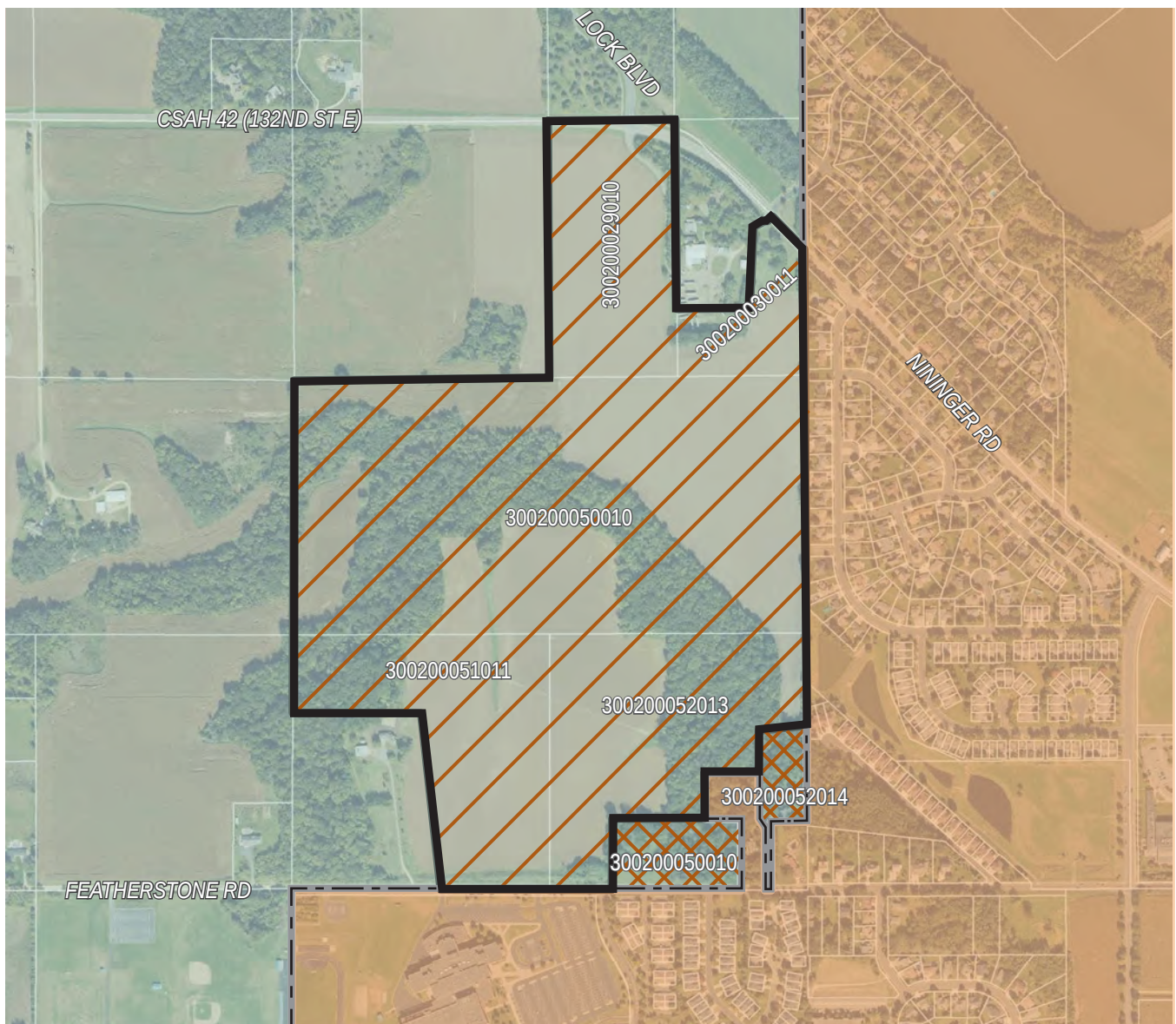
HILLTOP AREA

- 50' LOTS (48 UNITS)
- 55' LOTS (48 UNITS)
- 65' LOTS (46 UNITS)
- 75' LOTS (31 UNITS)

VALLEY AREA

- 50' LOTS (41 UNITS)
- 65' LOTS (127 UNITS)
- TOWNHOMES (66 UNITS)

FIGURE 4. PROPERTY ANNEXATION



LEGEND

-  PROJECT SITE
-  EXISTING MUNICIPAL BOUNDARY
-  CITY OF HASTINGS
-  NININGER TOWNSHIP

PROPERTY ANNEXATION

-  PARCELS IN PROJECT SITE TO BE ANNEXED
(PIDS: 300200029010, 300200030011, 300200050010, 300200051011, + 300200052013)
-  CONTIGUOUS PARCELS OUTSIDE PROJECT SITE TO BE ANNEXED
(PIDS: 300200053010, 300200052014)

Source: Metropolitan Council, MNGEO

FIGURE 5. CONSTRUCTION PHASING PLAN

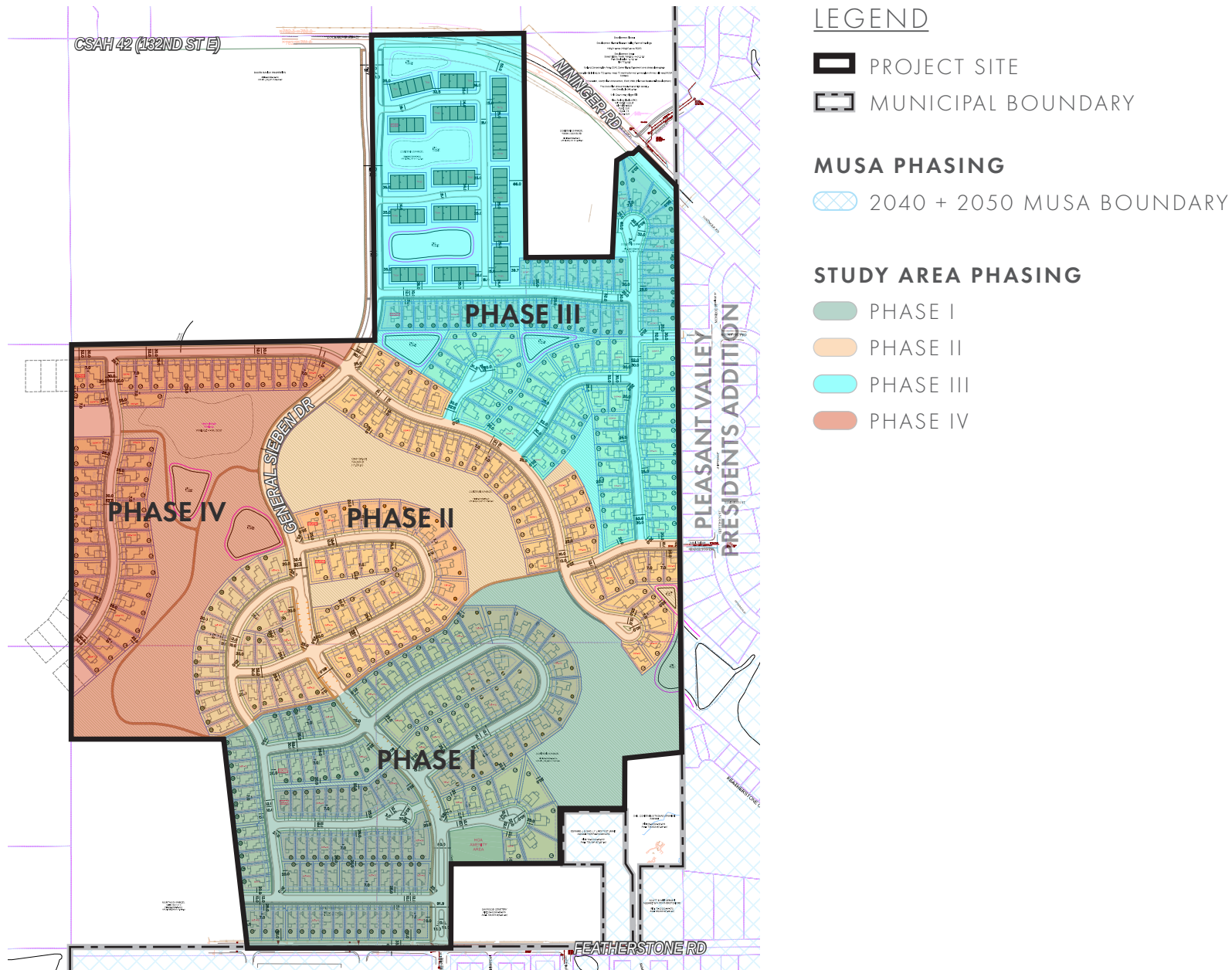


FIGURE 6. AVERAGE ANNUAL TEMPERATURE

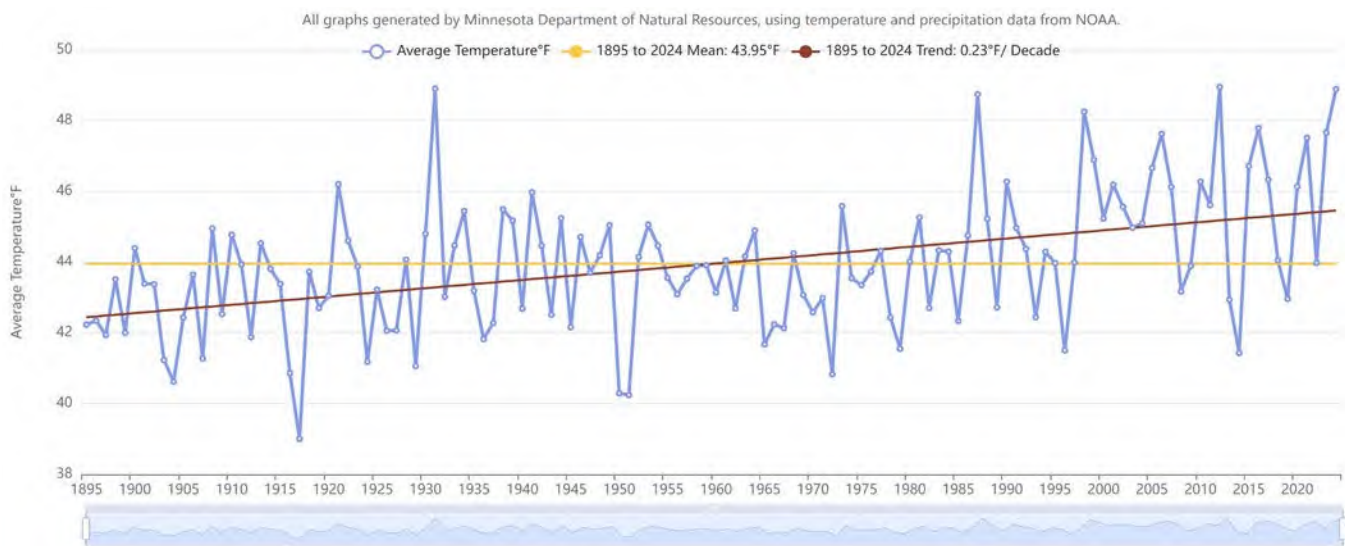
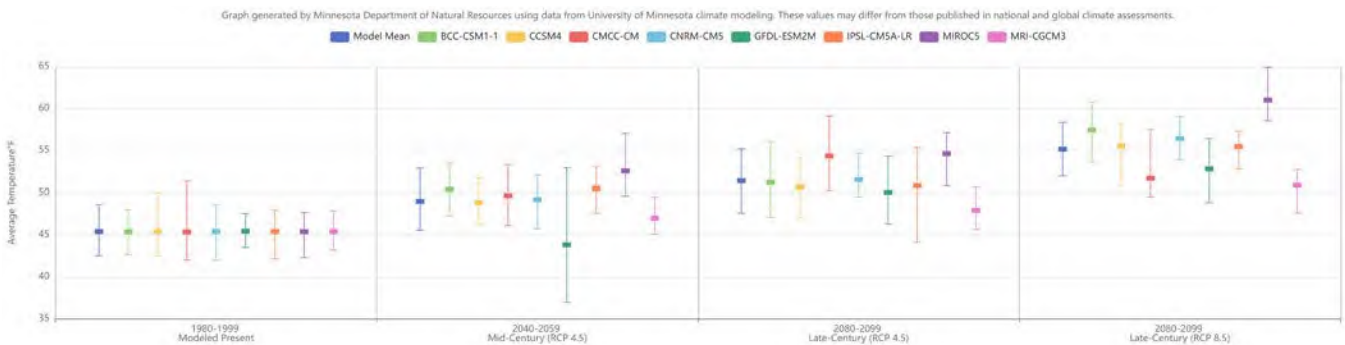


FIGURE 7. PROJECTED AVERAGE ANNUAL TEMPERATURE



Source: Minnesota Climate Explorer - MNDNR

FIGURE 8. AVERAGE ANNUAL PRECIPITATION

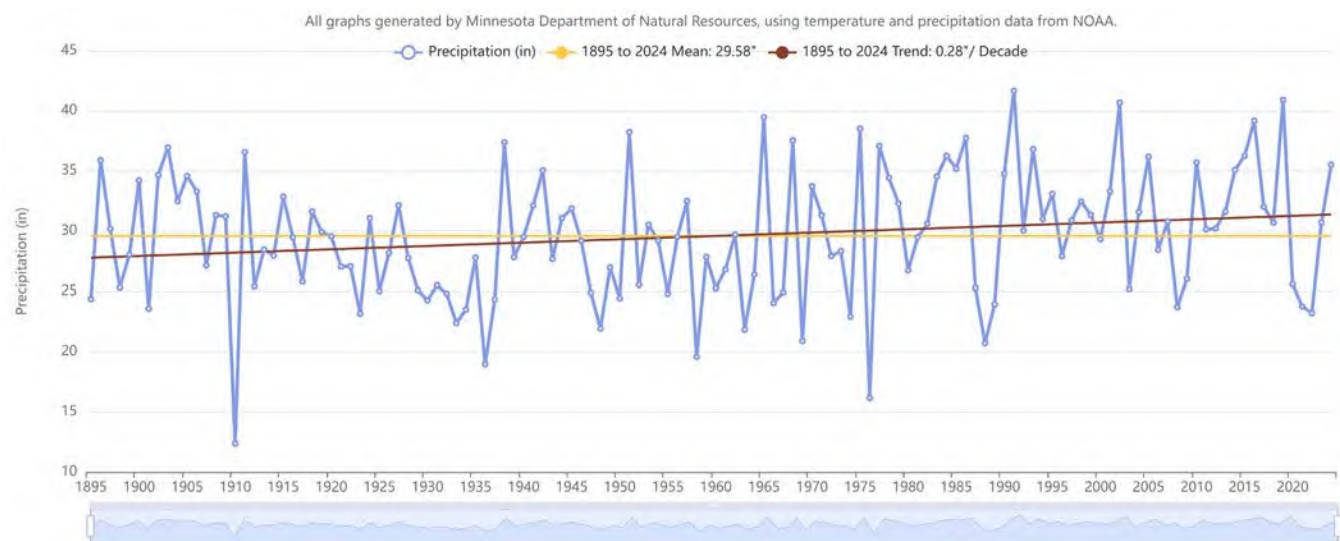
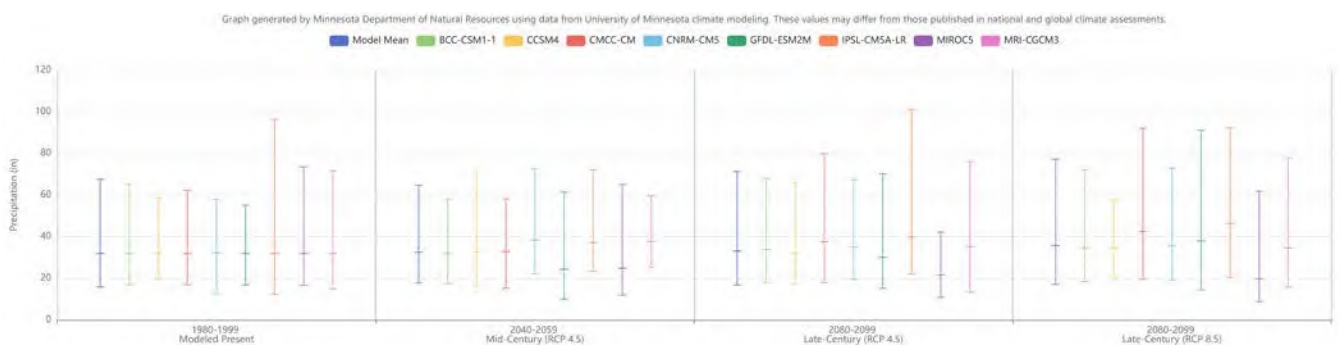
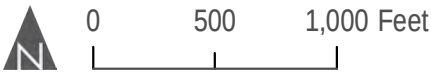
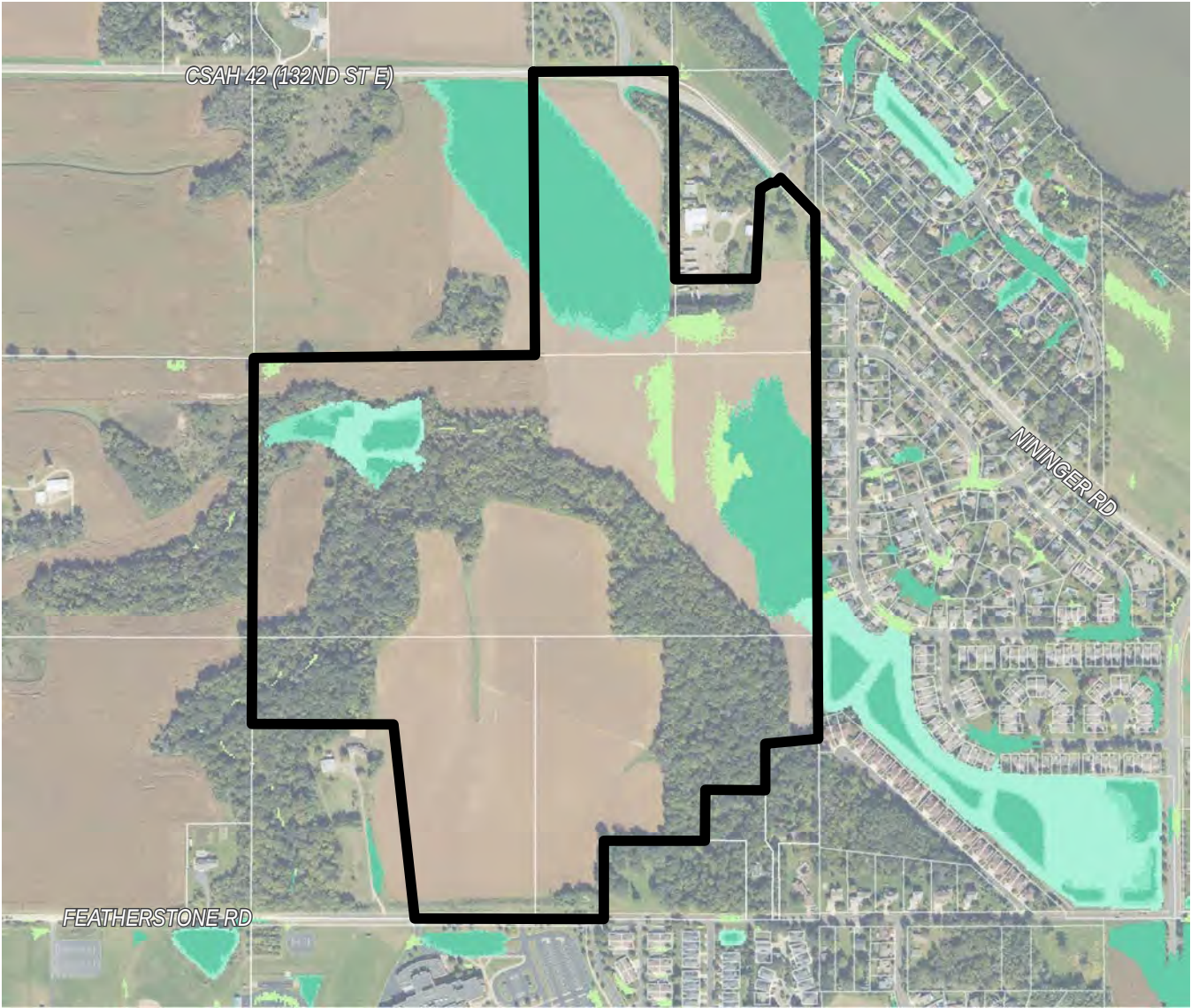


FIGURE 9. PROJECTED AVERAGE ANNUAL PRECIPITATION



Source: Minnesota Climate Explorer - MNDNR

FIGURE 10. LOCALIZED FLOOD MAP FOR CLIMATE VULNERABILITY



LEGEND

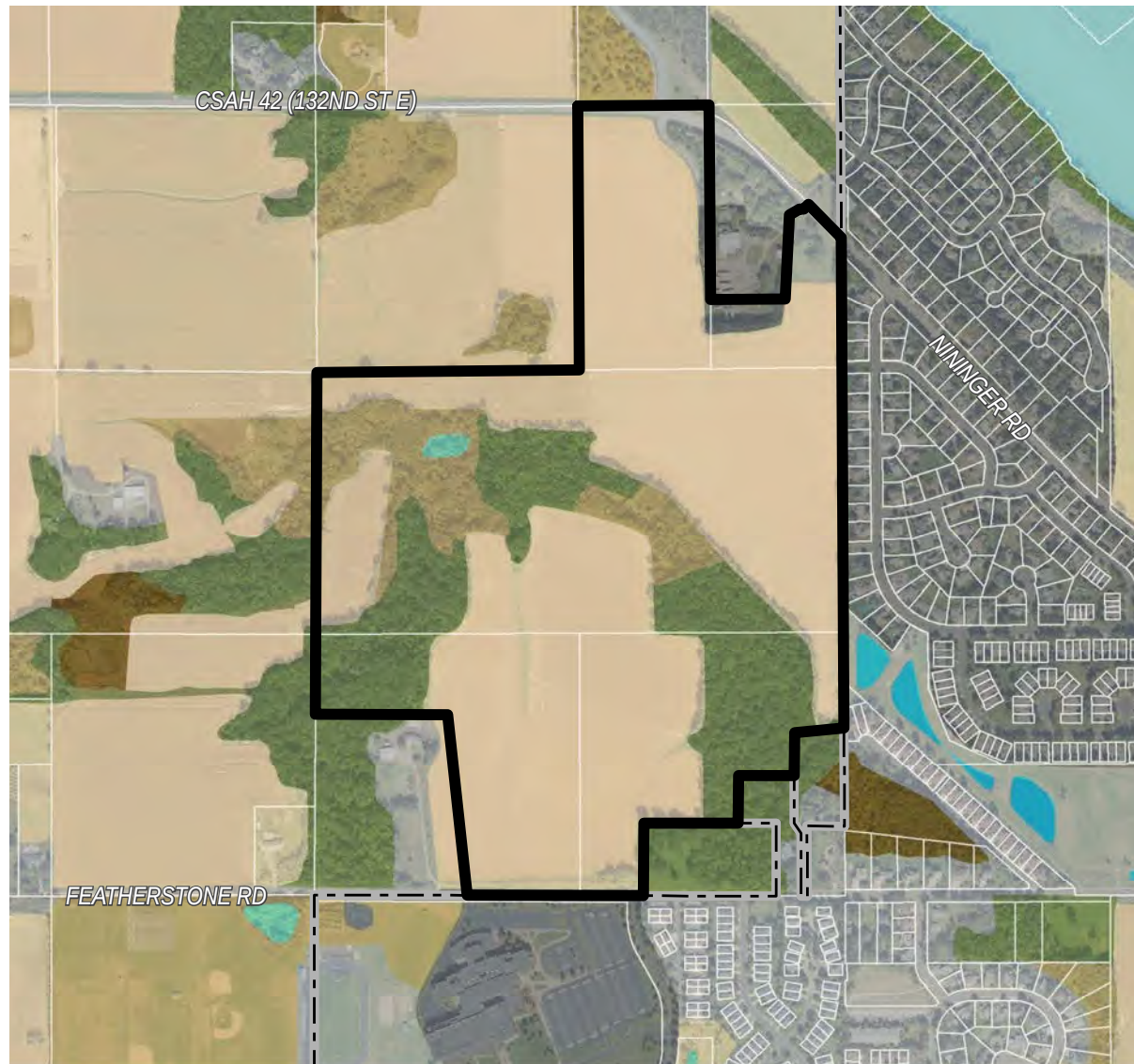
 PROJECT SITE

FLOOD ZONE

-  0 - 2 FEET
-  2 - 4 FEET
-  >4 FEET
-  SHALLOW

Source: Metropolitan Council, MNGEO

FIGURE 11. MLCCS COVER TYPES



LEGEND

- PROJECT SITE
- MUNICIPAL BOUNDARY

MLCCS CLASSIFICATIONS

- < 50% IMPERVIOUS
- > 50% IMPERVIOUS
- GRASSES
- AGRICULTURAL LAND
- FOREST/TREE PLANTATION
- SHRUBLAND
- WETLAND EMERGENT VEGETATION
- OPEN WATER
- WETLAND OPEN WATER



Source: Metropolitan Council, MNDNR, MNGEO

FIGURE 12. HASTINGS - EXISTING LAND USE

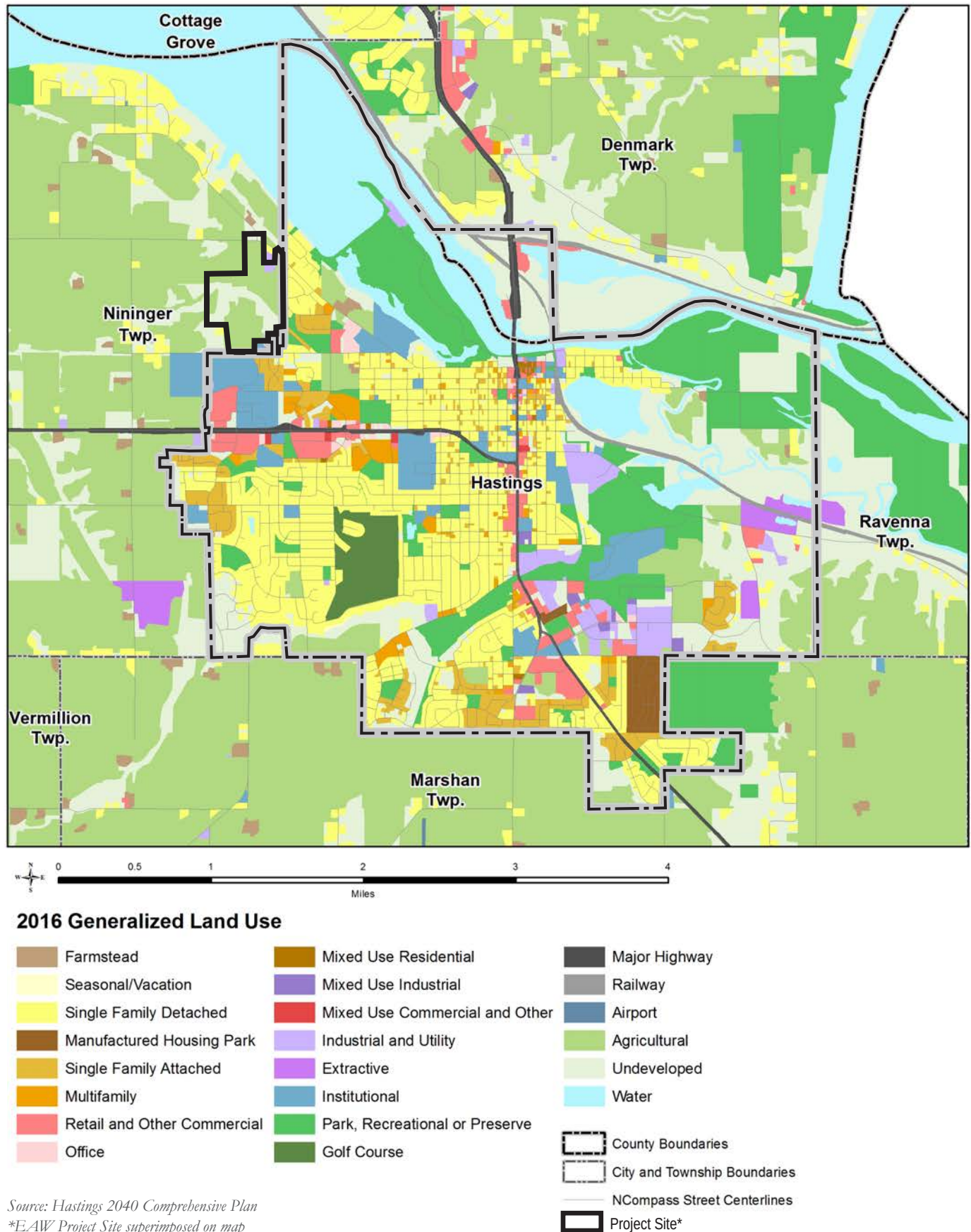
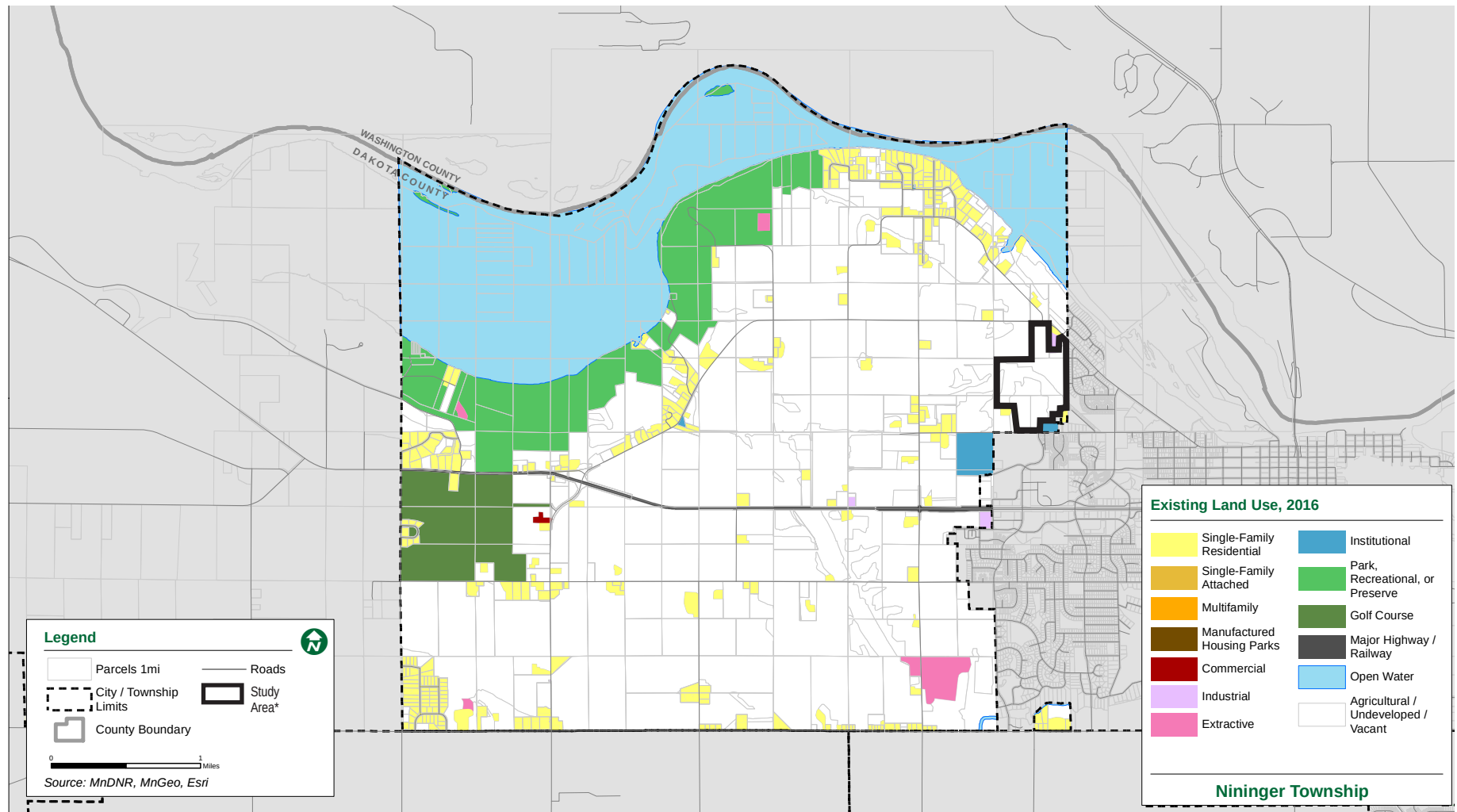


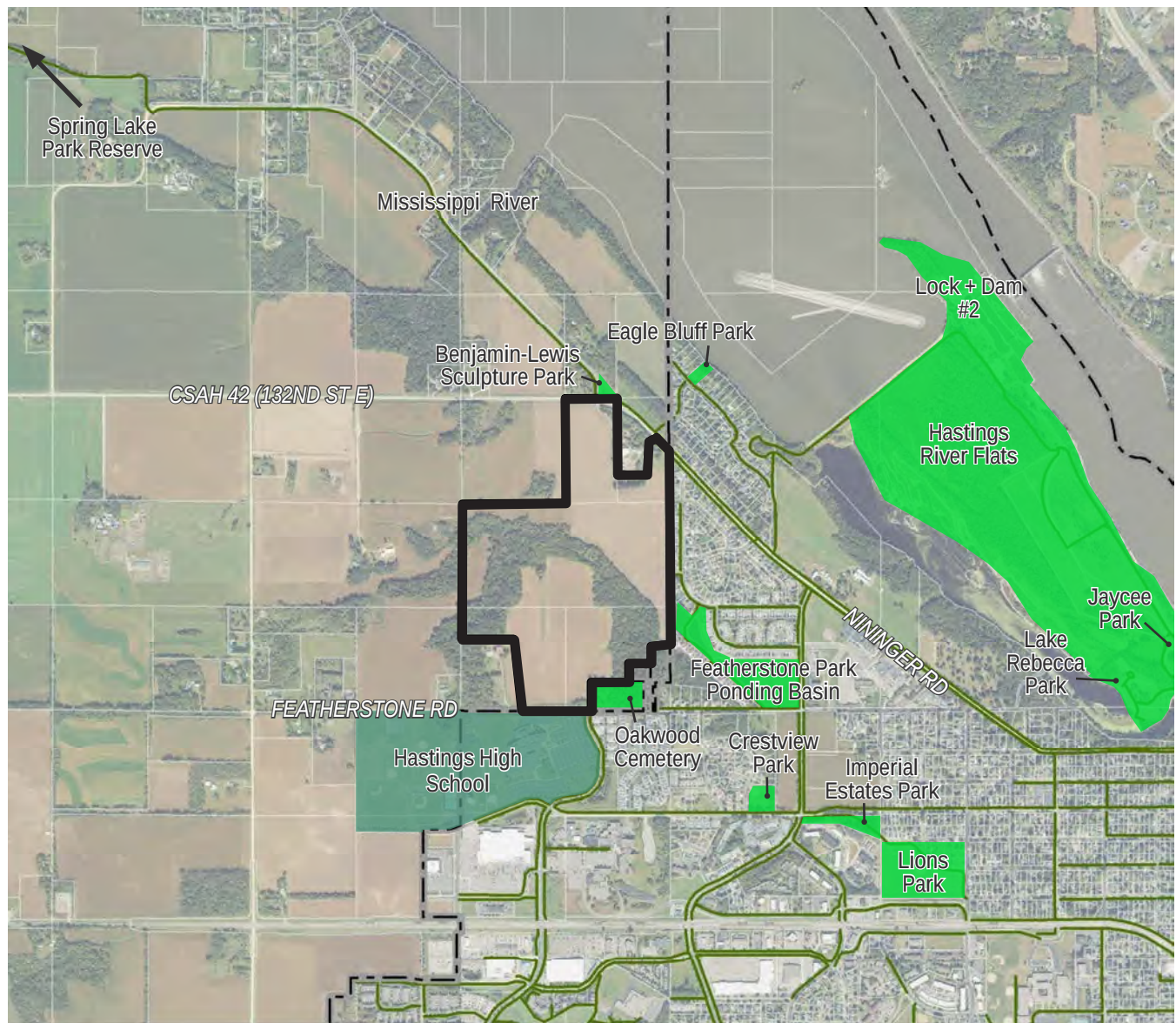
FIGURE 13. NININGER TOWNSHIP - EXISTING LAND USE



Source: Dakota County Comprehensive Plan 2040

*EAW Project Site superimposed on map

FIGURE 14. PARKS, TRAILS, + COMMUNITY FACILITIES

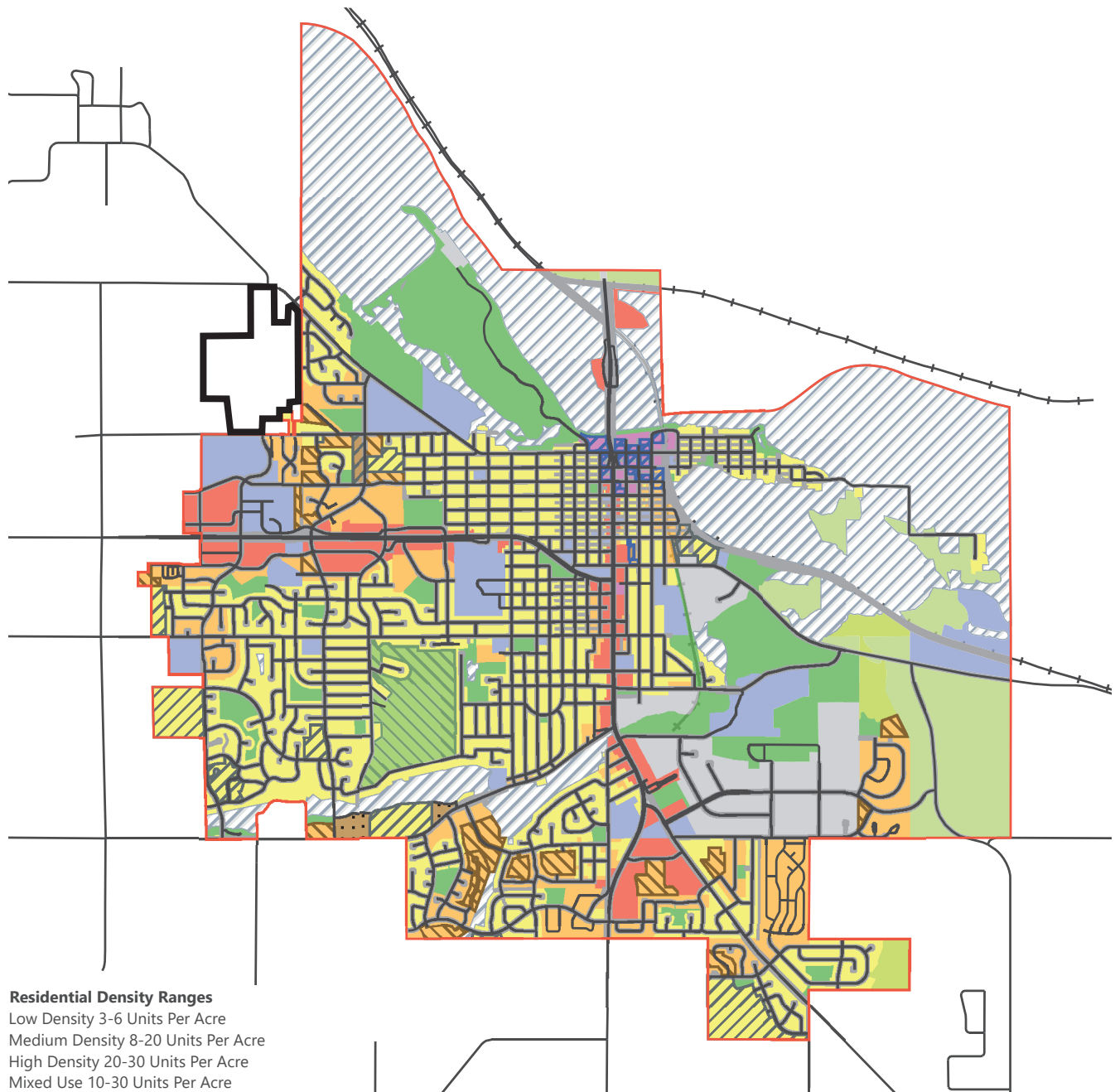


LEGEND

-  PROJECT SITE
-  MUNICIPAL BOUNDARY
-  HASTINGS HIGH SCHOOL
-  PARKS
-  TRAILS/BIKE PATHS

Source: Hastings 2040 Comprehensive Plan, MNDNR, MNGEO

FIGURE 15. HASTINGS - FUTURE LAND USE



- | | |
|---------------------------------|--|
| Current City Limits | Parks |
| Floodplain & Wetland Protection | Upland Conservation Area |
| Agriculture | Golf Course |
| Low Density Residential | Forecasted Residential Growth Areas |
| Medium Density Residential | New Low Density Residential Growth |
| High Density Residential | New Medium Density Residential Growth |
| Mixed Use | New High Density Residential Growth |
| Commercial | Mixed Use Redevelopment |
| Industrial & Utility | Upper Story Redevelopment (Commercial on Ground Floor) |
| Institutional | |

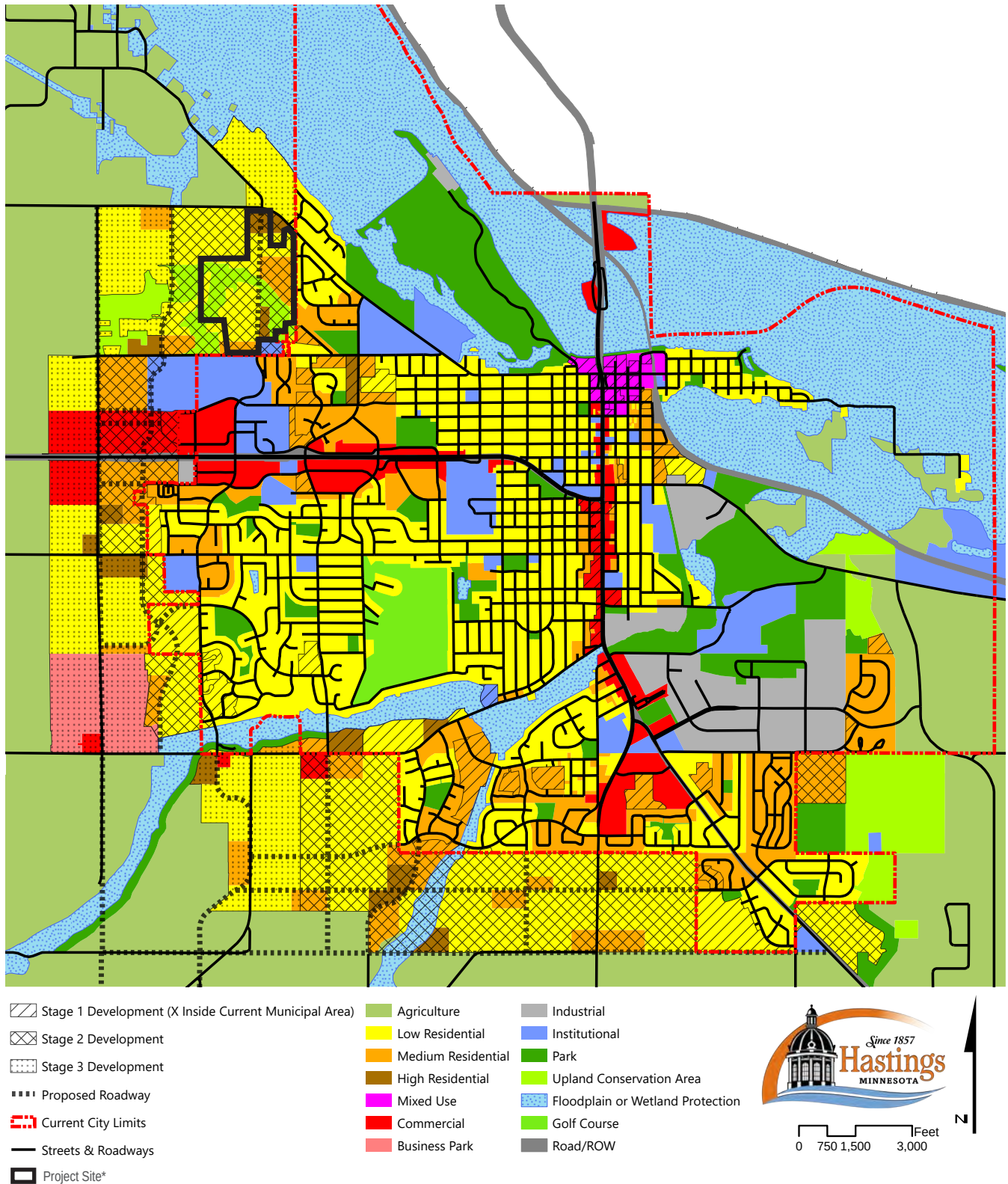
Project Site*



Source: City of Hastings 2040 Comprehensive Plan

*EAW Project Site superimposed on map

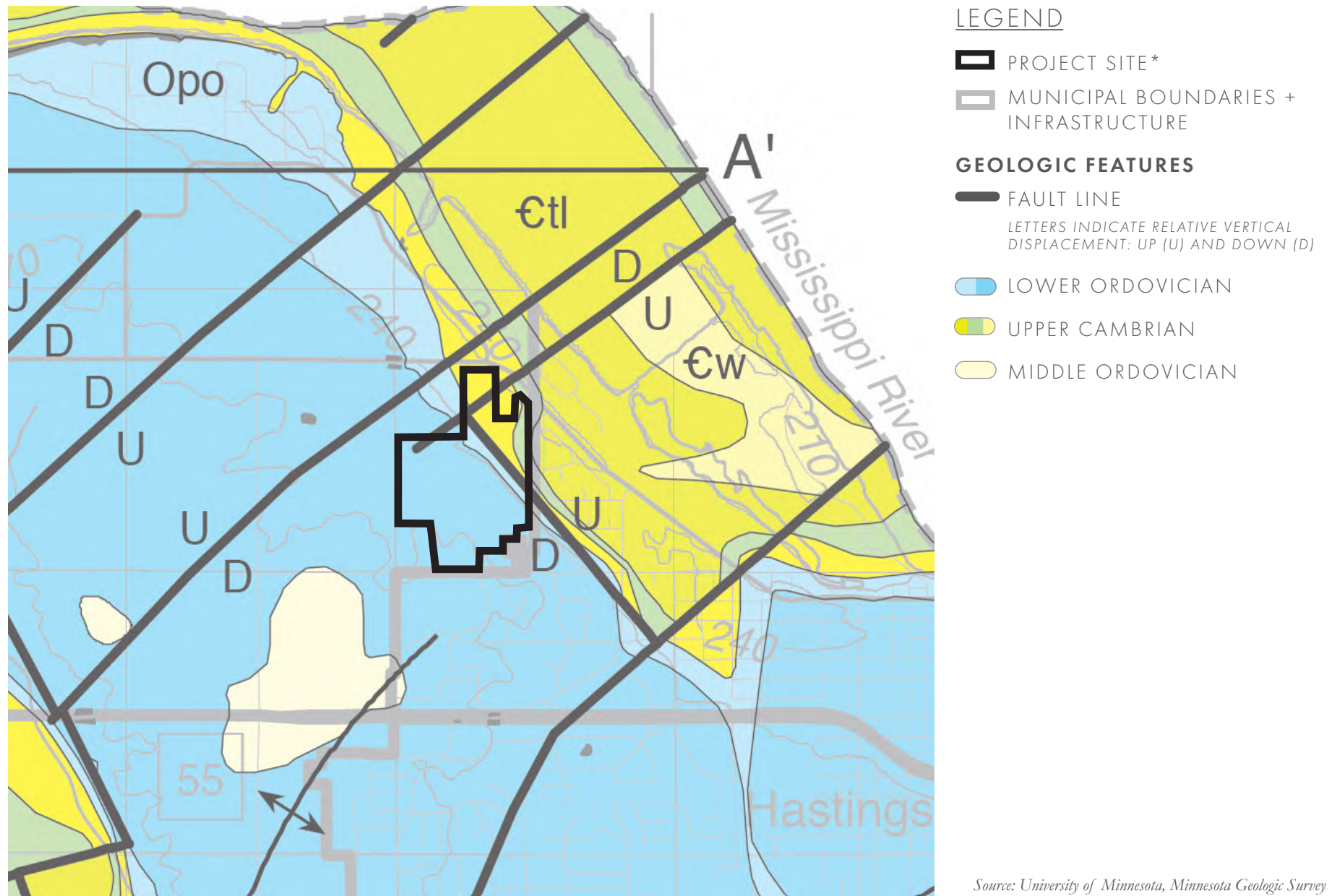
FIGURE 16. HASTINGS - FUTURE DEVELOPMENT STAGING



Source: City of Hastings 2040 Comprehensive Plan

*EAW Project Site superimposed on map

FIGURE 17. GEOLOGIC FEATURES



Source: University of Minnesota, Minnesota Geologic Survey
 *EAW Project Site superimposed on map

LEGEND

- PROJECT SITE
- NRCS SOIL SURVEY**
- SOIL MAP UNIT POLYGONS

Map Scale: 1:7,010 if printed on A portrait (8.5" x 11") sheet.

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

Soil Map may not be valid at this scale.

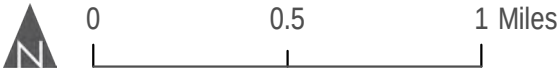
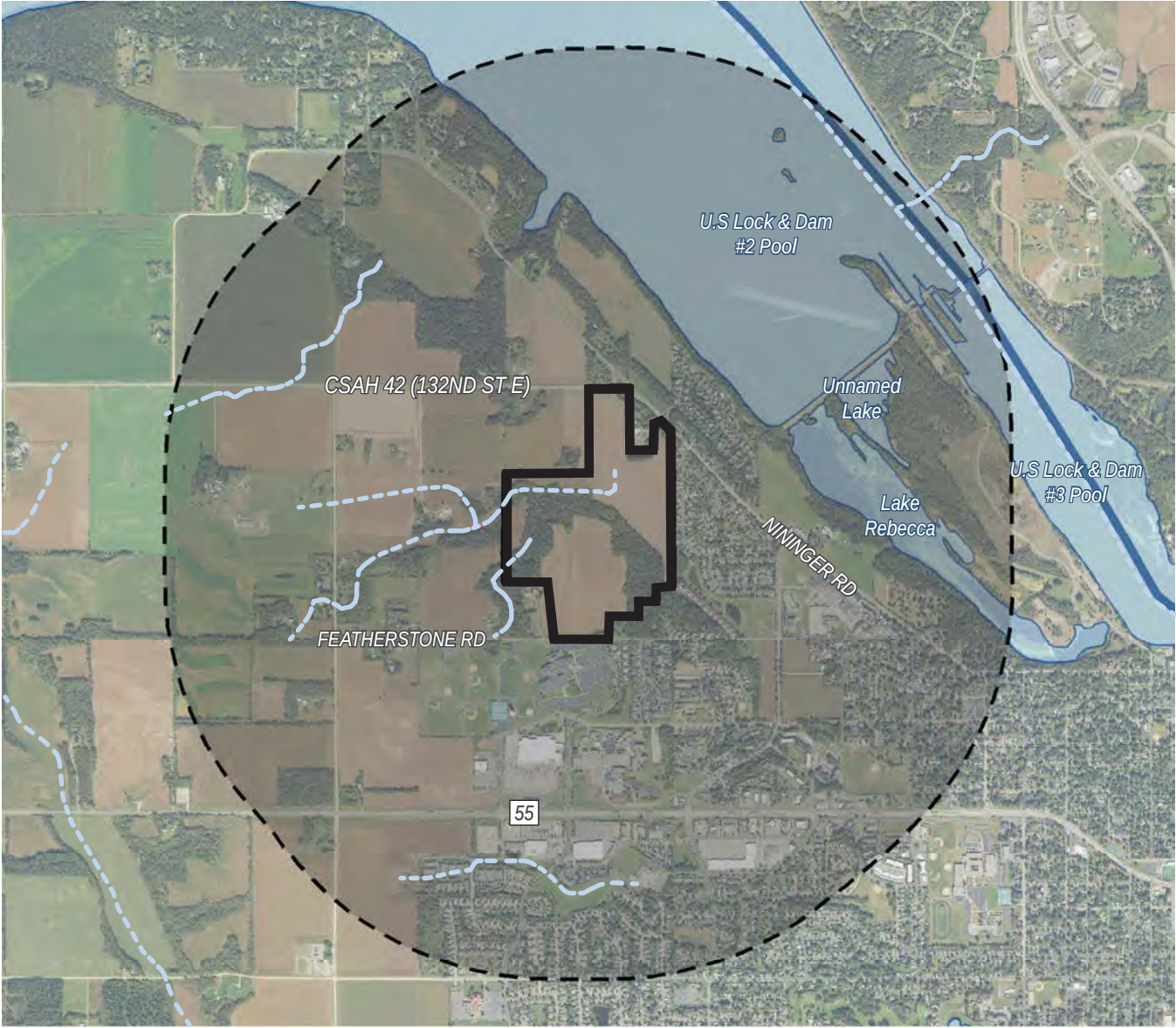
PLEASANT VALLEY FARMS EAW
NININGER TOWNSHIP/CITY OF HASTINGS

FIGURE 18. NRCS WEB SOIL SURVEY (CONT.)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
7C	Hubbard loamy sand, 6 to 12 percent slopes	3.5	2.2%
7D	Hubbard loamy sand, 12 to 18 percent slopes	3.7	2.4%
39B	Wadena loam, 2 to 6 percent slopes	7.1	4.5%
39C	Wadena loam, 6 to 12 percent slopes	2.5	1.6%
41A	Estherville sandy loam, 0 to 2 percent slopes	5.6	3.5%
41B	Estherville sandy loam, 2 to 6 percent slopes	3.9	2.5%
173F	Frontenac silt loam, 25 to 40 percent slopes	3.8	2.4%
250	Kennebec silt loam	18.1	11.5%
251D	Marlean loam, 12 to 18 percent slopes	9.7	6.2%
285B	Port Byron silt loam, 2 to 6 percent slopes	10.7	6.8%
301B	Lindstrom silt loam, till plain, 2 to 6 percent slopes	14.6	9.3%
411B	Waukegan silt loam, 1 to 6 percent slopes	14.2	9.0%
411C	Waukegan silt loam, 6 to 12 percent slopes	8.9	5.7%
415A	Kanaranzi loam, 0 to 2 percent slopes	21.9	13.8%
415B	Kanaranzi loam, 2 to 6 percent slopes	1.5	0.9%
1827B	Waukegan silt loam, bedrock substratum, 2 to 6 percent slopes	23.8	15.1%
1827C	Waukegan silt loam, bedrock substratum, 6 to 12 percent slopes	4.3	2.7%
1848B	Sparta loamy sand, bedrock substratum, 2 to 8 percent slopes	0.2	0.1%
Totals for Area of Interest		158.0	100.0%

Source: NRCS Web Soil Survey

FIGURE 19. SURFACE WATER RESOURCES



LEGEND

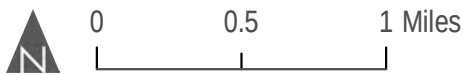
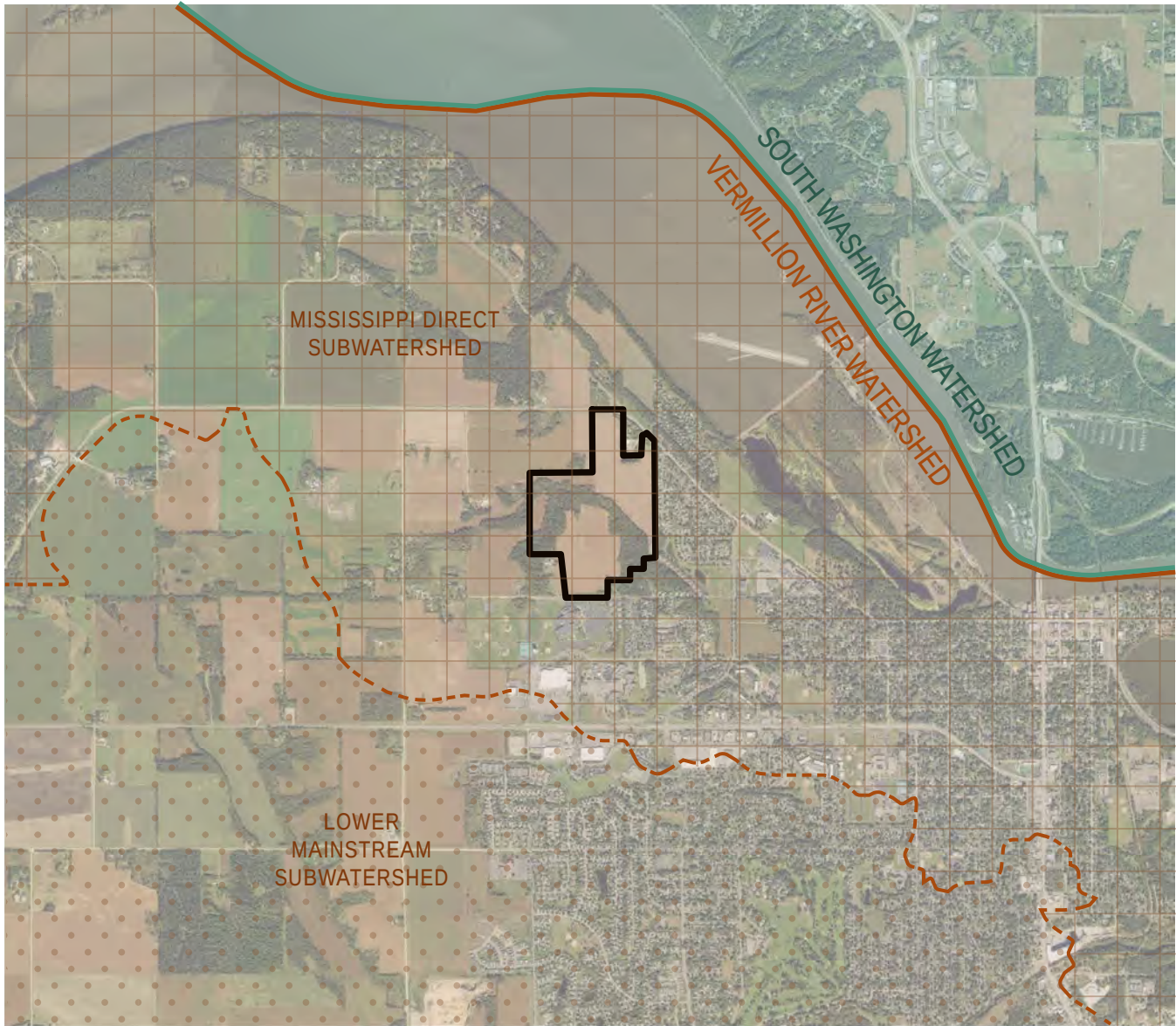
- PROJECT SITE
- 1-MILE PROJECT SITE BUFFER
- FLOWLINES

PUBLIC WATER DELINEATIONS

- PUBLIC WATERBASIN
- PUBLIC WATERCOURSE

Source: Minnesota MNDNR, Metropolitan Council, MNGEO

FIGURE 20. WATERSHEDS + SUBWATERSHEDS



LEGEND

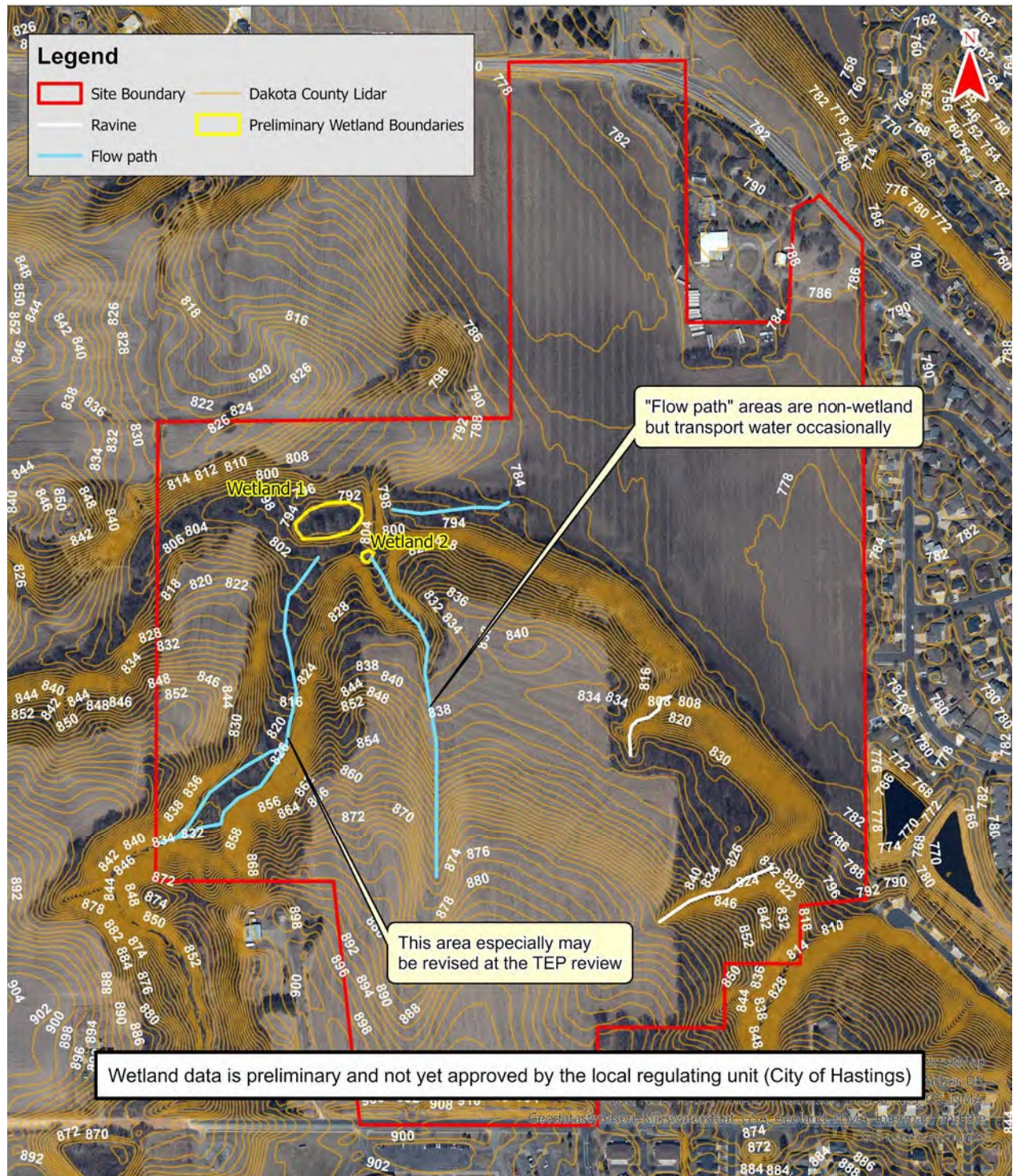
 PROJECT SITE

WATERSHED DISTRICTS

-  VERMILLION RIVER WATERSHED
-  MISSISSIPPI DIRECT SUBWATERSHED
-  LOWER MAINSTREAM SUBWATERSHED
-  SOUTH WASHINGTON WATERSHED

Source: Vermillion River Watershed District, MPCA, MNGEO

FIGURE 21. PRELIMINARY WETLAND DELINEATION



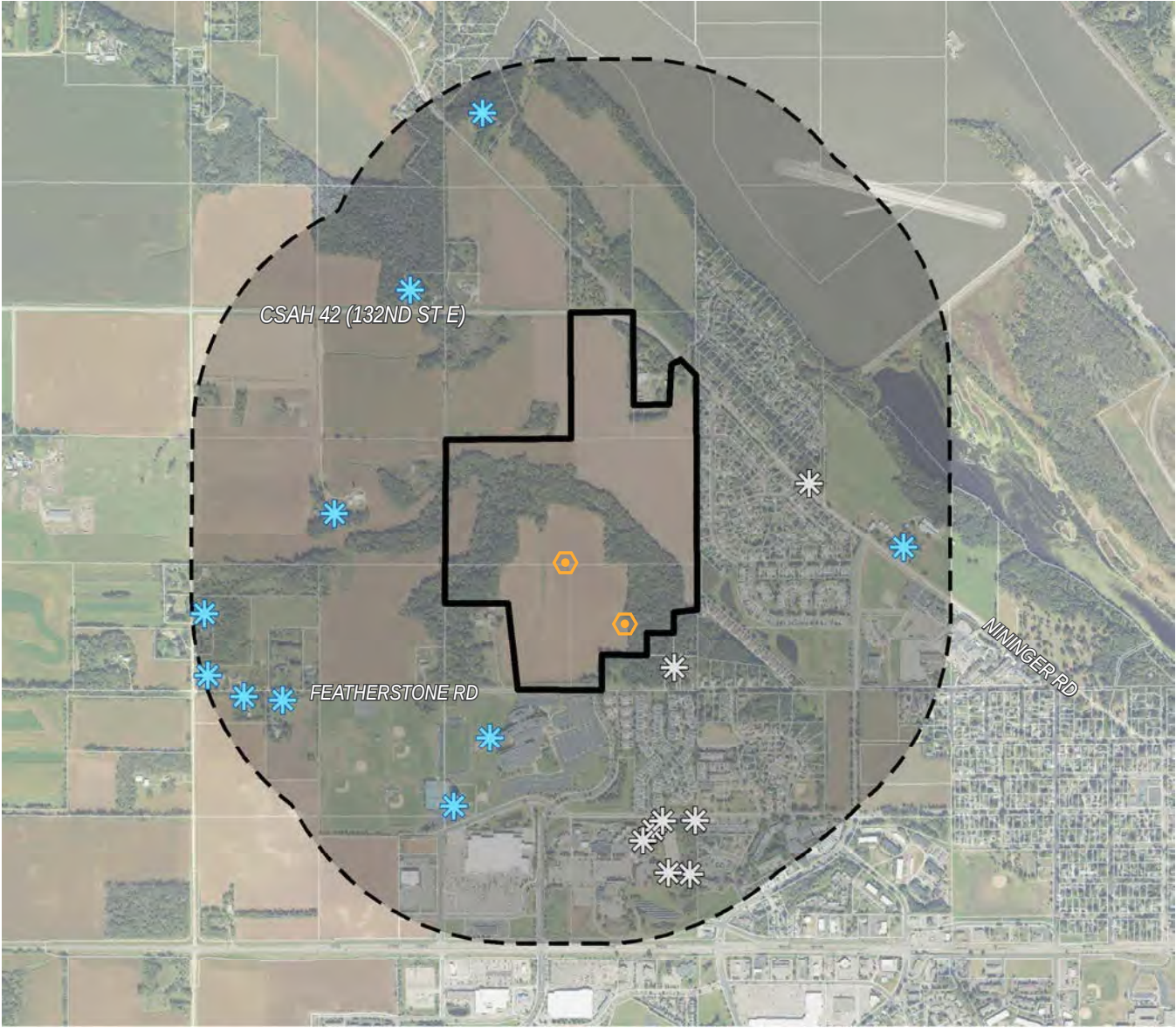
0 500 Feet

Wetland Summary 06/25/2026

**13217 LOCK BLVD SITE
Hastings, Minnesota**

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

FIGURE 22. WELLS WITHIN A HALF-MILE

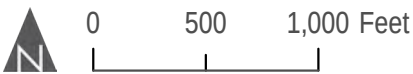
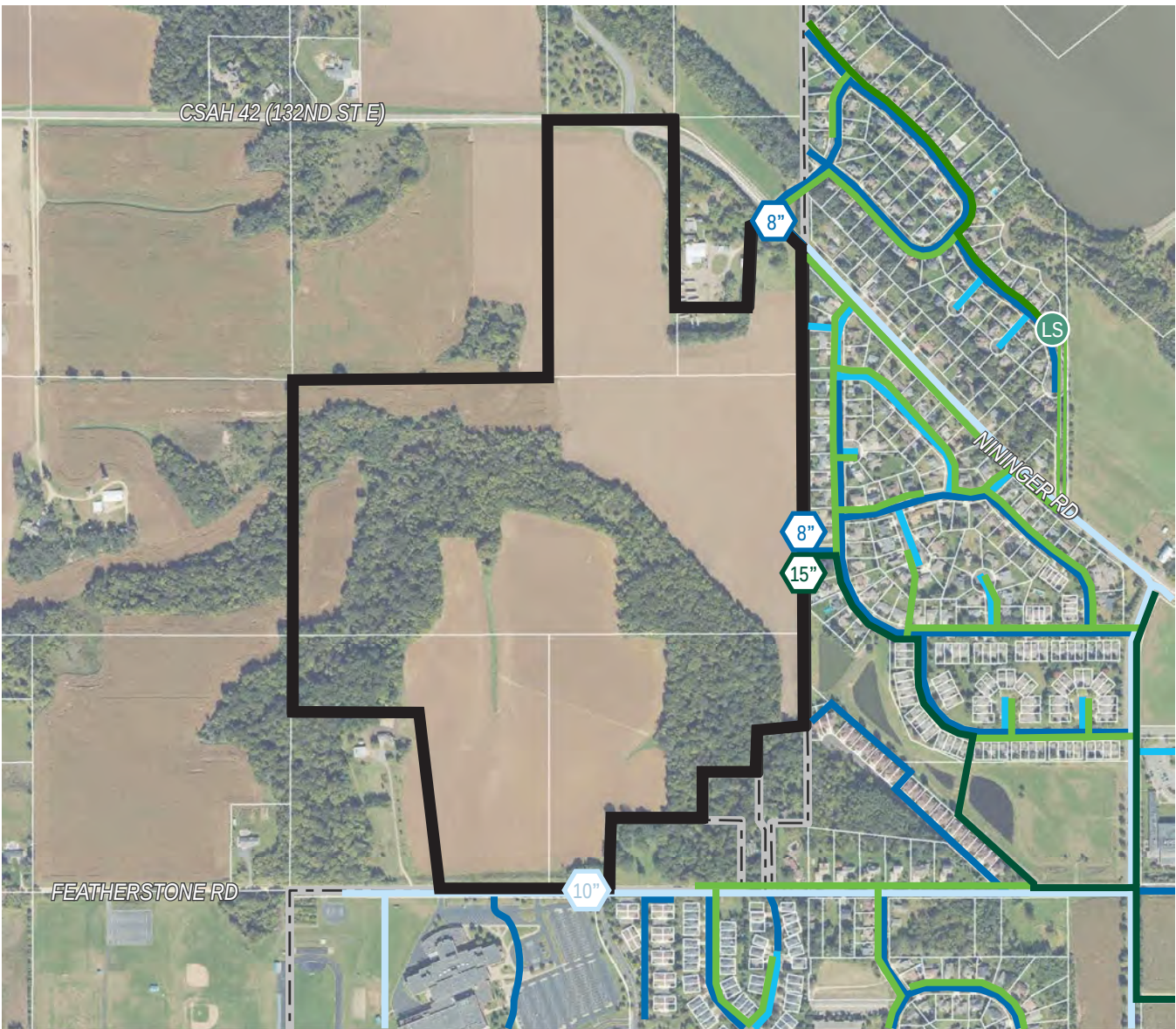


LEGEND

- PROJECT SITE
- HALF-MILE PROJECT SITE BUFFER
- ACTIVE WELLS WITHIN ONE HALF-MILE OF PROJECT SITE
- SEALED WELLS WITHIN ONE HALF-MILE OF PROJECT SITE
- UNVERIFIED WELLS IN PROJECT SITE

Source: Minnesota Department of Health (MDH), Metropolitan Council, MNGEO

FIGURE 23. PROPOSED UTILITIES



LEGEND

- PROJECT SITE
- MUNICIPAL BOUNDARY

WATER MAIN

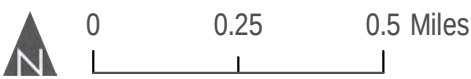
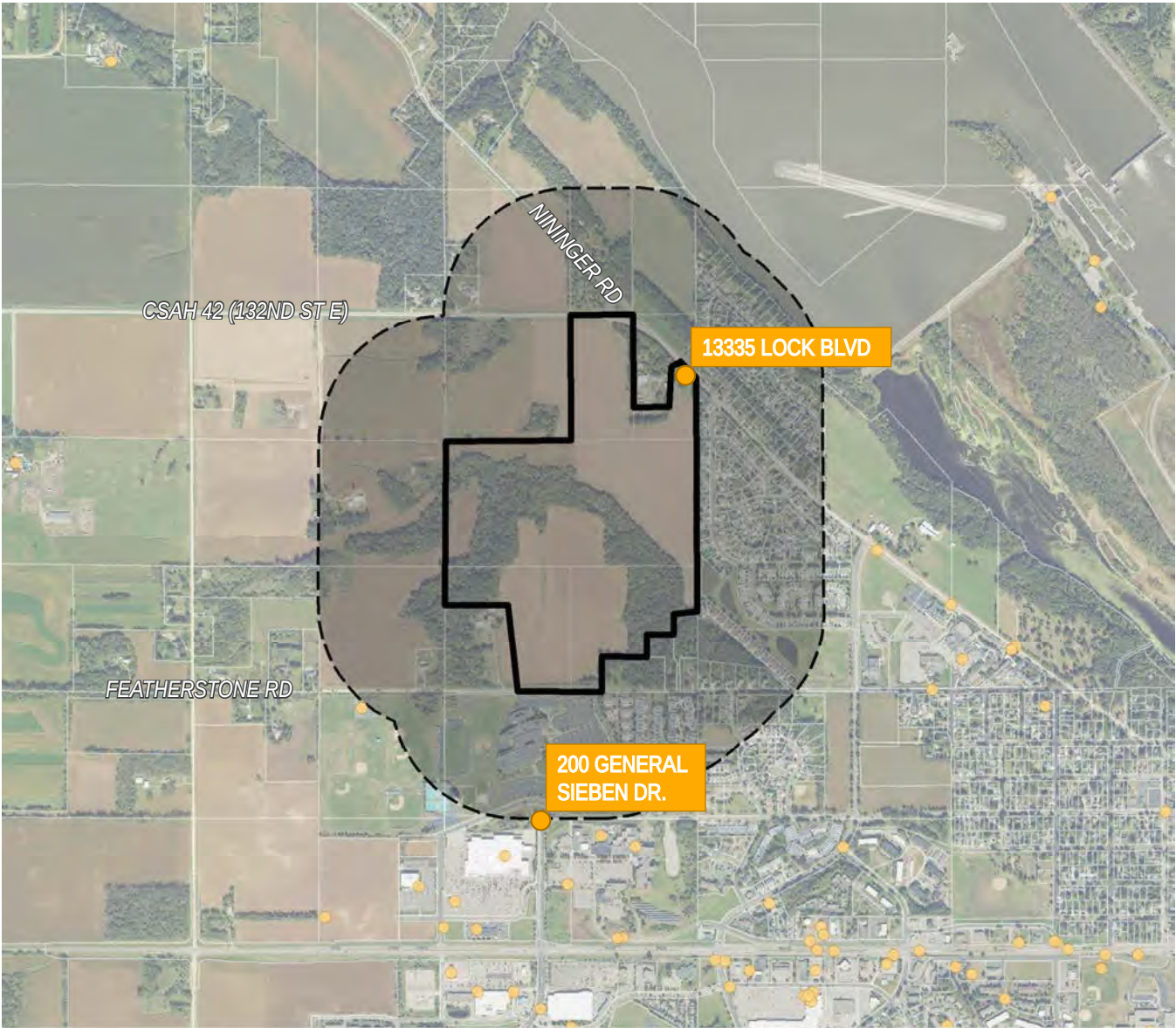
- WATER MAIN CONNECTION
- EXISTING 10" WATER MAIN
- EXISTING 8" WATER MAIN
- EXISTING 6" WATER MAIN

SANITARY SEWER

- SANITARY SEWER CONNECTION
- EXISTING 15" GRAVITY MAIN
- EXISTING 10" GRAVITY MAIN
- EXISTING 8" GRAVITY MAIN
- LS RIVERDALE LIFT STATION
3000 GPM CAPACITY

Source: City of Hastings 2040 Comprehensive Plan, Metropolitan Council, MNGEO

FIGURE 24. ENVIRONMENTAL INFORMATION



LEGEND

- PROJECT SITE
- QUARTER-MILE PROJECT SITE BUFFER

MPCA WHAT'S IN MY NEIGHBORHOOD SITES

- WITHIN QUARTER-MILE PROJECT SITE BUFFER
- OUTSIDE QUARTER-MILE PROJECT SITE BUFFER

Source: MPCA What's in My Neighborhood, MNGEO, Metropolitan Council

APPENDIX B

Agency Reviews



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

June 24, 2026

Jennifer Haskamp
Swanson Haskamp Consulting, LLC

RE: Natural Heritage Review of the proposed Pleasant Valley Farms,
T115N R17W Sections 20, 29; Dakota County

Dear Jennifer Haskamp,

For all correspondence regarding the Natural Heritage Review of this project please include the project ID **MCE-2026-00383** in the email subject line.

As requested, the [Minnesota Natural Heritage Information System](#) has been reviewed to determine if the proposed project has the potential to impact any rare species or other significant natural features. Based on the project details provided with the request, the following rare features may be impacted by the proposed project:

State-listed Species

- [Loggerhead shrikes](#) (*Lanius ludovicianus*), a state-listed endangered bird, have been documented in the vicinity of the project site. Loggerhead shrikes use grasslands that contain short grass and scattered perching sites such as hedgerows, shrubs, or small trees. They can be found in native prairie, pastures, shelterbelts, old fields or orchards, cemeteries, grassy roadsides, and farmyards. Minnesota's Endangered Species Statute (Minnesota Statutes, section 84.0895) and associated Rules (Minnesota Rules, part 6212.1800 to 6212.2300 and 6134) prohibit the take of endangered or threatened plants or animals, including their parts or seeds, without a permit. Given the potential for this species to be found in the vicinity of the project, **tree and shrub removal is required to be avoided during the breeding season, April through July.**

Please contact Review.NHIS@state.mn.us to confirm that the above avoidance measure will be implemented or to inform us that avoidance is not feasible. If avoidance is not feasible, a qualified surveyor needs to conduct a survey for active nests before any trees or shrubs are removed. Requirements for surveys and lists of DNR certified surveyors can be found on the [Natural Heritage Review website](#).

- [Bell's vireo](#) (*Vireo bellii*), a state-listed bird species of special concern, has been documented in the vicinity of the project. In Minnesota, Bell's vireo prefers shrub thickets within or bordering open habitats such as grasslands or wetlands. **If feasible, avoid tree and shrub removal from May 15 through August 15 to avoid disturbance of nesting birds.**

- The Natural Heritage Information System (NHIS) tracks bat roost trees and hibernacula plus some acoustic data, but this information is not exhaustive. Even if there are no bat records listed nearby, all of Minnesota's bats, including the federally endangered northern long-eared bat ([Myotis septentrionalis](#)), can be found throughout Minnesota. During the active season (approximately April-November) bats roost underneath bark, in cavities, or in crevices of both live and dead trees. Tree removal can negatively impact bats by destroying roosting habitat, especially during the pup rearing season when females are forming maternity roosting colonies and the pups cannot yet fly. To minimize these impacts, **the DNR recommends that tree removal be avoided from June 1 through August 15.**
- Please visit the [DNR Rare Species Guide](#) for more information on the habitat use of state-listed species and recommended measures to avoid or minimize impacts.
- Please report incidental sightings of state-listed species via the [DNR Plant and Animal Observation Form](#).

Federally Protected Species

- To ensure compliance with federal law, conduct a federal regulatory review using the U.S. Fish and Wildlife Service's (USFWS) online [Information for Planning and Consultation \(IPaC\) tool](#).

Environmental Review and Permitting

- The Environmental Assessment Worksheet (EAW) should address whether the proposed project has the potential to adversely affect the above rare features and, if so, it should identify specific measures that will be taken to avoid or minimize disturbance. Sufficient information should be provided so the DNR can determine whether a permit to take will be needed for any of the above protected species.
- Please include a copy of this letter and the MCE-generated Final Project Report in any state or local license or permit application. Please note that measures to avoid or minimize disturbance to the above rare features may be included as restrictions or conditions in any required permits or licenses.

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

For environmental review purposes, the results of this Natural Heritage Review are valid for one year; the results are only valid for the project location and project description provided with the request. **If project details change or the project has not occurred within one year, please resubmit the project for review within one year of initiating project activities.** Resubmit by selecting *Clone Project as Draft* on the project page in MCE.

The Natural Heritage Review does not constitute project approval by the Department of Natural Resources. Instead, it identifies issues regarding known occurrences of rare features and potential impacts to these rare

features. Visit [Natural Heritage Review](#) for additional information regarding this process, survey guidance, and other related information. For information on the environmental review process or other natural resource concerns, please contact your [DNR Regional Environmental Assessment Ecologist](#).

Thank you for consulting us and for your interest in the conservation of Minnesota's rare natural resources.

Sincerely,

James Drake



Natural Heritage Review Specialist

james.f.drake@state.mn.us

Cc: Melissa Collins

For more project details, see the MCE-generated Final Project Report, available on the MCE project page.

Pleasant Valley Farms

USA Topo Basemap With Locator Map



0 0.15 0.3 0.6 0.9 1.2 Miles

Project Boundary

Project Type: Development, Residential

Project Size (acres): 157.91

County(s): Dakota

TRS: T115 R17 S20, T115 R17 S29

Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS
County of Dakota, Metropolitan Council, MetroGIS, MN Dept Natural Resources,
Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS,





Formal Natural Heritage Review - Cover Page

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

Project Name: Pleasant Valley Farms

Project Proposer: Tradition Development Corp.

Project Type: Development, Residential

Project Type Activities: Wetland impacts (e.g., dewatering, tiling, drainage, discharge, excavation, fill, runoff, sedimentation, changes in hydrology); Groundwater Impacts (e.g., contamination, dewatering, change in hydrology, potential for aquifer breach); Tree Removal; Grading

TRS: T115 R17 S20, T115 R17 S29

County(s): Dakota

DNR Admin Region(s): Central

Reason Requested: State EAW

Project Description: Pleasant Valley Farms is a proposed residential development on 158 acres of land. The proposed development is up to 341 detached single family homes and ...

Existing Land Uses: The property is currently primarily agricultural and undeveloped in use.

Landcover / Habitat Impacted: Existing agricultural land will be graded for construction of single-family homes and townhomes. Some existing trees may be removed to accommodate development. ...

Waterbodies Affected: According to the National Wetlands Inventory, there is one existing freshwater wetland which is proposed to be mostly avoided by construction. According ...

Groundwater Resources Affected: Some temporary construction dewatering may be required (see above). Project site is currently agricultural in which runoff that does not infiltrate generally ...

Previous Natural Heritage Review: No

Previous Habitat Assessments / Surveys: No

SUMMARY OF AUTOMATED RESULTS

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



May 6, 2026

Project Name: Pleasant Valley Farms
Project Proposer: Tradition Development Corp.
Project Type: Development, Residential
Project ID: MCE #2026-00383

AUTOMATED RESULTS: FURTHER REVIEW IS NEEDED

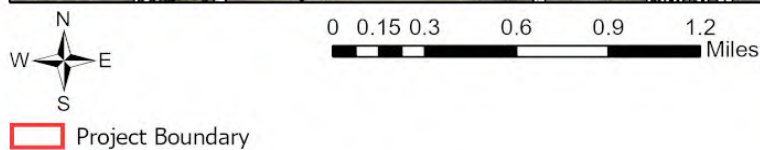
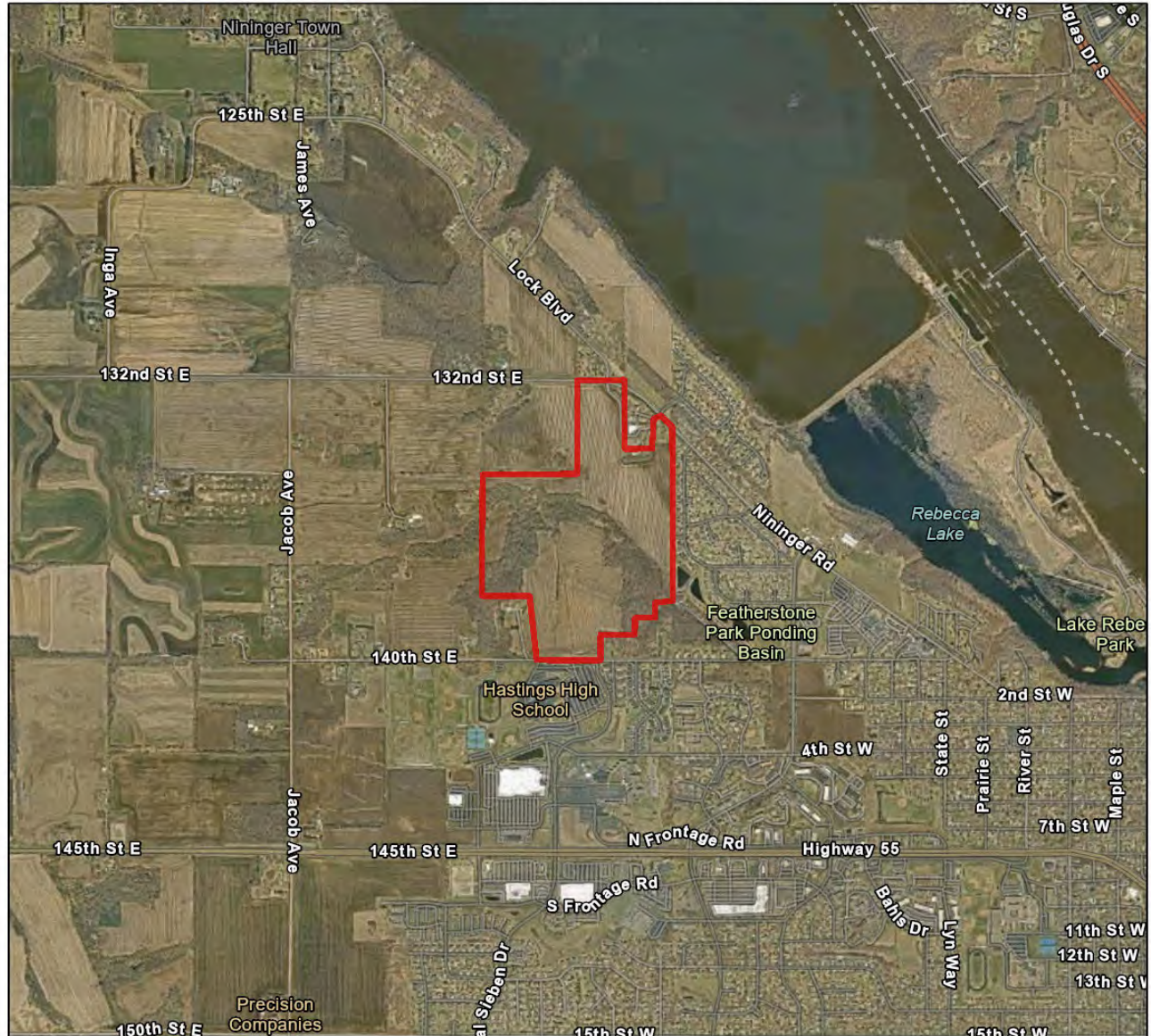
As requested, the above project has undergone an automated review for potential impacts to rare features. Based on this review, one or more rare features may be impacted by the proposed project and further review by the Natural Heritage Review Team is needed. You will receive a separate notification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

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

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

Pleasant Valley Farms

Aerial Imagery With Locator Map



Project Type: Development, Residential

Project Size (acres): 157.91

County(s): Dakota

TRS: T115 R17 S20, T115 R17 S29

Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS
County of Dakota, Metropolitan Council, MetroGIS, MN Dept Natural Resources,
Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS,



Pleasant Valley Farms

USA Topo Basemap With Locator Map



0 0.15 0.3 0.6 0.9 1.2 Miles

Project Boundary

Project Type: Development, Residential

Project Size (acres): 157.91

County(s): Dakota

TRS: T115 R17 S20, T115 R17 S29

Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS
County of Dakota, Metropolitan Council, MetroGIS, MN Dept Natural Resources,
Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS,





United States Department of the Interior

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



In Reply Refer To:

06/08/2026 18:39:25 UTC

Project Code: 2026-0100239

Project Name: Pleasant Valley Farms Hastings

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

To Whom It May Concern:

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

Threatened and Endangered Species

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

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

Consultation Technical Assistance

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

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

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

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

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

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

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

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

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

For projects that intersect with or are adjacent to Tribal lands: The Service has federal Trust responsibilities and a strong commitment to working with Tribal governments to help sustain fish and wildlife resources for future generations. Tribal governments should be provided with sufficient opportunity to express their perspectives and/or concerns for proposed projects. If your project intersects with Tribal lands or impacts culturally sensitive resources, please engage with the federally recognized Tribe to ensure they have an opportunity to provide input on this project.

Northern Long-Eared Bats

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

Suitable summer habitat for northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥ 3 inches dbh for northern long-eared bat that have exfoliating bark, cracks, crevices, and/or hollows), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat and evaluated for use by bats. If your project will impact caves or mines or will involve clearing forest or woodland habitat containing suitable roosting habitat, northern long-eared bats could be affected. For bat activity dates, please review Appendix L in the [Range-wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines](#).

Examples of unsuitable habitat include:

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

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

- Clearing or disturbing suitable roosting habitat, as defined above, at any time of year,
- Any activity in or near the entrance to a cave or mine,
- Mining, deep excavation, or underground work within 0.25 miles of a cave or mine,
- Construction of one or more wind turbines, or

- Demolition or reconstruction of human-made structures that are known to be used by bats based on observations of roosting bats, bats emerging at dusk, or guano deposits or stains.

If none of the above activities are proposed, project proponents can conclude the proposed activities will have **no effect** on the northern long-eared bat. Concurrence from the Service is not required for **No Effect** determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records.

If any of the above activities are proposed, and the northern long-eared bat appears on the user's species list, the federal project user will be directed to either the northern long-eared bat and tricolored bat range-wide D-key or the Federal Highways Administration, Federal Railways Administration, and Federal Transit Administration Indiana bat/Northern long-eared bat D-key, depending on the type of project and federal agency involvement. Similar to the Minnesota-Wisconsin D-key, these d-keys help to determine if prohibited take might occur and, if not, will generate an automated verification letter. Additional information about available tools can be found on the Service's [northern long-eared bat website](#).

Whooping Crane

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

Other Trust Resources and Activities

Bald and Golden Eagles - Although the bald eagle has been removed from the endangered species list, this species and the golden eagle are protected by the Bald and Golden Eagle Act and the Migratory Bird Treaty Act. It is the responsibility of the project proponent to survey the area for any migratory bird nests. If there is an eagle nest on-site while work is on-going, eagles may be disturbed. We recommend avoiding and minimizing disturbance to eagles whenever practicable. If you cannot avoid eagle disturbance, you may seek a [permit](#). A [nest take permit](#) is always required for removal, relocation, or obstruction of an eagle nest. For communication and wind energy projects, please refer to additional guidelines below.

Migratory Birds - The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Service. The Service has the responsibility under the MBTA to proactively prevent the mortality of migratory birds whenever possible and we encourage implementation of [recommendations that minimize potential impacts to migratory birds](#). Such measures include clearing forested habitat outside the nesting season (generally March 1 to August 31) or conducting nest surveys prior to clearing to avoid injury to eggs or nestlings.

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

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

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

State Department of Natural Resources Coordination

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

Minnesota

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

Email: Review.NHIS@state.mn.us

Wisconsin

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

Email: DNRERReview@wi.gov

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

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

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

This species list is provided by:

Minnesota-Wisconsin Ecological Services Field Office

3815 American Blvd East

Bloomington, MN 55425-1659

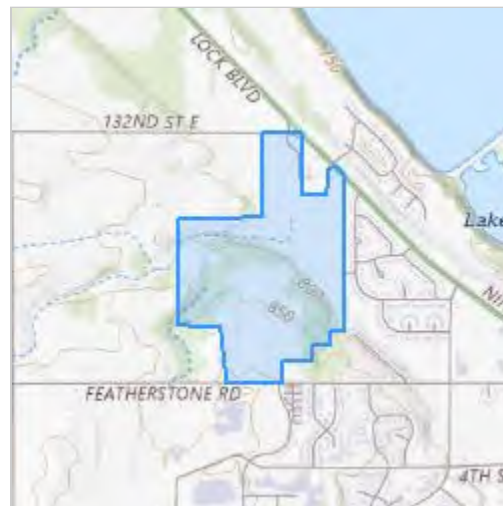
(952) 858-0793

PROJECT SUMMARY

Project Code: 2026-0100239
Project Name: Pleasant Valley Farms Hastings
Project Type: Residential Construction
Project Description: Development of up to 417 residential homes (341 single-family detached and 66 townhome units) on 158 acres. Property is currently primarily agricultural, forest/tree plantation and grass cover with some areas with steep slopes. Will be annexed into the City of Hastings from Nininger Township. Construction proposed in phases starting in 2027 through 2037.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@44.75055075,-92.88886214272911,14z>



Counties: Dakota County, Minnesota

ENDANGERED SPECIES ACT SPECIES

There is a total of 6 threatened, endangered, or candidate species on this species list.

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

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

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

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

MAMMALS

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

BIRDS

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

CLAMS

NAME	STATUS
Higgins Eye (pearlymussel) <i>Lampsilis higginsii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5428	Endangered
Salamander Mussel <i>Simpsonaias ambigua</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6208	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Western Regal Fritillary <i>Argynnis idalia occidentalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/12017	Proposed Threatened

CRITICAL HABITATS

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

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

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

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

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

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act ² and the Migratory Bird Treaty Act (MBTA) ¹. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

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

There are Bald Eagles and/or Golden Eagles in your [project](#) area.

Measures for Proactively Minimizing Eagle Impacts

For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the [National Bald Eagle Management Guidelines](#). You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#).

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

If disturbance or take of eagles cannot be avoided, an [incidental take permit](#) may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the [Do I Need A Permit Tool](#). For assistance making this determination for golden eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

Ensure Your Eagle List is Accurate and Complete

If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the [Supplemental Information](#)

[on Migratory Birds and Eagles](#), to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Golden Eagle <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds elsewhere

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read ["Supplemental Information on Migratory Birds and Eagles"](#), specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

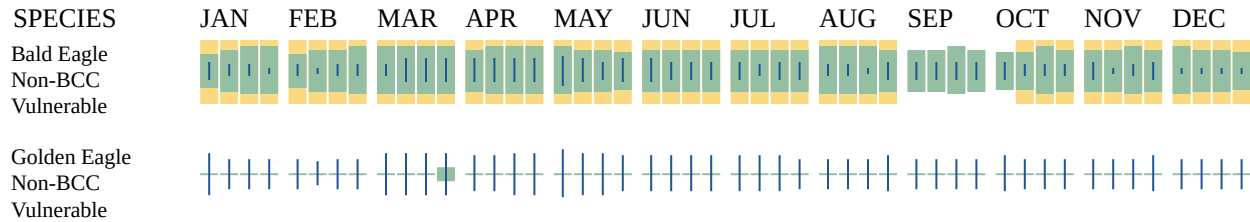
Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

■ probability of presence ■ breeding season | survey effort — no data



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) ¹ prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

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

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Golden-plover <i>Pluvialis dominica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10561	Breeds elsewhere

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9454	Breeds May 20 to Jul 31
Cerulean Warbler <i>Setophaga cerulea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 21 to Jul 20
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Eastern Whip-poor-will <i>Antrostomus vociferus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10678	Breeds May 1 to Aug 20
Golden Eagle <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds elsewhere
Grasshopper Sparrow <i>Ammodramus savannarum perpallidus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8329	Breeds Jun 1 to Aug 20
Henslow's Sparrow <i>Centronyx henslowii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3941	Breeds May 1 to Aug 31
Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere

NAME	BREEDING SEASON
Pectoral Sandpiper <i>Calidris melanotos</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9561	Breeds elsewhere
Prairie Loggerhead Shrike <i>Lanius ludovicianus excubitorides</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8833	Breeds Feb 1 to Jul 31
Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9439	Breeds Apr 1 to Jul 31
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9478	Breeds elsewhere
Semipalmated Sandpiper <i>Calidris pusilla</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9603	Breeds elsewhere
Upland Sandpiper <i>Bartramia longicauda</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9294	Breeds May 1 to Aug 31
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

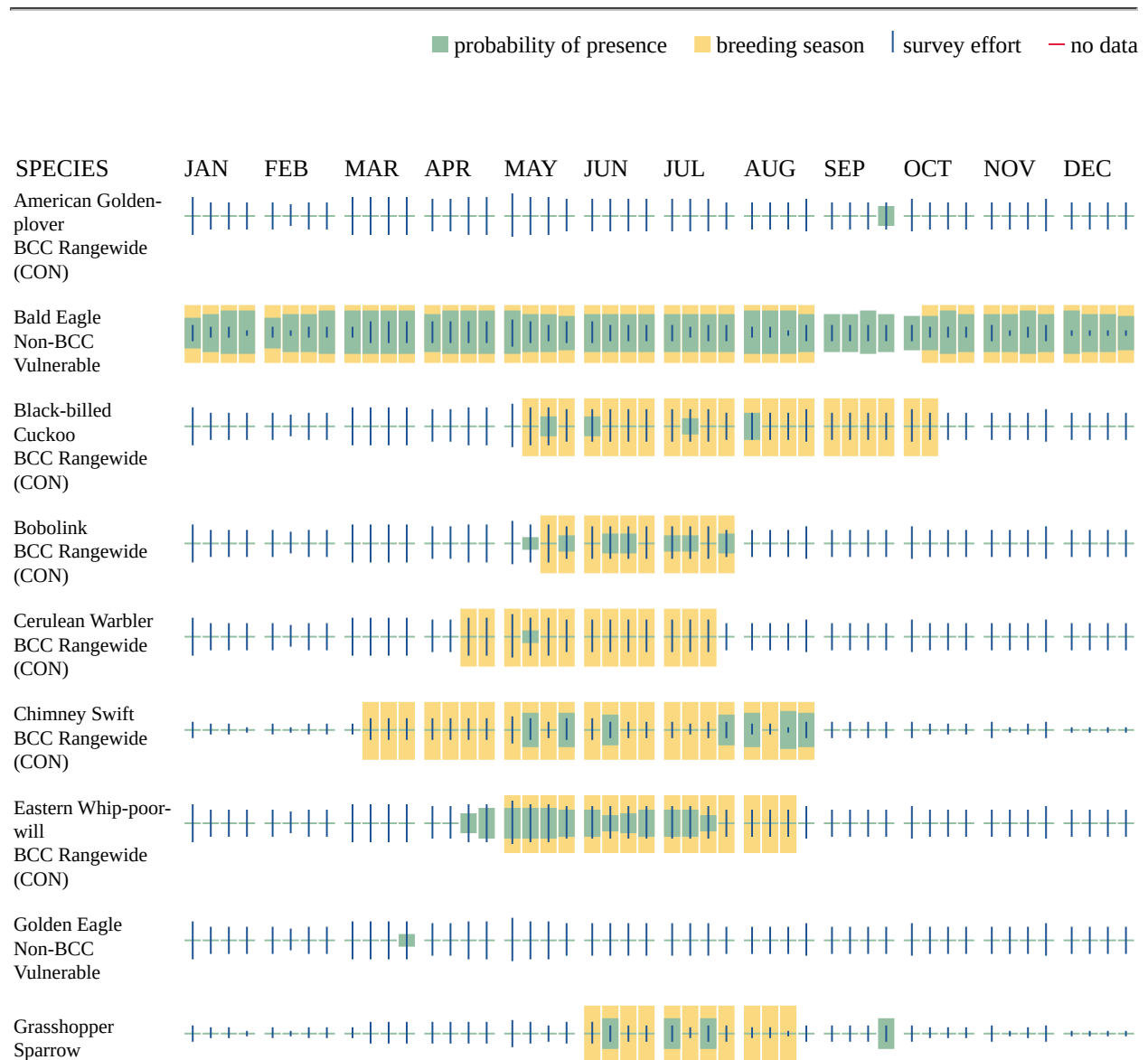
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

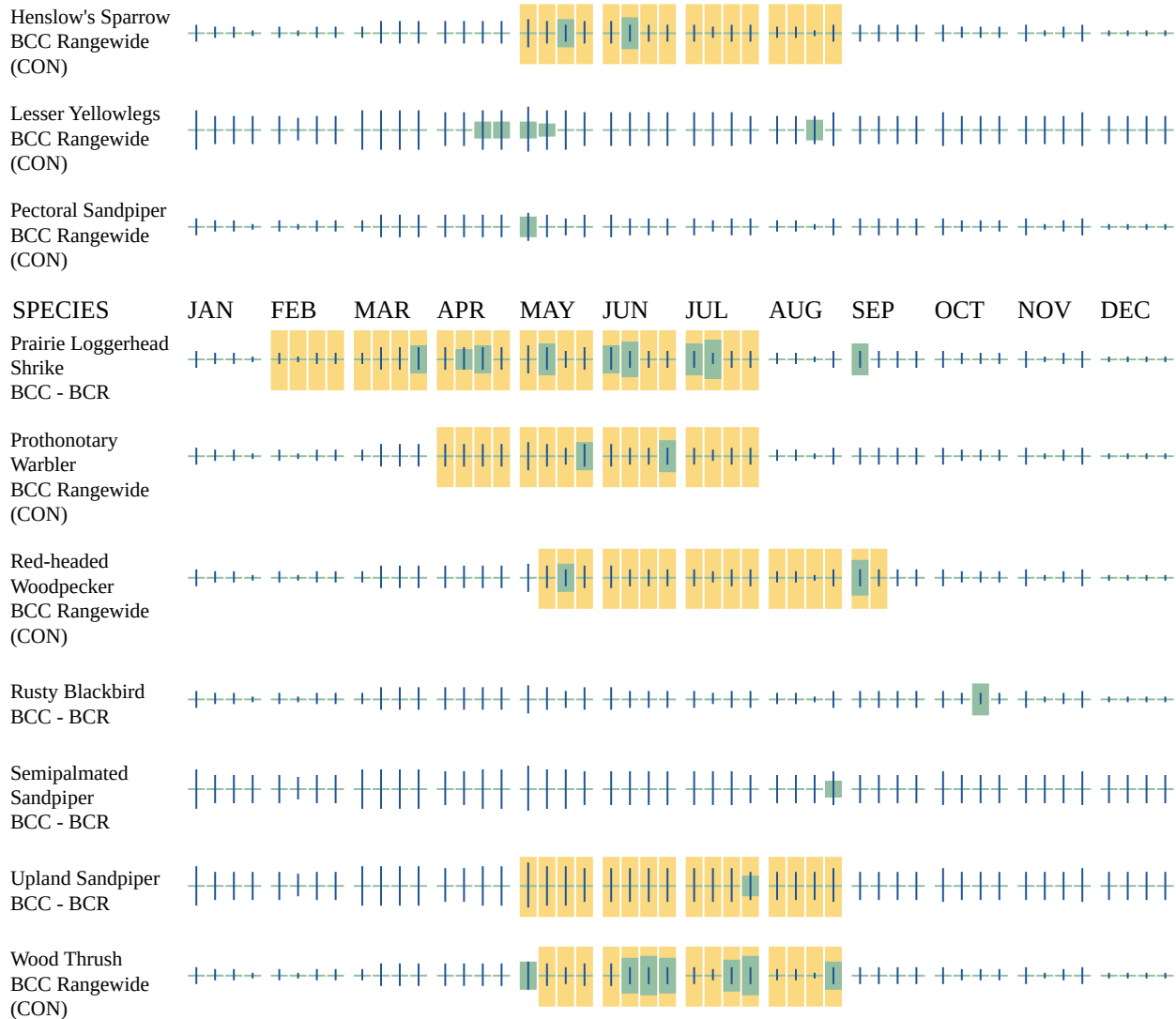
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.



BCC - BCR



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE VISIT [HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML](https://www.fws.gov/wetlands/data/mapper.html) OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Kimberly Zlimen
Address: 550 Vandalia Street
Address Line 2: Suite 205
City: St. Paul
State: MN
Zip: 55114
Email: kzlimer@swansonhaskamp.com
Phone: 6123967618



United States Department of the Interior

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



In Reply Refer To:

06/08/2026 18:47:05 UTC

Project code: 2026-0100239

Project Name: Pleasant Valley Farms Hastings

Subject: Technical Assistance letter for 'Pleasant Valley Farms Hastings' for specified threatened and endangered species that may occur in your proposed project location consistent with the Minnesota-Wisconsin Endangered Species Determination Key (Minnesota-Wisconsin DKey).

Dear Kimberly Zlimen:

The U.S. Fish and Wildlife Service (Service) received on **June 08, 2026** your effect determination(s) for the 'Pleasant Valley Farms Hastings' (Action) using the Minnesota-Wisconsin DKey within the Service's Information for Planning and Consultation (IPaC) system. The Service developed this system in accordance with the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C 1531 et seq.).

Based on your responses to the Service's Minnesota-Wisconsin DKey, you made the following effect determination(s) for the proposed Action:

Species	Listing Status	Determination
Higgins Eye (pearlymussel) (<i>Lampsilis higginsii</i>)	Endangered	May affect
Monarch Butterfly (<i>Danaus plexippus</i>)	Proposed	No effect
	Threatened	
Salamander Mussel (<i>Simpsonaias ambigua</i>)	Proposed	May affect
	Endangered	
Whooping Crane (<i>Grus americana</i>)	Experimental	No effect
	Population, Non-Essential	

Determination Information

Coordination with the Service is not complete. Further coordination with the Minnesota-Wisconsin Ecological Services Field Office is recommended for those species with a determination of "May Affect," listed above. Please email our office at TwinCities@fws.gov and attach a copy of this letter, so we can discuss methods to avoid or minimize potential adverse effects to those species.

Additional Information

Sufficient project details: Please provide sufficient project details on your project homepage in IPaC (Define Project, Project Description) to support your conclusions. Failure to disclose important aspects of your project that would influence the outcome of your effects determinations may negate your determinations and invalidate this letter. If you have site-specific information that leads you to believe a different determination is more appropriate for your project than what the Dkey concludes, you can and should proceed based on the best available information.

Future project changes: The Service recommends that you contact the Minnesota-Wisconsin Ecological Services Field Office or re-evaluate the project in IPaC if: 1) the scope or location of the proposed Action is changed; 2) new information reveals that the action may affect federally listed species or federally designated critical habitat in a manner or to an extent not previously considered; 3) the Action is modified in a manner that causes effects to listed species or designated critical habitat; or 4) a new species is listed or critical habitat designated. If any of the above conditions occurs, additional consultation with the Service should take place before project changes are final or resources committed.

Species-specific information

Freshwater Mussels: Freshwater mussels are one of the most critically imperiled groups of organisms in the world. In North America, 65% of the remaining 300 species are vulnerable to extinction (Haag and Williams 2014). Implementing measures to conserve and restore freshwater mussel populations directly improves water quality in lakes, rivers, and streams throughout Minnesota and Wisconsin. An adult freshwater mussel filters anywhere from 1 to 38 gallons of water per day (Baker and Levinton 2003, Barnhart pers. comm. 2019). A 2015 survey found that in some areas, mussels can reduce the bacterial populations by more than 85% (Othman et al. 2015 in Vaughn 2017). Mussels are also considered to be ecosystem engineers by stabilizing substrate and providing habitat for other aquatic organisms (Vaughn 2017). In addition to ecosystem services, mussels play an important role in the food web, contributing critical nutrients to both terrestrial and aquatic habitats, including those that support sport fish (Vaughn 2017). Taking proactive measures to conserve and restore freshwater mussels will improve water quality, which has the potential to positively impact human health and recreation in the States of Minnesota and Wisconsin.

Federally listed mussels may be present in the Action area. Projects may adversely affect listed mussels if they permanently affect local hydrology, directly impact a stream (e.g., stream/road crossings, new stormwater outfall discharge, dams, other in-stream work, etc.), and/or indirectly impact a stream or riparian zone (e.g., cut and fill, horizontal directional drilling, construction, vegetation removal, discharge, etc.). Please coordinate with the Minnesota-Wisconsin Ecological Services Field Office to further evaluate effects of the Action on Federally listed mussels.

Bald and Golden Eagles: Bald eagles, golden eagles, and their nests are protected under the Bald and Golden Eagle Protection Act (54 Stat. 250, as amended, 16 U.S.C. 668a-d) (Eagle Act). The Eagle Act prohibits, except when authorized by an Eagle Act permit, the “taking” of bald and golden eagles and defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” The Eagle Act’s implementing regulations define disturb as “... to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on

the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”

If you observe a bald eagle nest in the vicinity of your proposed project, you should follow the [National Bald Eagle Management Guidelines \(May 2007\)](#). For more information on eagles and conducting activities in the vicinity of an eagle nest, please visit our [regional eagle website](#) or contact Margaret at Margaret.Martin@fws.gov. If the Action may affect bald or golden eagles, additional coordination with the Service under the Eagle Act may be required.

Additional Species Requiring Review

In addition to the species described above, the following species or critical habitats may also occur in your project area and are not covered by this conclusion:

- Tricolored Bat *Perimyotis subflavus* Proposed Endangered
- Western Regal Fritillary *Argynnis idalia occidentalis* Proposed Threatened

Coordination with the Service is not complete if additional coordination is advised above for any species.

Mussel References

Baker, S.M. and J. Levinton. 2003. Selective feeding by three native North American freshwater mussels implies food competition with zebra mussels. *Hydrobiologia* 505(1):97-105.

Haag, W. R. and J.D. Williams, 2014. Biodiversity on the brink: an assessment of conservation strategies for North American freshwater mussels. *Hydrobiologia* 735:45-60.

Morowski, D., L. James and D. Hunter. 2009. Freshwater mussels in the Clinton River, southeastern Michigan: an assessment of community status. *Michigan Academician* XXXIX: 131-148.

Othman, F., M.S. Islam, E.N. Sharifah, F. Shahrom-Harrison and A. Hassan. 2015. Biological control of streptococcal infection in Nile tilapia *Oreochromis niloticus* (Linnaeus, 1758) using filter-feeding bivalve mussel *Pilsbryconcha exilis* (Lea, 1838). *Journal of Applied Ichthyology* 31: 724-728.

Vaughn, C.C. 2017. Ecosystem services provided by freshwater mussels. *Hydrobiologia* DOI: 10.1007/s10750-017-3139-x.

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

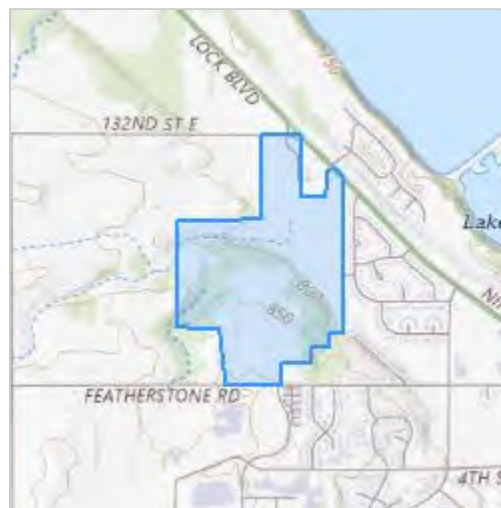
Pleasant Valley Farms Hastings

2. Description

The following description was provided for the project 'Pleasant Valley Farms Hastings':

Development of up to 417 residential homes (341 single-family detached and 66 townhome units) on 158 acres. Property is currently primarily agricultural, forest/ tree plantation and grass cover with some areas with steep slopes. Will be annexed into the City of Hastings from Nininger Township. Construction proposed in phases starting in 2027 through 2037.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@44.75055075,-92.88886214272911,14z>



QUALIFICATION INTERVIEW

1. This determination key is intended to assist the user in evaluating the effects of their actions on Federally listed species in Minnesota and Wisconsin. It does not cover other prohibited activities under the Endangered Species Act (e.g., for wildlife: import/export, Interstate or foreign commerce, possession of illegally taken wildlife, etc.; for plants: import/export, reduce to possession, malicious destruction on Federal lands, commercial sale, etc.) or other statutes. Additionally, this key DOES NOT cover wind development, purposeful take (e.g., for research or surveys), communication towers that have guy wires or are over 450 feet in height, aerial or other large-scale application of any chemical (such as insecticide or herbicide), and approval of long-term permits or plans (e.g., FERC licenses, HCP's).

Click **YES** to acknowledge that you must consider other prohibitions of the ESA or other statutes outside of this determination key.

Yes

2. Is the action being funded, authorized, or carried out by a Federal agency?
No
3. Is the action being conducted by or on behalf of a Federally recognized Tribe?
No
4. Does the action involve the installation or operation of wind turbines?
No
5. Does the action involve purposeful take of a listed animal?
No
6. Does the action involve a new communications tower?
No
7. Does the activity involve aerial or other large-scale application of ANY chemical, including pesticides (insecticide, herbicide, fungicide, rodenticide, etc)?
No
8. Will your action permanently affect local hydrology?
Yes

9. Does your project have the potential to impact the riparian zone or indirectly impact a stream/river (e.g., cut and fill; horizontal directional drilling; construction; vegetation removal; pesticide or fertilizer application; discharge; runoff of sediment or pollutants; increase in erosion, etc.)?

Note: Consider all potential effects of the action, including those that may happen later in time and outside and downstream of the immediate area involved in the action.

Endangered Species Act regulation defines "effects of the action" to include all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (50 CFR 402.02).

Yes

10. Will your action disturb the ground or existing vegetation?

Note: This includes any off-road vehicle access, soil compaction (enough to collapse a rodent burrow), digging, seismic survey, directional drilling, heavy equipment, grading, trenching, placement of fill, pesticide application (herbicide, fungicide), vegetation management (including removal or maintenance using equipment or prescribed fire), cultivation, development, etc.

Yes

11. Will your action include spraying insecticides?

No

12. Does your action area occur entirely within an already developed area?

Note: Already developed areas are already paved, covered by existing structures, manicured lawns, industrial sites, or cultivated cropland, AND do not contain trees that could be roosting habitat. Be aware that listed species may occur in areas with natural, or semi-natural, vegetation immediately adjacent to existing utilities (e.g. roadways, railways) or within utility rights-of-way such as overhead transmission line corridors, and can utilize suitable trees, bridges, or culverts for roosting even in urban dominated landscapes (so these are not considered "already developed areas" for the purposes of this question). If unsure, select NO..

No

13. [Semantic] Does the project intersect the Salamander mussel AOI?

Automatically answered

Yes

14. [Hidden Semantic] Does the action area intersect the monarch butterfly species list area?

Automatically answered

Yes

15. Under the ESA, monarchs remain warranted but precluded by listing actions of higher priority. The monarch is a candidate for listing at this time. The Endangered Species Act does not establish protections or consultation requirements for candidate species. Some Federal and State agencies may have policy requirements to consider candidate species in planning. We encourage implementing measures that will remove or reduce threats to these species and possibly make listing unnecessary.

If your project will have no effect on monarch butterflies (for example, if your project won't affect their habitat or individuals), then you can make a "no effect" determination for this project.

Are you making a "no effect" determination for monarch?

No

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Kimberly Zlimen
Address: 550 Vandalia Street
Address Line 2: Suite 205
City: St. Paul
State: MN
Zip: 55114
Email: kzlimer@swansonhaskamp.com
Phone: 6123967618

APPENDIX C

Geotechnical Exploration Report

Geotechnical Evaluation Report

Conzemius Property

South of 13335 Lock Boulevard
Hastings, Minnesota

Prepared for

Tradition Development

Professional Certification:

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Joseph L. Westphal, PE
Director, Senior Engineer
License Number: 49833
July 23, 2026

Braun Intertec Corporation

Project 10006938_001

July 23, 2026

Project 10006938_001

Patrick Wrase

Tradition Development

16972 Brandtjen Farm Drive
Lakeville, MN 55044

Re: Geotechnical Evaluation
Conzemius Property
South of 13335 Lock Boulevard
Hastings, Minnesota

Dear Mr. Wrase:

We are pleased to present this geotechnical evaluation report for the new residential development located on the Conzemius Property in Hastings, Minnesota. Please read the entire report for the results of the soil borings and our recommendations.

Thank you for making Braun Intertec Corporation (Braun Intertec) your geotechnical consultant for this project. If you have questions about this report, or if there are other services that we can provide in support of our work to date, please contact Michael Kudanovych at 952.607.5413 (mkudanovych@braunintertec.com) or Joe Westphal at 952.995.2238 (jwestphal@braunintertec.com).

Sincerely,

Braun Intertec Corporation

Michael L. Kudanovych, EIT
Staff Engineer

Joseph L. Westphal, PE
Director, Senior Engineer

c: Mr. Todd Stutz, Tradition Development
Mr. Rob St. Sauver, Tradition Development



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1.0 Introduction

1.1 Project Description

This geotechnical evaluation report addresses the proposed design and construction of the residential development located south of 13335 Lock Boulevard in Hastings, Minnesota. The project will include the construction of new single-family and multi-family homes with associated streets, sidewalks, curb and gutter, site utilities, and stormwater management features. The site layout provided shows the proposed development will include a total of 309 single-family homes and 66 townhomes. We understand that the homes could consist of a variety of types within the development including slab-on-grade, full basement, walk-out and look-out style homes. The figure below shows an illustration of the proposed site layout.

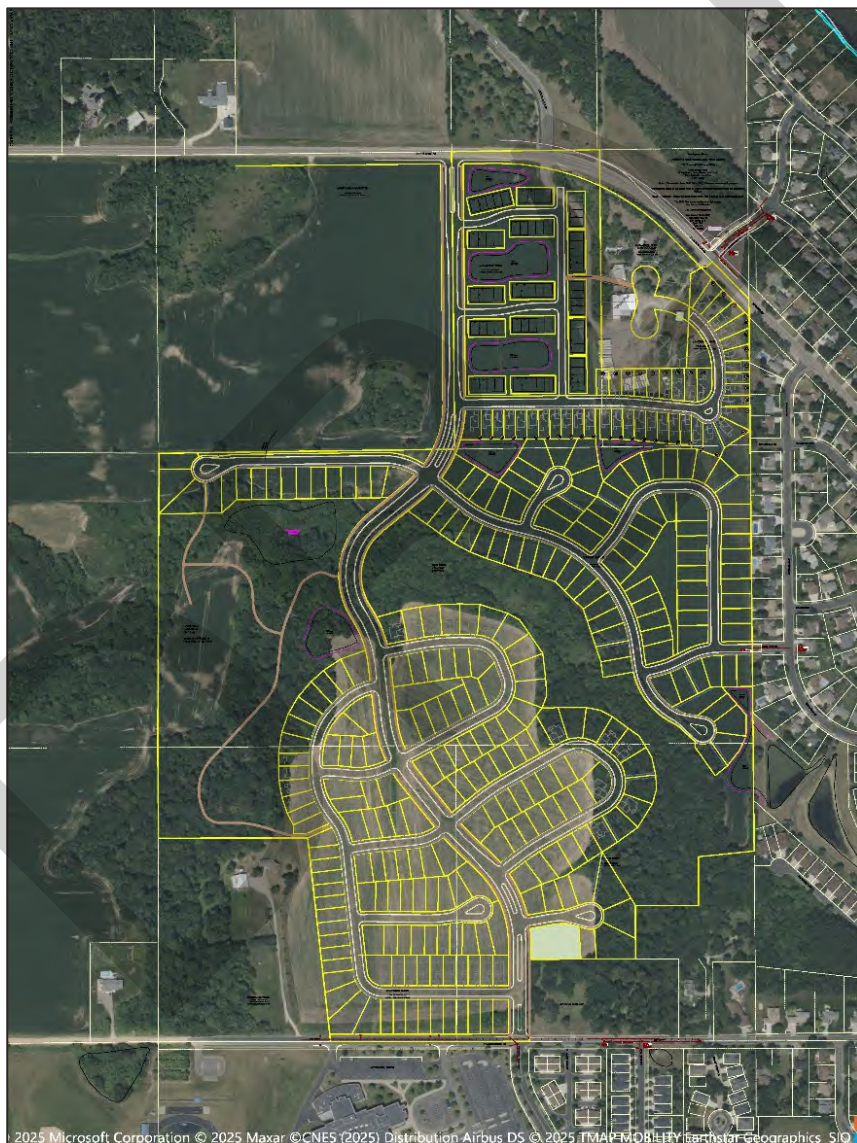


Figure 1-1. Site Layout

Figure provided by Sathre-Bergquist, Inc.



1.1.1 Structural Loads

We have assumed that the construction of the single-family homes will consist of one to two-story, wood framed structures with full- or partial-depth basements, supported by cast in place concrete foundations. We have assumed that bearing wall loads associated with the proposed single-family homes will range from 3 to 4 kips (3,000 to 4,000) per linear foot (klf) and column loads, if any, will be no greater than 50 kips per column. We have further assumed that the multi-family homes (townhomes) will consist of two to three stories of wood framed construction, either with or without basements. Building loads for the townhomes will also be similar to those of the single-family homes.

1.1.2 Pavement and Traffic Loads

We have assumed that bituminous pavements, typical of residential neighborhoods, will be subject to normal traffic conditions of cars, with occasional school buses, garbage trucks and light delivery trucks and road maintenance equipment estimated to be under 150,000 equivalent single axle loads (ESAL) over an assumed design life of 20 years.

1.2 Site Conditions and History

Currently and historically, the site has mainly been used for agricultural purposes along with portions of wooded areas. The site is rolling, with surface elevations at the soil boring and test pit locations ranging from about 777 to 890 Mean Sea Level (MSL). The northern part of the site is significantly lower than the south part of the site, as grade drops nearer the Mississippi River which located less than a mile to the north. Figure 1-2 below, shows an aerial photograph of the site in its current condition with existing grades overlain. The proposed area of the development is outlined in red.

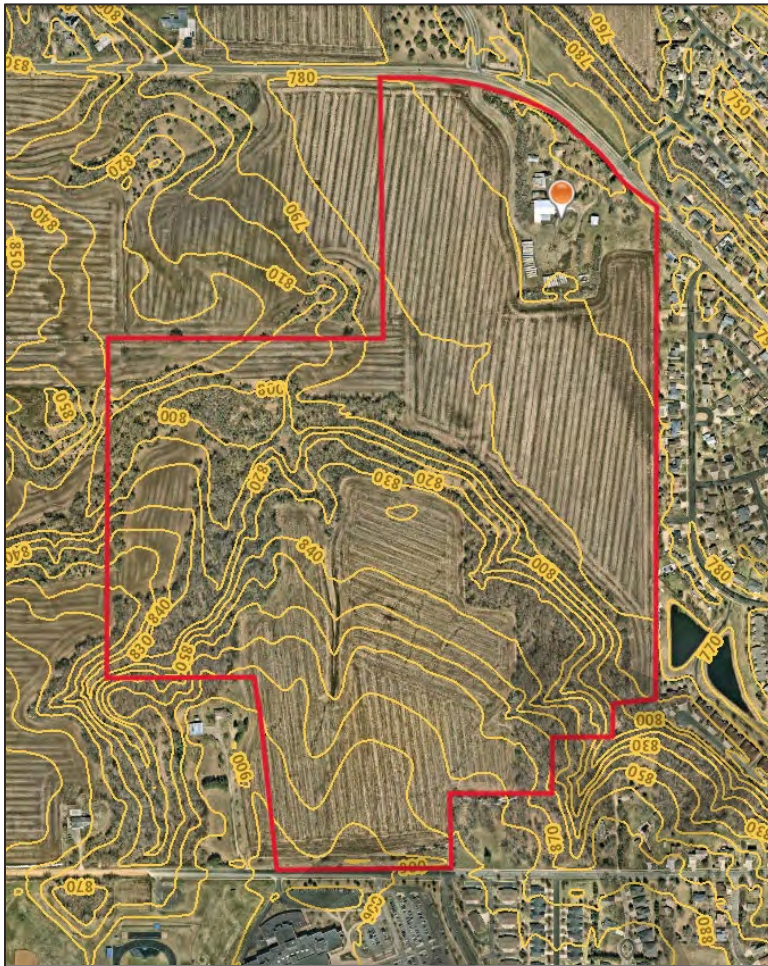


Figure 1-2. Aerial Photograph of the Site in 2026

Figure provided by MnTOPO.

1.3 Purpose

The purpose of our geotechnical evaluation was to characterize subsurface geologic conditions at selected exploration locations, evaluate their impact on the project, and provide geotechnical recommendations for the design and construction of the residential development.

1.4 Background Information and Reference Documents

We reviewed the following information:

- Existing topographic map prepared by MnTOPO.
- Current and historic aerial photos from Google Earth, Minnesota Historical Aerial Photographs Online and Dakota County GIS for information on site history.
- Geologic Atlas of Dakota County, Minnesota – Surficial Geology map prepared and published by the Minnesota Geological Survey, dated 2023 for geological information of native soils.



We have described our understanding of the proposed construction and site to the extent others reported it to us. Depending on the extent of available information, we may have made assumptions based on our experience with similar projects. If we have not correctly recorded or interpreted the project details, the project team should notify us. New or changed information could require additional evaluation, analyses, and/or recommendations.

1.5 Scope of Services

We performed our scope of services for the project in accordance with our Proposal 10006938_001 to Tradition Development, dated February 9, 2026. The following list describes the geotechnical tasks completed in accordance with our authorized scope of services.

- Reviewing the background information and reference documents previously cited.
- Staking and clearing the exploration location of underground utilities. Braun Intertec selected and staked the new exploration locations. We acquired the surface elevations and locations of the soil borings and test pits with GPS technology using the State of Minnesota's permanent GPS base station network. The Soil Boring Location Sketch included in the [Appendix](#) shows the approximate locations of the borings.
- Performing 14 standard penetration test (SPT) borings, denoted as ST-1 to ST-14, to nominal depths of 15 to 20 feet below grade across the site.
- Observed 15 test pit (TP) excavations performed by Enebak Construction, denoted as TP-1 to TP-15, to depths of 6 to 18 feet below grade across the site.
- Performing laboratory testing on select samples to aid in soil classification and engineering analysis.
- Preparing this report containing a boring location sketch, logs of soil borings, a summary of the soils encountered, results of laboratory tests, and recommendations for structure and pavement subgrade preparation and the design of foundations, floor slabs, exterior slabs, utilities, stormwater improvements and pavements.

We performed this geotechnical evaluation concurrently with a Phase I Environmental Assessment (ESA) which we will submit separately. The project team should review the Phase I ESA report in conjunction with this geotechnical evaluation report to understand both the geotechnical and environmental aspects of the site and how they may impact one another.

2.0 Results

2.1 Geologic Overview

As part of our assessment, we reviewed the geologic maps for the general site area. Based on the geologic maps for Dakota County, the geology of the site generally consists of glacially deposited sands and gravelly



sands with lesser amounts of clay and sandy silt. We also reviewed bedrock geology and depth to bedrock maps for Dakota County. The depth to bedrock is approximately 5 to 150 feet below existing grades and generally consists of Limestone from the Shakopee Formation.

We based the geologic origins used in this report on the soil types, in-situ and laboratory testing, and available common knowledge of the geological history of the site. Because of the complex depositional history, geologic origins can be difficult to ascertain. We did not perform a detailed investigation of the geologic history for the site.

2.2 Boring Results

2.2.1 Soil

Table 2-1 provides a summary of the soil boring results, in the general order we encountered the strata. Please refer to the Log of Boring sheets in the Appendix for additional details. The Descriptive Terminology sheet in the Appendix includes definitions of abbreviations used in the table below.

Table 2-1. Subsurface Profile Summary*

Strata	Soil Type -ASTM Classification	Range of Penetration Resistances	Commentary and Details
Topsoil	CL	---	- Encountered by all the borings and test pits and consisted of sandy lean clay. - Thicknesses at boring locations varied from 1 1/2 to 7 feet. - Generally dark brown or black in color. - Moisture condition generally moist.
Alluvial	SP, SP-SM, SM, CL, ML	3 to 19 Blows per Foot (BPF)	- Encountered by most of the borings and test pits and consisted of a mixture of sand, silty sand, and clayey soil. - Generally brown in color. - Moisture condition generally moist.
Glacial deposits	SP, SP-SM	8 to 28 BPF	- Encountered by all the borings and test pits below the topsoil and alluvial soils. - Generally consisted of sand or silty sand with lesser amounts of sandy lean clay and clayey sand. - Variable amounts of gravel, may contain cobbles and boulders. - Generally brown in color. - Moisture condition generally moist.
	SC, CL	5 to 50 BPF	
Bedrock	Limestone	50 blows for 2 to 5 inches of penetration	- Shakopee Formation Limestone. - Encountered in Borings ST-9, ST-12, ST-13, and ST-14. - Encountered in Test Pits TP-1 through TP-6, TP-8 through TP-15. - Slightly to highly weathered bedrock varied from elevation approx. 825 ft to 891 ft.

*Abbreviations are defined in the attached Descriptive Terminology sheet.



2.2.2 Bedrock

Some of our soil borings encountered apparent bedrock and/or auger refusal. We define auger refusal as that depth when the drill rig is unable to advance the auger using standard soil auguring techniques. In addition, several Test pits were performed to further define the extent of the shallow bedrock.

Table 2-2 below summarizes the depth and elevation of auger refusal at the boring locations, along with the depth and elevation to some of the interface of some of the rock formations.

Table 2-2. Auger Refusal and Bedrock Depths**

Boring	Measured Surface Elevation (feet)	Approximate Auger Refusal Depth (feet)	Approximate Elevation of Auger Refusal* (feet)
ST-9	834.0	19	815
ST-12	872.0	8	864
ST-13	883.8	14 1/2	869
ST-14	890.4	14 1/2	876
TP-1	869.2	10	859
TP-2	875.9	16	860
TP-3	852.8	16	837
TP-4	870.9	10	861
TP-5	843.9	11	833
TP-6	845.7	13	832 1/2
TP-8	896.4	18	878 1/2
TP-9	896.0	6	890
TP-10	887.8	11	877
TP-11	879.0	15	864
TP-12	840.8	8	833
TP-13	838.2	9 1/2	828 1/2
TP-14	834.1	11	823
TP-15	837.3	13	824

*Rounded up to the nearest 1/2-foot.

**Auger refusal depth is assumed Bedrock elevation. Coring of bedrock was not performed to confirm rock type or quality.

2.3 Groundwater

We did not observe groundwater while advancing our borings. Therefore, it appears that groundwater is below the depths explored. Project planning should anticipate seasonal and annual fluctuations of groundwater.



2.4 Laboratory Test Results

The boring logs show the results of laboratory testing we performed, next to the tested sample depth. The tests were completed in accordance with the latest American Society for Testing and Materials (ASTM) standards. The [Appendix](#) contains the results of these tests.

The moisture content (ASTM D 2216) of the selected samples varied from approximately 2 to 35 percent moisture by weight with most of the samples ranging from 4 to 20 percent of moisture by weight. This indicates that most of the material is below or near its probable optimum moisture content. Some of the silt and clay soils have moisture contents that exceed 20 percent and are over their probable optimum moisture contents.

Our mechanical analyses tests (ASTM C 117) indicated that the selected samples contained 5 to 61 percent silt and clay by weight. This indicates soils with classifications of poorly graded sand with silt (SP-SM), silty sand (SM), or sandy lean clay (CL).

3.0 Recommendations

3.1 Design and Construction Discussion

The site generally appears suitable for the proposed residential development following mass grading construction. Key discussion points for the project are provided below.

3.1.1 Building Subgrade Preparation

Based on the results of our subsurface exploration and evaluation, spread footing foundations bearing on engineered fill and/or native soils can support the proposed houses, after performing subgrade preparation. Subgrade preparation includes removing existing vegetation, topsoil, and any existing structures and soft/very loose soils. In agricultural fields, there is the possibility of field drain lines which will also need to be removed, if encountered.

Although preliminary grading plans were not available, we anticipate cuts and fills to be less than 10 feet from existing grades.

3.1.2 Shallow Bedrock Site

Limestone bedrock was identified generally across the south portion of site, which could affect utility installation, interior plumbing, and foundation excavations. The highly weathered limestone may possibly be excavated with a toothed excavating bucket; however, this will likely only work for the upper weathered bedrock. Deeper excavation will likely require a hydraulic hammer, ripper, or explosive techniques. It is also possible that there may be areas where the bedrock has been eroded by nature and there may be deeper areas of soil which have filled in subsurface erosion channels.



Each house pad will require easily excavatable soil (not bedrock) **a minimum of 4 feet below the proposed low floor grade for WO / LO or FB and a minimum of 6 feet below SOG foundations.** This soil buffer zone will allow the installation of water and sanitary sewer services, foundations (spread footings and poured foundation walls) as well as interior plumbing (including drain tile and sump baskets) below the lowest floor, as required.

3.1.3 Reuse of On-Site Soils

The on-site soils that are free of organic materials and debris, are generally suitable for reuse as engineered fill. Some of the on-site soils may require moisture conditioning prior to reuse and compaction. The moisture conditioning may require watering (or wetting) some of the native sands, while some of the silty sands and clays encountered in the borings may require drying to achieve proper moisture content for compaction. The moisture conditioning process needs favorable weather (such as summer months) along with time and space to properly moisture condition the soils for reuse and compaction.

The borings encountered limited amounts of silt, however we do not recommend using the silts encountered on the site for structural fill due to their moisture sensitivity, narrow band of optimum moisture and susceptibility of disturbance. These soils are difficult to properly moisture condition and compact. Should on-site silt soils need to be used to balance the site, contingency for extra moisture conditioning and grading time should be anticipated. Similarly, we do not recommend using silt soils within the upper 3 feet of roadway (Subgrade) fill, as they are easily disturbed and may make it difficult to achieve a passing roll test. Silt is also highly moisture sensitive and prone to excessive frost heave.

Based on the results of our mechanical analysis tests, most of the sand soils (with classifications of SP and SP-SM) present on site appear suitable for reuse as select granular fill material for the roadways. If there is excess sand material during mass grading it could be stockpiled for reuse during street construction. We would recommend full sieve analysis of the material before and after stockpiling. Any material to be used as engineered fill should be tested and approved by the geotechnical engineer prior to placement.

3.1.4 Pavement

Based on the soil borings, it is our opinion the pavements can be constructed on the on-site fill and/or native alluvial soils, provided the compacted subgrade soils can pass a proofroll test. If difficulties passing a proofroll on these soils occur during construction, re-engineering of the existing soil or excavation and replacement with more suitable soils may be necessary. In addition, if there are streets that do not require underground water and sewer lines, we recommend a minimum of 4 feet of soil cover over shallow bedrock areas.

3.1.5 Reuse of Limestone Bedrock

Removed limestone is typically not reused as engineered fill. Often, the pieces of removed limestone exceed 4 inches in diameter and are too large to reuse as engineered fill. If reuse of some limestone is permitted, limestone fragments under 4 inches in size may be blended with soil, but we recommend no more than one part limestone fragment to three parts engineered soil (approximately 25 percent by volume, or less).



Based on the quantity of proposed limestone bedrock removal required during construction, the limestone could likely be crushed and reused as an engineered product, if permitted. We anticipate MnDOT Class 5 Aggregate Base could possibly be produced, provided an experienced crushing and screening process is used. Additional soundness and durability testing of the limestone should be performed prior to crushing.

3.1.6 Construction Disturbance

The contractor should note the on-site, clayey soils are highly susceptible to disturbance, due to repeated construction traffic. Disturbance of these soils may cause areas that were previously prepared, or that were suitable for pavement or structure support, to become unstable and require moisture conditioning and compaction. Subcutting and replacing the disturbed material with crushed, coarse gravel, free of fines is also an alternative. The contractor should use means and methods to limit disturbance of the soils.

3.2 Site Grading and Subgrade Preparation

3.2.1 Building Subgrade Excavations

We recommend removing the topsoil and any unsuitable material below the proposed house pads and their oversize areas. We define unsuitable materials as existing fill (if encountered), frozen materials, organic soils, existing structures, existing utilities, vegetation, and soft/very loose soils. Table 3-1 shows the anticipated excavation depths and bottom elevations at each of the soil boring and test pit locations. We have included soil correction depths at all the borings, assuming a building pad or pavement will be constructed.

Table 3-1. Building Excavation Depths

Location	Measured Surface Elevation (ft)	Anticipated Excavation Depth (ft)	Anticipated Bottom Elevation (ft)
ST-1	779.5	4 - 7*	775 1/2 - 772 1/2*
ST-2	778.2	1 1/2	776 1/2
ST-3	777.3	4	773
ST-4	785.9	2	784
ST-5	777.2	4	773
ST-6	779.2	7	772
ST-7	781.4	4	777 1/2
ST-8	807.1	1 1/2	805 1/2
ST-9	834.0	1 1/2	832 1/2
ST-10	836.2	4	832
ST-11	781.3	7	774
ST-12	872.0	2	870
ST-13	883.8	4	879 1/2
ST-14	890.4	2	888 1/2
TP-1	869.2	2	867
TP-2	875.9	2	874
TP-3	852.8	2	850 1/2



Location	Measured Surface Elevation (ft)	Anticipated Excavation Depth (ft)	Anticipated Bottom Elevation (ft)
TP-4	870.9	2	869
TP-5	843.9	2	842
TP-6	845.7	2	843 1/2
TP-7	836.5	2	834 1/2
TP-8	896.4	1 1/2	895
TP-9	896.0	2	894
TP-10	887.8	1 1/2	886
TP-11	879.0	2	877
TP-12	840.8	4	836 1/2
TP-13	838.2	6	832
TP-14	834.1	2	832
TP-15	837.3	3	834

*To be determined in the field during site grading.

Excavation depths will vary between the borings and test pits. Portions of the excavations may also extend deeper than indicated by the borings and test pits. A geotechnical representative should observe the excavations to make the necessary field judgments regarding the suitability of the exposed soils.

The contractor should use equipment and techniques to minimize soil disturbance. If soils become disturbed or are wet, we recommend excavation and replacement.

3.2.2 House Pad Bedrock Separation

We recommend that the house pads have easily excavatable soil (not bedrock) a minimum of 4 feet below the proposed low floor grade for common single family foundation styles of WO, LO, FB. This 4-foot soil buffer zone will allow the installation of water and sanitary sewer services, foundations (spread footings and poured foundation walls) as well as interior plumbing (including drain tile and sump baskets) below the lowest floor. Where slab on grade foundations (SOG) are planned we recommend increase the bedrock buffer to 6 feet, and potentially more depending utility services.

Based on the proposed basement floor grades, and lowest floor elevations in the final grading plan (currently unavailable), we anticipate areas of bedrock conflicts, and the recommended separation may not be met. Test pits should be performed during mass grading to verify that the recommended 4-foot (or greater) bedrock separations is provided. Any areas where bedrock is found with less than 4-foot of separation, bedrock removal for the full extent of the proposed house pad envelope should be performed. In addition, some bedrock removal may also be needed to provide proper bedding to the sanitary sewer and water line connections to the street.

Based on this evaluation we are confident the bedrock surface is not flat; therefore, it is assumed there will be variable depths to bedrock within each house pad. In areas where extensive bedrock removal occurs for utility



construction, stormwater ponds, or general mass grading, the adjacent house pad(s) should also be evaluated. We recommend addition borings and/or test pits where bedrock is within 20 feet of the ground surface.

3.2.3 Excavation Oversizing

When removing unsuitable materials below structures or pavements, we recommend the excavation extend outward and downward at a slope of 1H:1V (horizontal:vertical) or flatter. See Figure 3-1 for an illustration of excavation oversizing.

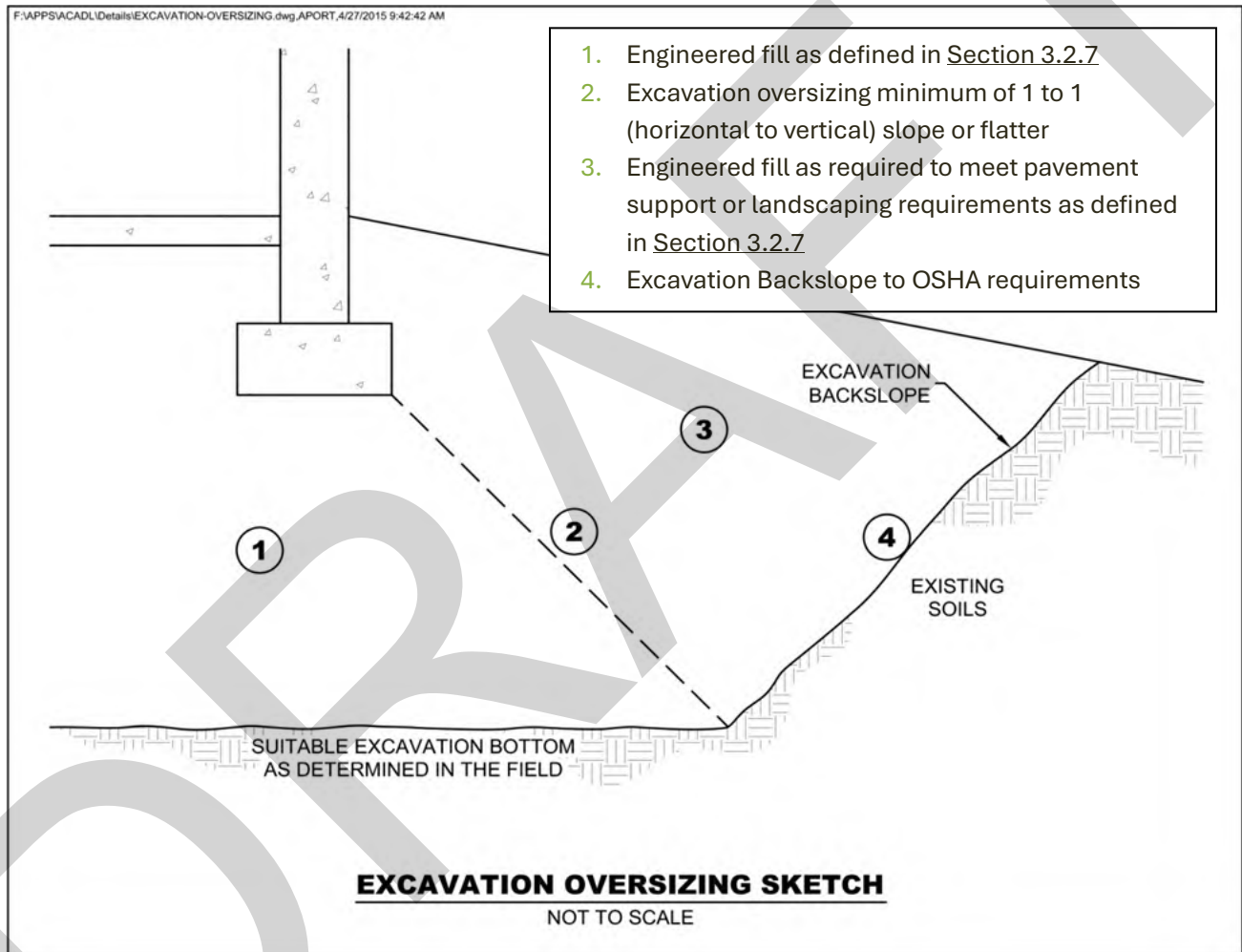


Figure 3-1. Generalized Illustration of Oversizing

3.2.4 Excavated Slopes

Based on the borings, we anticipate on-site soils in excavations will consist mostly of sandy soils or mixed sandy and clayey soils. These soils are typically considered Type C Soil under OSHA (Occupational Safety and Health Administration) guidelines. OSHA guidelines indicate unsupported excavations in Type C soils should have a gradient no steeper than 1 1/2H:1V. Slopes constructed in this manner may still exhibit surface sloughing. OSHA requires an engineer to evaluate slopes or excavations over 20 feet in depth.



An OSHA-approved qualified person should review the soil classification in the field. Excavations must comply with the requirements of OSHA 29 CFR, Part 1926, Subpart P, “Excavations and Trenches.” This document states that excavation safety is the responsibility of the contractor. The project specifications should reference these OSHA requirements.

3.2.5 Pavement and Exterior Slab Subgrade Preparation

We recommend the following steps for pavement and exterior slab subgrade preparation. Note that project planning may require additional subcuts to limit frost heave.

1. Strip unsuitable soils consisting of topsoil, organic soils, vegetation, existing structures, and pavements from the area down to suitable native soils and place engineered fill to retain pavement subgrades.
2. Have a geotechnical representative observe the excavated subgrade to evaluate if additional subgrade improvements are necessary.
3. Slope subgrade soils to areas of sand or drain tile to allow the removal of accumulating water.
4. Scarify, moisture condition and surface compact the subgrade with at least three passes of a large roller with a minimum drum diameter of 3 1/2 feet.
5. Place pavement engineered fill to grade and compact in accordance with [Section 3.2.7](#) to bottom of pavement and exterior slab section. See [Section 3.6](#) for additional considerations related to frost heave.
6. Proofroll the pavement or exterior slab subgrade as described in [Section 3.2.6](#).

3.2.6 Pavement Subgrade Proofroll

After preparing the subgrade as described above and prior to the placement of the aggregate base, we recommend proofrolling the subgrade soils with a fully loaded tandem-axle truck. We also recommend having a geotechnical representative observe the proofroll. Areas that fail the proofroll likely indicate soft or weak areas that will require additional soil correction work to support pavements.

The contractor should correct areas that display excessive yielding or rutting during the proofroll, as determined by the geotechnical representative. Possible options for subgrade correction include moisture conditioning and re-compaction, subcutting and replacement with soil or crushed aggregate, chemical stabilization, and/or geotextiles. We recommend performing a second proofroll after the aggregate base material is in place, and prior to placing bituminous or concrete pavement.

3.2.7 Engineered Fill Materials and Compaction

[Table 3-2](#) below contains our recommendations for engineered fill materials.



Table 3-2. Engineered Fill Materials*

Locations To Be Used	Engineered Fill Classification	Possible Soil Type Descriptions	Gradation	Additional Requirements
Below foundations <10 feet of fill	Structural fill	SP, SP-SM, SM, SC, CL	100% passing 4-inch sieve	< 2% Organic Content (OC) Plasticity Index (PI) < 20%
Below foundations >10 feet of fill	Deep structural fill	SP, SP-SM	100% passing 4-inch sieve < 12% passing #200 sieve	< 2% OC
- Drainage layer - Non-frost-susceptible	- Free draining - Non-frost-susceptible fill	GP, GW, SP, SW	100% passing 1-inch sieve < 50% passing #40 sieve < 5% passing #200 sieve	< 2% OC
Behind below-grade walls, beyond drainage layer	Retained fill	SP, SP-SM, SM	100% passing 3-inch sieve < 20% passing #200 sieve	< 2% OC PI < 4%
Pavements	Pavement fill	SP, SP-SM, SM, SC, CL	100% passing 3-inch sieve	< 2% OC PI < 20%
Below landscaped surfaces, where subsidence is not a concern	Non-structural fill	Any	100% passing 6-inch sieve	< 10% OC

* More select soils comprised of coarse sands with < 5% passing #200 sieve may be needed to accommodate work occurring in periods of wet or freezing weather.

Project grading plans were not available at the time of this report, so it is unknown if there will be any deep fill areas. Since most of the soils on this site consist of clean sands, with less than 12 percent passing the #200 sieve, a possible construction delay on house pads with more than 10 feet of fill will likely not be needed if only the on-site sands (SP or SP-SM) are used for engineered fill for the deep fill lots. However, if the limited amount of silty sands and clays on site are used for fill on potential deep fill lots (over 10 feet of fill), a construction delay is likely going to be required. The extent of the construction delay can be determined, if necessary, during site grading.

We recommend spreading engineered fill in loose lifts of approximately 8 to 12 inches thick. We recommend compacting each lift of engineered fill with a full-size vibratory or sheepsfoot compactor in accordance with the criteria presented below in [Table 3-3](#). The project documents should specify relative compaction of engineered fill, based on the structure located above the engineered fill, and vertical proximity to that structure.



Table 3-3. Compaction Recommendations Summary

Reference	Relative Compaction, percent (ASTM D698 – Standard Proctor)	Moisture Content Variance from Optimum, percentage points	
		< 12% Passing #200 Sieve (typically SP, SP-SM)	> 12% Passing #200 Sieve (typically CL, SC, ML, SM)
Below building foundations and oversizing zones, less than 10 feet of fill	95	**---	-1 to +3
Below building foundations and oversizing zones, more than 10 feet of fill	98	**---	-1 to +3
Within 3 feet of pavement subgrade	100	**---	-2 to +1
More than 3 feet below pavement subgrade	95	**---	-1 to +3
Below landscaped surfaces	90	**---	-1 to +5
Adjacent to below grade wall	95*	**---	-1 to +3

*Increase compaction requirement to meet compaction required for structure supported by this engineered fill.

**The minimum moisture content should not be less than 5 percent and no more than 3 percentage points over optimum.

The project documents should not allow the contractor to use frozen material as engineered fill or to place engineered fill on frozen material. Frost should not penetrate under foundations during construction.

We recommend performing density tests in engineered fill to evaluate if the contractors are effectively compacting the soil and meeting project requirements.

3.3 Spread Footings

3.3.1 Embedment Depth

For frost protection, we recommend embedding perimeter footings of the single-family and townhome structures, including attached or tuck-under garages, a minimum of 42 inches below the lowest exterior grade. Interior footings may be placed directly below floor slabs unless they will be subjected to freezing. We recommend embedding building footings that are not heated during winter construction, and other unheated footings associated with porches, decks, or stoops, at least 60 inches below the lowest exterior grade.

3.3.2 Subgrade Improvement

If a small amount of groundwater is present within the footing excavation, or if the footing subgrade soils become disturbed prior to placing forms or reinforcement, we recommend subcutting the soft or wet soil and placing a 6- to 8-inch layer of crushed aggregate, which should be compacted into the subgrade. The aggregate will provide a stable working surface and will allow for the flow of water to a drain tile or sump pump.



3.3.3 Net Allowable Bearing Pressure

We recommend sizing spread footings to exert a net allowable bearing pressure of up to 2,000 pounds per square foot (psf). This value includes a safety factor of at least 3.0 with regard to bearing capacity failure.

3.3.4 Settlement

We estimate that total and differential settlements among the footings will amount to less than 1- and 1/2-inch, respectively, under the assumed loads. Settlements could be higher if more than 10 feet of clayey fill is used to construct the building pads. Those lots would require a construction delay.

3.4 Below-Grade Walls

The following sections address soil parameters for basement wall design. Although construction of retaining walls has not been specified for this project to date, the following recommendations can also be used for preliminary retaining wall design. Additional soil analysis, including additional soil borings may be needed for final retaining wall design.

3.4.1 Drainage Control

We recommend installing drain tile to remove water behind the below-grade walls, at the location shown in [Figure 3-2](#). The below-grade wall drainage system should also incorporate free-draining, engineered fill or a drainage board placed against the wall and connected to the drain tile.

Even with the use of free-draining, engineered fill, we recommend general waterproofing of below-grade walls that surround occupied or potentially occupied areas because of the potential cost impacts related to seepage after construction is complete.

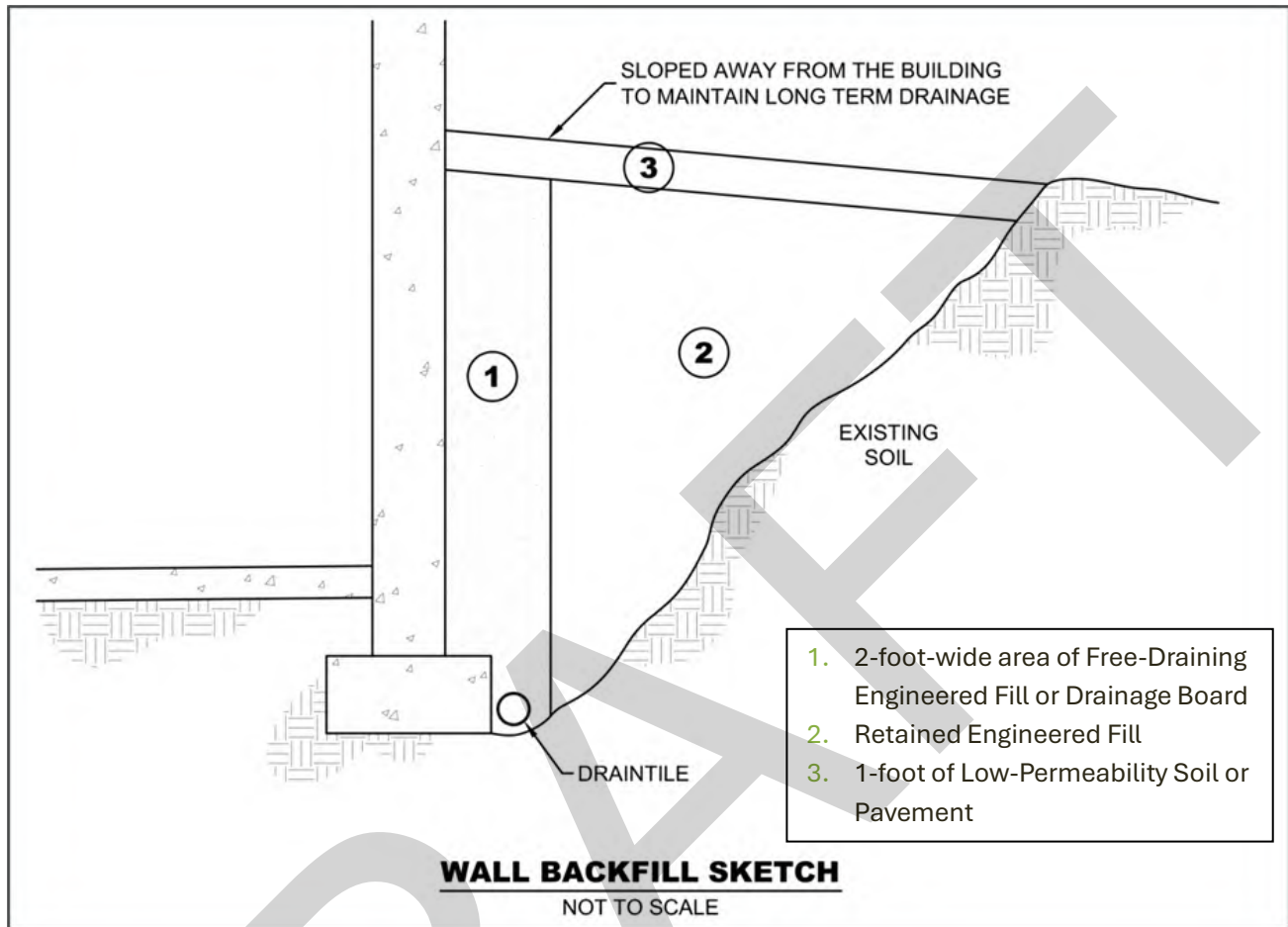


Figure 3-2. Generalized Illustration of Wall Engineered Fill

The materials listed in the sketch should meet the definitions in [Section 3.4](#). The low-permeability material should be capable of directing water away from the wall, like clay, topsoil, or pavement. The project documents should indicate if the contractor should brace the walls prior to filling and allow unbalanced fill heights.

3.4.2 Configuring and Resisting Lateral Loads

Below-grade wall design can use active earth pressure conditions if the walls can rotate slightly. If the wall design cannot tolerate rotation, then design should use at-rest earth pressure conditions. Rotation up to 0.002 times the wall height is generally required for walls supporting sand. Rotation up to 0.02 times the wall height is required when wall supports clay.

[Table 3-4](#) presents our recommended lateral coefficients and equivalent fluid pressures for wall design using active, at-rest and passive earth pressure conditions. The table also provides recommended wet unit weights and internal friction angles. Designs should also consider the slope of any engineered fill, and dead or live loads placed behind the walls within a horizontal distance that is equal to the height of the walls. Our recommended values assume the wall design provides drainage so water cannot accumulate behind the walls. The construction documents should clearly identify what soils the contractor should use for engineered fill of walls.



Table 3-4. Recommended Below-Grade Wall Design Parameters – Drained Conditions

Retained Soil	Wet Unit Weight (pcf)	Friction Angle (degrees)	Equivalent Active Fluid Pressure (pcf)	Equivalent At-Rest Fluid Pressure (pcf)	Equivalent Fluid Passive Pressure* (pcf)
On-site Sand (SP, SP-SM)	120	33	35	55	---
On-site Silty Sand (SM)	125	30	42	62	375
On-site Clay (CL, SC)	125	26	50	70	320

* Based on Rankine model for soils in a region behind the wall extending at least 2 horizontal feet beyond the bottom outer edges of the wall footings and then rising up and away from the wall at an angle no steeper than 60 degrees from horizontal.

Sliding resistance between the bottom of the footing and the soil can also resist lateral pressures. We recommend assuming a sliding coefficient equal to 0.4 between the concrete and sandy soil.

The values presented in this section are un-factored.

3.5 Interior Slabs

3.5.1 Proposed Slab Separation

We recommend that the house pads have easily excavatable soil (not bedrock) a minimum of 4 feet below the proposed low floor grade.

3.5.2 Moisture Vapor Protection

Excess transmission of water vapor could cause floor dampness, certain types of floor bonding agents to separate, or mold to form under floor coverings. If project planning includes using floor coverings or coatings, we recommend placing a vapor retarder or vapor barrier immediately beneath the slab. We also recommend consulting with floor covering manufacturers regarding the appropriate type, use and installation of the vapor retarder or barrier to preserve warranty assurances.

3.5.3 Radon

We recommend installing a radon mitigation system in accordance with local building code. Our certified and licensed radon mitigation professionals can assist in the design, at your request.

3.6 Frost Protection

3.6.1 General

Sandy lean clay (CL), clayey sand (SC), sandy silt (ML), and silty sand (SM) will underlie most of the exterior slabs. We consider these soils to be moderately to highly frost susceptible. Soils of this type can retain moisture and heave upon freezing. In general, this characteristic is not an issue unless these soils become



saturated, due to surface runoff or infiltration, or are excessively wet in-situ. Once frozen, unfavorable amounts of general and isolated heaving of the soils and the surface structures supported on them could develop. This type of heaving could affect design drainage patterns and the performance of exterior slabs and pavements, as well as any isolated exterior footings and piers.

Note that general runoff and infiltration from precipitation are not the only sources of water that can saturate subgrade soils and contribute to frost heave. Roof drainage and irrigation of landscaped areas close to exterior slabs, pavements, and isolated footings and piers, contribute as well.

3.6.2 Frost Heave Mitigation

To address most of the heave related issues, we recommend setting general site grades and grades for exterior surface features to direct surface drainage away from buildings, across large, paved areas, and away from walkways. Such grading will limit the potential for saturation of the subgrade and subsequent heaving. General grades should also have enough “slope” to tolerate potential larger areas of heave, which may not fully settle after thawing.

Even small amounts of frost-related differential movement at walkway joints or cracks can create tripping hazards. Project planning can explore several subgrade improvement options to address this condition.

One of the more conservative subgrade improvement options to mitigate potential heave is removing any frost-susceptible soils present below the exterior slab areas down to a minimum depth of 4 feet below subgrade elevations. We recommend filling the resulting excavation with non-frost-susceptible fill. We recommend providing drainage at the base of the subcut, as well as gradual transitions from this subcut (3H:1V or flatter gradient). We also recommend sloping the bottom of the excavation toward one or more collection points to remove any water entering the engineered fill. This approach will not be effective in controlling frost heave without removing the water.

An important geometric aspect of the excavation and replacement approach described above is sloping the banks of the excavations to create a more gradual transition between the unexcavated soils considered frost susceptible and the engineered fill in the excavated area, which is not frost susceptible. The slope allows attenuation of differential movement that may occur along the excavation boundary. We recommend slopes that are 3H:1V, or flatter, along transitions between frost-susceptible and non-frost-susceptible soils.

Figure 3-3 shows an illustration summarizing some of the recommendations.

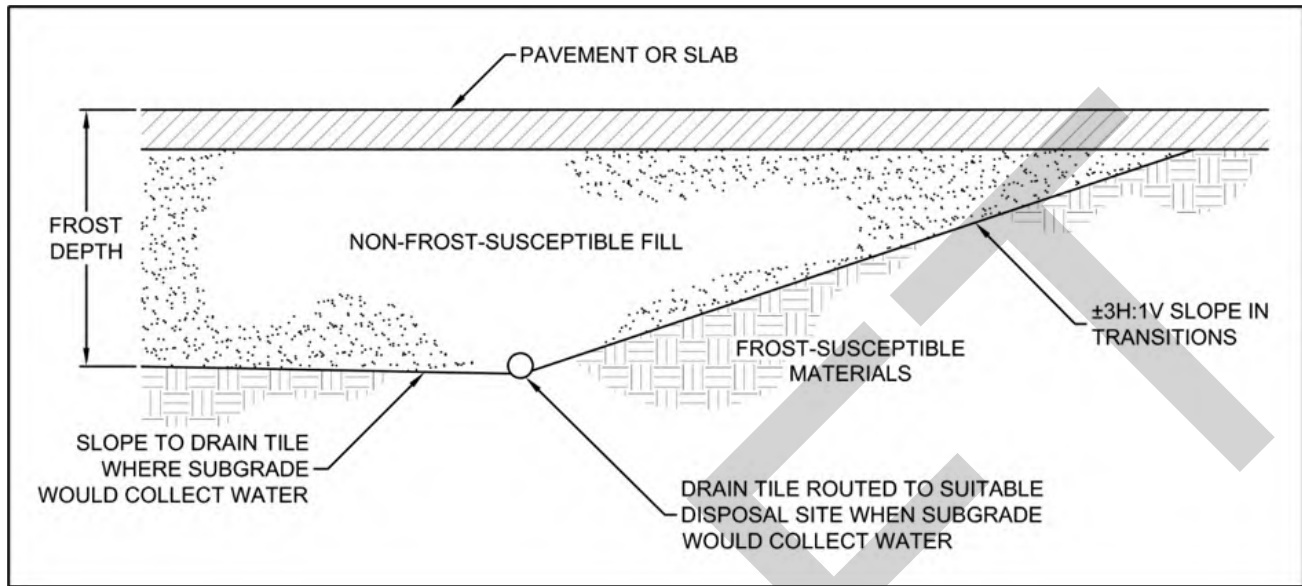


Figure 3-3. Frost Protection Geometry Illustration

Another option is to limit frost heave in critical areas, such as doorways and entrances, via frost-depth footings or localized excavations with sloped transitions between frost-susceptible and non-frost-susceptible soils, as described above.

Over the life of slabs and pavements, cracks will develop, and joints will open, which will expose the subgrade, and allow water to enter from the surface and either saturate or perch atop the subgrade soils. This water intrusion increases the potential for frost heave or moisture-related distress near the crack or joint. Therefore, we recommend implementing a detailed maintenance program to seal and/or fill any cracks and joints. The maintenance program should give special attention to areas where dissimilar materials abut one another, where construction joints occur and where shrinkage cracks develop.

3.7 Pavements and Exterior Slabs

3.7.1 Design Sections

Our scope of services for this project did not include laboratory tests on subgrade soils to determine an R-value for pavement design. Based on our experience with similar clayey and silty sand soils anticipated at the pavement subgrade elevation, we recommend a pavement design with an assumed R-value of 20.

We assume that The City of Hastings Standard Plates will be used pavement designs. If city standard plates are not available, we recommend a bituminous pavement section that includes a minimum of 3 1/2 inches of bituminous pavement (a 1 1/2-inch surface course over a 2-inch base course) over 8 inches of aggregate base material over 18 inches of select granular borrow.



3.7.2 Bituminous Pavement Materials

Appropriate mix designs are critical to the performance of flexible pavements. We can provide recommendations for pavement material selection during final pavement design.

3.7.3 Subgrade Drainage

We recommend installing perforated drainpipes throughout pavement areas at low points, around catch basins, and behind curb in landscaped areas. We also recommend installing drainpipes along pavement and exterior slab edges where exterior grades promote drainage toward those edge areas. The contractor should place drainpipes at the base of the granular subbase layer, or in shallow trenches below the aggregate base material where no subbase is present.

3.7.4 Performance and Maintenance

We based the above pavement designs on a 20-year performance life for bituminous. This is the amount of time before we anticipate the pavement will require reconstruction. This performance assumes routine maintenance, such as seal coating and crack sealing. The actual pavement life will vary depending on variations in weather, traffic conditions and maintenance.

It is common to place the non-wear course of bituminous and then delay placement of wear course. For this situation, we recommend evaluating if the reduced pavement section will have sufficient structure to support construction traffic.

Many conditions affect the overall performance of the exterior slabs and pavements. Some of these conditions include the environment, loading conditions and the level of ongoing maintenance. With bituminous pavements in particular, it is common to have thermal cracking develop within the first few years of placement and continue throughout the life of the pavement. We recommend developing a regular maintenance plan for filling cracks in exterior slabs and pavements to lessen the potential impacts for cold weather distress due to frost heave or warm weather distress due to wetting and softening of the subgrade.

3.8 Utilities

3.8.1 Subgrade Stabilization

Earthwork activities associated with utility installations located inside the building area should adhere to the recommendations in [Section 3.2](#).

For exterior utilities, we anticipate the soils at typical invert elevations will be suitable for utility support. However, if construction encounters unfavorable conditions such as soft clay, organic soils or perched water at invert grades, the unsuitable soils may require some additional subcutting and replacement with sand or crushed rock to prepare a proper subgrade for pipe support. Project design and construction should not place utilities within the 1H:1V oversizing of foundations.

As mentioned previously, bedrock could be relatively shallow, especially in the south part of the site. It may be necessary to subcut bedrock within the utility trenches a minimum of 12 inches below the invert grades of



any pipe to be installed. This includes both in the street right of way and for the utility connections to the individual homes or townhome buildings. The 12-inch subcut should then be filled with suitable pipe bedding material.

3.8.2 Corrosion Potential

Based on our experience, the soils encountered in the borings are moderately corrosive to metallic conduits, but only marginally corrosive to concrete. We recommend specifying non-corrosive materials or providing corrosion protection, unless project planning chooses to perform additional tests to demonstrate the soils are not corrosive.

3.9 Stormwater

We estimated infiltration rates for some of the soils we encountered in our soil borings, as listed in [Table 3-5](#). These infiltration rates represent the long-term infiltration capacity of a practice and not the capacity of the soils in their natural state. Field testing, such as with a double-ring infiltrometer (ASTM D3385), may justify the use of higher infiltration rates. However, we recommend adjusting field test rates by the appropriate correction factor, as provided for in the Minnesota Stormwater Manual or as allowed by the local watershed. We recommend consulting the Minnesota Stormwater Manual for stormwater design.

Table 3-5. Estimated Design Infiltration Rates Based on Soil Classification

Soil Type	Infiltration Rate * (inches/hour)
Sands with less than 12% fines, poorly graded or well graded sands (SP-SM)	0.8
Silty sands, silty gravelly sands (SM)	0.45
Clayey sands and clays	Not recommended

* From Minnesota Stormwater Manual. Rates may differ at individual sites.

Fine-grained soils (silts and clays), topsoil or organic matter that mixes into or washes onto the soil will lower the permeability. The contractor should maintain and protect infiltration areas during construction. Furthermore, organic matter and silt washed into the system after construction can fill the soil pores and reduce permeability over time. Proper maintenance is important for long-term performance of infiltration systems.

This geotechnical evaluation does not constitute a review of site suitability for stormwater infiltration or evaluate the potential impacts, if any, from infiltration of large amounts of stormwater.



4.0 Procedures

4.1 Penetration Test Borings

We drilled the penetration test borings with an all-terrain vehicle (ATV)-mounted core and auger drill equipped with hollow-stem auger. We performed the borings in general accordance with ASTM D6151 taking penetration test samples at 2 1/2- or 5-foot intervals in general accordance with ASTM D1586. boring logs show the actual sample intervals and corresponding depths.

We sealed penetration test boreholes meeting the Minnesota Department of Health (MDH) Environmental Borehole criteria with an MDH-approved grout, and submitted an MDH sealing record as required.

4.2 Exploratory Test Pits

Enebak Construction Company excavated the test pits with an excavator, under the direction and observation of our staff. We prepared Test Pit Logs by visually examining the sidewalls of the test pits and classifying the materials brought to the surface by the excavator bucket. We measured strata boundary depths with a tape and generally rounded to the nearest 1/2-foot.

4.3 Exploration Logs

4.3.1 Log of Boring Sheets

The Appendix includes Log of Boring sheets for our penetration test borings. The logs identify and describe the penetrated geologic materials and present the results of penetration resistance and other in-situ tests performed. The logs also present the results of laboratory tests performed on penetration test samples and groundwater measurements.

We inferred strata boundaries from changes in the penetration test samples and the auger cuttings. Because we did not perform continuous sampling, the strata boundary depths are only approximate. The boundary depths likely vary away from the boring locations, and the boundaries themselves may occur as gradual rather than abrupt transitions.

4.3.2 Log of Test Pit Sheets

The Appendix also includes Log of Test Pit sheets. The logs classify and describe the geologic materials exposed in the sidewalls and bottoms of the pits and depict groundwater measurements.

4.3.3 Geologic Origins

We assigned geologic origins to the materials shown on the logs and referenced within this report, based on: (1) a review of the background information and reference documents cited above, (2) visual classification of the various geologic material samples retrieved during the course of our subsurface exploration, (3) penetration resistance and other in-situ testing performed for the project, (4) laboratory test results, and (5) available common knowledge of the geologic processes and environments that have impacted the site and surrounding area in the past.



4.4 Material Classification and Testing

4.4.1 Visual and Manual Classification

We visually and manually classified the geologic materials encountered based on ASTM D2488. When we performed laboratory classification tests, we used the results to classify the geologic materials in accordance with ASTM D2487. The [Appendix](#) includes a chart explaining the classification system we used.

4.4.2 Laboratory Testing

The exploration logs in the [Appendix](#) note the results of the laboratory tests performed on geologic material samples. We performed the tests in general accordance with ASTM procedures.

4.5 Groundwater Measurements

The drillers checked for groundwater while advancing the penetration test borings, and again after auger withdrawal. We then immediately filled the boreholes and test pits.

5.0 Qualifications

5.1 Variations in Subsurface Conditions

5.1.1 Material Strata

We developed our evaluation, analyses, and recommendations from a limited amount of site and subsurface information. It is not standard engineering practice to retrieve material samples from exploration locations continuously with depth. Therefore, we must infer strata boundaries and thicknesses to some extent. Strata boundaries may also be gradual transitions, and project planning should expect the strata to vary in depth, elevation, and thickness, away from the exploration locations.

Variations in subsurface conditions present between exploration locations may not be revealed until performing additional exploration work or starting construction. If future activity for this project reveals any such variations, you should notify us so that we may reevaluate our recommendations. Such variations could increase construction costs, and we recommend including a contingency to accommodate them.

5.1.2 Groundwater Levels

We made groundwater measurements under the conditions reported herein and shown on the exploration logs and interpreted in the text of this report. Note that the observation periods were relatively short, and project planning can expect groundwater levels to fluctuate in response to rainfall, flooding, irrigation, seasonal freezing and thawing, surface drainage modifications and other seasonal and annual factors.



5.2 Continuity of Professional Responsibility

5.2.1 Plan Review

We based this report on a limited amount of information, and we made some assumptions to help us develop our recommendations. We should be retained to review the geotechnical aspects of the designs and specifications. This review will allow us to evaluate whether we anticipated the design correctly, if any design changes affect the validity of our recommendations, and if the design and specifications correctly interpret and implement our recommendations.

5.2.2 Construction Observations and Testing

We recommend retaining Braun Intertec to perform the required observations and testing during construction as part of the ongoing geotechnical evaluation. This will allow us to correlate the subsurface conditions exposed during construction with those encountered by the borings and provide professional continuity from the design phase to the construction phase. If we do not perform observations and testing during construction, it becomes the responsibility of others to validate the assumption made during the preparation of this report and to accept the construction-related geotechnical engineer-of-record responsibilities.

5.3 Use of Report

This report is for the exclusive use of the addressed parties. Without written approval, we assume no responsibility to other parties regarding this report. Our evaluation, analyses and recommendations may not be appropriate for other parties or projects.

5.4 Standard of Care

In performing its services, Braun Intertec used that degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession currently practicing in the same locality. No warranty, express or implied, is made.

Appendix

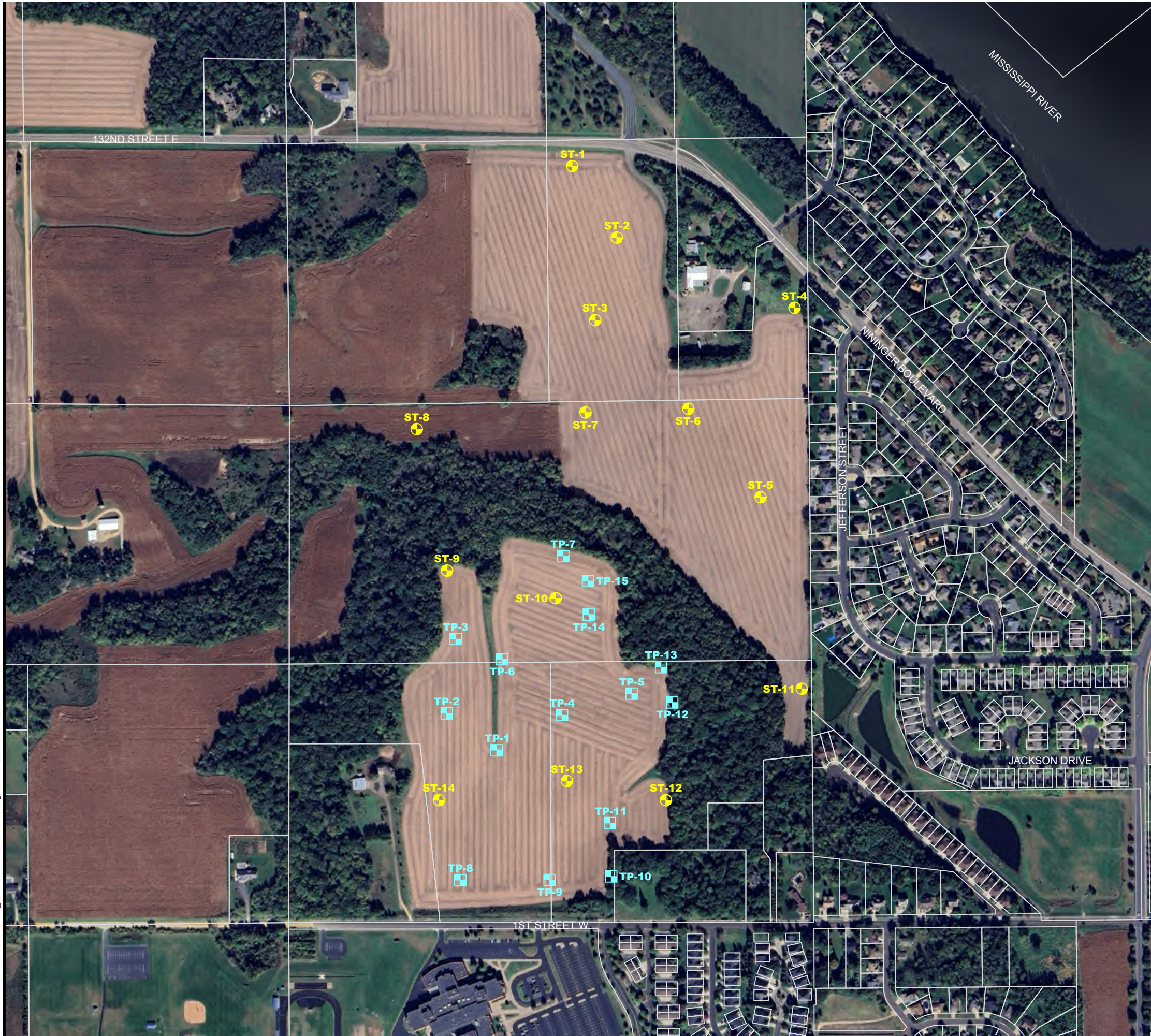
Soil Boring Location Sketch

Log of Boring Sheets ST-1 through ST-14

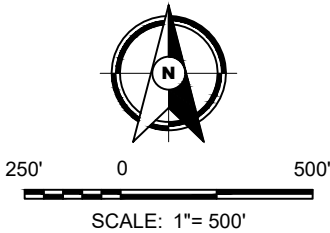
Log of Test Pit Sheets TP-1 through TP-15

Descriptive Terminology of Soil

F:\10005001-10010000\10006938_001\CAD\10006938-001.dwg, Gedtech, 5/18/2026 9:31:46 AM



-  **DENOTES APPROXIMATE LOCATION OF STANDARD PENETRATION TEST BORING**
-  **DENOTES APPROXIMATE LOCATION OF TEST PIT**



**BRAUN
INTERTEC**

The science you build on

11001 Hampshire Avenue S
Minneapolis, MN 55438
952.995.2000
braunintertec.com

Drawing Information

Project No:
10006938_001

Drawing No:
10006938-001

Drawn By: JAG
Date Drawn: 2/4/26
Checked By: MLK
Last Modified: 5/18/26

Project Information

Conzemius Property

South of
13335 Lock Boulevard

Hastings, Minnesota

**Soil Boring
Location Sketch**

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					BORING: ST-1		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 203917.6	EASTING: 611260.6	
DRILLER: N. Gaddis		LOGGED BY: M. Kudanovych		START DATE: 03/03/26		END DATE: 03/03/26	
SURFACE ELEVATION: 779.5 ft		RIG: 8505		METHOD: 3 1/4" HSA		SURFACING: Farm field WEATHER: 40°s	
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q _p tsf	MC %	Tests or Remarks
777.5		SANDY LEAN CLAY (CL), trace roots, dark brown, moist (TOPSOIL)					
2.0		SANDY LEAN CLAY (CL), brown, moist, soft to medium (ALLUVIUM)		3-2-2 (4) 12"			
			5	4-2-3 (5) 15"		29	P200=61%
772.5							
7.0		POORLY GRADED SAND with SILT (SP-SM), fine to medium-grained, with to trace Gravel, brown, moist, medium dense (GLACIAL OUTWASH)		11-12-10 (22) 10"		4	
			10	7-8-6 (14) 12"			
767.5							
12.0		POORLY GRADED SAND (SP), fine to medium-grained, brown, moist, medium dense (GLACIAL OUTWASH)		8-6-6 (12) 16"			
			15	9-9-7 (16) 13"			
			20	7-8-9 (17) 12"			
758.5							
21.0		END OF BORING					Water not observed while drilling.
		Boring immediately grouted					

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					BORING: ST-2		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 203558.7	EASTING: 611485.6	
DRILLER: N. Gaddis	LOGGED BY: M. Kudanovych		START DATE: 03/03/26	END DATE: 03/03/26			
SURFACE ELEVATION: 778.2 ft	RIG: 8505	METHOD: 3 1/4" HSA	SURFACING: Farm field	WEATHER: 40°s			

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q _p tsf	MC %	Tests or Remarks
776.7		SANDY LEAN CLAY (CL), dark brown, moist (TOPSOIL)					
1.5		SILTY SAND (SM), fine to medium-grained, brown, moist, loose (ALLUVIUM)		2-3-2 (5) 14"		19	P200=31%
774.2		CLAYEY SAND (SC), trace Gravel, brown, moist, medium (GLACIAL TILL)	5	3-3-2 (5) 10"		11	
771.2		POORLY GRADED SAND (SP), fine to medium-grained, with Gravel, brown, moist, medium dense (GLACIAL OUTWASH)		9-12-15 (27) 14"			
7.0			10	9-12-6 (18) 16"			
766.2		POORLY GRADED SAND with SILT (SP-SM), fine to medium-grained, with Gravel, brown, moist, medium dense (GLACIAL OUTWASH)		12-13-14 (27) 8"			
12.0							
764.2		POORLY GRADED SAND (SP), fine to medium-grained, trace Gravel, brown, moist, medium dense (GLACIAL OUTWASH)	15	12-8-11 (19) 14"			
14.0							
			20	12-10-13 (23) 12"			
757.2		END OF BORING					
21.0		Boring immediately grouted					Water not observed while drilling.

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					BORING: ST-3		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 203143.1	EASTING: 611376.1	
DRILLER: N. Gaddis	LOGGED BY: M. Kudanovych		START DATE: 03/03/26	END DATE: 03/03/26			
SURFACE ELEVATION: 777.3 ft	RIG: 8505	METHOD: 3 1/4" HSA	SURFACING: Farm field	WEATHER: 40°s			

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q _p tsf	MC %	Tests or Remarks
773.3		SANDY LEAN CLAY (CL), trace roots, dark brown to black, moist (TOPSOIL)		2-2-2 (4) 14"			
770.3		SANDY LEAN CLAY (CL), brown, moist, medium (ALLUVIUM)	5	4-4-3 (7) 16"		18	
765.3		SILT (ML), trace Gravel, with Sand lenses, brown, moist, loose (ALLUVIUM)	10	2-3-3 (6) 18"		35	
763.3		SILTY SAND (SM), fine to medium-grained, with Gravel, brown, moist, medium dense (ALLUVIUM)		12-10-9 (19) 4"			
756.3		POORLY GRADED SAND with SILT (SP), fine to medium-grained, trace Gravel, brown, moist, medium dense (GLACIAL OUTWASH)	15	9-6-5 (11) 10"			
			20	7-8-12 (20) 14"			
		END OF BORING					Water not observed while drilling.
		Boring immediately grouted					

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					BORING: ST-4		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 203204.9	EASTING: 612378.8	
DRILLER: N. Gaddis		LOGGED BY: M. Kudanovych		START DATE: 03/02/26		END DATE: 03/02/26	
SURFACE ELEVATION: 785.9 ft		RIG: 8505		METHOD: 3 1/4" HSA		SURFACING: Farm field WEATHER: 40°s	
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q _p tsf	MC %	Tests or Remarks
783.9		SANDY LEAN CLAY (CL), trace roots, dark brown, moist (TOPSOIL)					
2.0		POORLY GRADED SAND with SILT (SP-SM), fine to coarse-grained, trace to with Gravel, brown, moist, very loose to medium dense (ALLUVIUM)		1-2-3 (5) 14"		4	
			5	2-2-2 (4) 12"			
				2-4-4 (8) 10"		5	P200=5%
			10	10-7-4 (11) 10"			
773.9		POORLY GRADED SAND (SP), fine to medium-grained, brown, moist, loose (ALLUVIUM)		4-3-5-4 (8) 19"			
12.0							
771.4		END OF BORING	15				Water not observed while drilling.
14.5		Boring immediately backfilled					
			20				

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					BORING: ST-5		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 202252.5	EASTING: 612207.3	
DRILLER: N. Gaddis		LOGGED BY: M. Kudanovych		START DATE: 03/02/26	END DATE: 03/02/26		
SURFACE ELEVATION: 777.2 ft		RIG: 8505	METHOD: 3 1/4" HSA	SURFACING: Farm field	WEATHER: 40°s		
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q _p tsf	MC %	Tests or Remarks
773.2		SANDY LEAN CLAY (CL), dark brown, moist (TOPSOIL)		1-2-2 (4) 11"			
770.2		SILTY SAND (SM), fine to medium-grained, brown, moist, loose (ALLUVIUM)	5	1-2-3 (5) 15"			
762.7		POORLY GRADED SAND with SILT (SP-SM), fine to coarse-grained, trace to with Gravel, brown, moist, loose (ALLUVIUM)	10	2-3-4 (7) 13"		6	P200=8%
				5-5-4 (9) 10"			
				3-4-4-4 (8) 19"			
14.5		END OF BORING	15				Water not observed while drilling.
		Boring immediately backfilled					
			20				

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					BORING: ST-6		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 202697.5	EASTING: 611844.5	
DRILLER: N. Gaddis		LOGGED BY: M. Kudanovych		START DATE: 03/03/26	END DATE: 03/03/26		
SURFACE ELEVATION: 779.2 ft		RIG: 8505	METHOD: 3 1/4" HSA	SURFACING: Farm field	WEATHER: 40°s		
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q _p tsf	MC %	Tests or Remarks
		SANDY LEAN CLAY (CL), black to dark brown, moist (TOPSOIL)		1-3-2 (5) 8"			
772.2			5	3-3-4 (7) 14"			
7.0		SANDY LEAN CLAY (CL), contains lenses of Silty Sand, brown, moist, medium (ALLUVIUM)		2-3-3 (6) 13"		32	
770.2			10	2-3-3 (6) 14"			
9.0		SILTY SAND (SM), fine to medium-grained, brown, moist, loose (ALLUVIUM)		7-8-8 (16) 16"			
767.2			15	13-16-12 (28) 3"			No recovery
12.0		POORLY GRADED SAND (SP), fine to medium-grained, trace Gravel, brown, moist, medium dense (GLACIAL OUTWASH)		6-7-6 (13) 16"			
758.2			20				
21.0		END OF BORING					Water not observed while drilling.
		Boring immediately grouted					

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					BORING: ST-7		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 202678.3	EASTING: 611327.3	
DRILLER: N. Gaddis		LOGGED BY: M. Kudanovych		START DATE: 03/03/26	END DATE: 03/03/26		
SURFACE ELEVATION: 781.4 ft		RIG: 8505	METHOD: 3 1/4" HSA	SURFACING: Farm field	WEATHER: 40°s		
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q _p tsf	MC %	Tests or Remarks
777.4		SANDY LEAN CLAY (CL), trace roots, black, moist (TOPSOIL)		3-2-2 (4) 8"		23	Water not observed while drilling.
4.0		SANDY LEAN CLAY (CL), brown, moist, medium (ALLUVIUM)	5	3-3-3 (6) 10"			
774.4		POORLY GRADED SAND with SILT (SP-SM), fine to medium-grained, brown, moist, very loose to loose (ALLUVIUM)		4-3-2 (5) 14"			
7.0			10	4-2-1 (3) 16"			
				2-3-1-2 (4) 14"			
766.9		END OF BORING	15				
14.5		Boring immediately backfilled					
			20				

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					BORING: ST-8		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 202595.6	EASTING: 610478.9	
DRILLER: N. Gaddis		LOGGED BY: M. Kudanovych		START DATE: 03/03/26	END DATE: 03/03/26		
SURFACE ELEVATION: 807.1 ft		RIG: 8505	METHOD: 3 1/4" HSA	SURFACING: Farm field	WEATHER: 40°s		
Elev./Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q _p tsf	MC %	Tests or Remarks
805.6		SANDY LEAN CLAY (CL), trace roots, dark brown, moist (TOPSOIL)					
1.5		CLAYEY SAND (SC), trace Gravel, brown, moist, very stiff (GLACIAL TILL)		4-6-12 (18) 8"		9	
803.1		POORLY GRADED SAND with SILT (SP-SM), fine-grained, brown, moist, loose to medium dense (GLACIAL OUTWASH)	5	2-4-4 (8) 12"		4	P200=6%
				3-5-6 (11) 14"			
798.1		POORLY GRADED SAND (SP), fine to medium-grained, brown, moist, medium dense (GLACIAL OUTWASH)	10	6-8-8 (16) 18"			
				8-9-14-12 (23) 22"			
792.6		END OF BORING	15				Water not observed while drilling.
14.5		Boring immediately backfilled					
			20				

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					BORING: ST-9		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 201883.6	EASTING: 610631.1	
DRILLER: N. Gaddis	LOGGED BY: M. Kudanovych		START DATE: 03/02/26	END DATE: 03/02/26			
SURFACE ELEVATION: 834.0 ft	RIG: 8505	METHOD: 3 1/4" HSA	SURFACING: Farm field	WEATHER: 30°s - 40°s			

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q _p tsf	MC %	Tests or Remarks
832.5		SANDY LEAN CLAY (CL), dark brown, moist (TOPSOIL)					
1.5		SILTY SAND (SM), fine to medium-grained, brown, moist, loose (ALLUVIUM)		2-3-3 (6) 3"		8	P200=37%
830.0		POORLY GRADED SAND (SP), fine to medium-grained, trace to with Gravel, brown, dry to moist, medium dense (GLACIAL OUTWASH)	5	7-12-8 (20) 17"		2	
				9-9-9 (18) 20"			
			10	7-8-8 (16) 19"			
				4-12-10 (22) 15"			
820.0		SHAKOPEE FORMATION, LIMESTONE, tan, highly weathered	15	50/4" (REF) 7"			
815.0		END OF BORING		50/0" (REF)			No recovery
19.0		Boring immediately backfilled	20				Auger refusal at 19 feet
							Water not observed while drilling.

See Descriptive Terminology sheet for explanation of abbreviations

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					BORING: ST-10		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 201744.5	EASTING: 611178.1	
DRILLER: N. Gaddis		LOGGED BY: M. Kudanovych		START DATE: 03/02/26	END DATE: 03/02/26		
SURFACE ELEVATION: 836.2 ft		RIG: 8505	METHOD: 3 1/4" HSA	SURFACING: Farm field	WEATHER: 40°s		
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q _p tsf	MC %	Tests or Remarks
834.2		SANDY LEAN CLAY (CL), trace roots, dark brown, moist (TOPSOIL)					
2.0		SANDY LEAN CLAY (CL), contains lenses of Silty Sand, brown, moist, soft (ALLUVIUM)		1-2-2 (4) 10"		26	
832.2		SILTY SAND (SM), fine to medium-grained, trace Gravel, contains lenses of Clay, brown, moist, loose (ALLUVIUM)	5	1-2-3 (5) 12"			
4.0							
829.2		POORLY GRADED SAND (SP), fine to medium-grained, with to trace Gravel, brown, moist, medium dense (GLACIAL OUTWASH)		17-13-11 (24) 16"			
7.0							
			10	10-13-15 (28) 18"			
				11-12-9-10 (21) 21"			
821.6							
14.5		END OF BORING	15				Water not observed while drilling.
		Boring immediately backfilled					
			20				

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					BORING: ST-11		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 201289.5	EASTING: 612415.1	
DRILLER: N. Gaddis		LOGGED BY: M. Kudanovych		START DATE: 03/02/26		END DATE: 03/02/26	
SURFACE ELEVATION: 781.3 ft		RIG: 8505		METHOD: 3 1/4" HSA		SURFACING: Farm field WEATHER: 40°s	
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q _p tsf	MC %	Tests or Remarks
774.3		SANDY LEAN CLAY (CL), dark brown, moist (TOPSOIL)		1-2-2 (4) 13"			Water not observed while drilling.
7.0			5	1-2-2 (4) 16"			
769.3		SILTY SAND (SM), fine to medium-grained, trace Gravel, brown, moist, loose to medium dense (ALLUVIUM)		2-2-3 (5) 18"			
12.0			10	3-3-8 (11) 18"			
766.8		POORLY GRADED SAND with SILT (SP-SM), fine to coarse-grained, trace Gravel, brown, moist, medium dense (GLACIAL OUTWASH)		10-7-13-13 (20) 20"			
14.5		END OF BORING	15				
		Boring immediately backfilled					
			20				

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					BORING: ST-12		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 200729.2	EASTING: 611732.3	
DRILLER: N. Gaddis		LOGGED BY: M. Kudanovych		START DATE: 03/02/26	END DATE: 03/02/26		
SURFACE ELEVATION: 872.0 ft		RIG: 8505	METHOD: 3 1/4" HSA	SURFACING: Farm field	WEATHER: 40°s		
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q _p tsf	MC %	Tests or Remarks
870.0		SANDY LEAN CLAY (CL), dark brown, moist (TOPSOIL)					
2.0		SANDY LEAN CLAY (CL), contains lenses of Silty Sand, brown, moist, medium (ALLUVIUM)		2-1-4 (5) 12"		17	
868.0		CLAYEY SAND (SC), with Gravel, brown, moist, very stiff to hard (GLACIAL TILL)	5	7-12-17 (29) 18"			
4.0							
864.2		END OF BORING		5-50/4" (REF) 8"			Auger refusal at 8 feet due to apparent bedrock
7.8		Boring immediately backfilled					Water not observed while drilling.
			10				
			15				
			20				

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					BORING: ST-13		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 200825.2	EASTING: 611234.3	
DRILLER: N. Gaddis		LOGGED BY: M. Kudanovych		START DATE: 03/02/26	END DATE: 03/02/26		
SURFACE ELEVATION: 883.8 ft		RIG: 8505	METHOD: 3 1/4" HSA	SURFACING: Farm field	WEATHER: 40°s		
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q _p tsf	MC %	Tests or Remarks
882.3		SANDY LEAN CLAY (CL), trace Gravel, trace roots, dark brown, moist (TOPSOIL)					
1.5		SANDY LEAN CLAY (CL), contains lenses of Silty Sand, brown, moist, soft (ALLUVIUM)		3-2-1 (3) 10"		20	
879.8		SILTY SAND (SM), fine to medium-grained, trace Gravel, contains lenses of Clay, brown, moist, medium dense (ALLUVIUM)	5	3-5-6 (11) 17"			
4.0		CLAYEY SAND (SC), with Gravel, brown, moist, very stiff (GLACIAL TILL)		9-12-14 (26) 18"			
876.8		SHAKOPEE FORMATION, LIMESTONE, tan, slightly weathered to highly weathered		13-10-19 (29) 23"			
7.0			10				
874.8							
9.0							
869.7		END OF BORING		50/2" (REF) 4"			Auger refusal at 14 1/2 feet
14.2		Boring immediately backfilled	15				Water not observed while drilling.
			20				

See Descriptive Terminology sheet for explanation of abbreviations

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					BORING: ST-14		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 200729.1	EASTING: 610590.6	
DRILLER: C. Gorman		LOGGED BY: M. Kudanovych		START DATE: 02/19/26	END DATE: 02/19/26		
SURFACE ELEVATION: 890.4 ft		RIG: 8505	METHOD: 3 1/4" HSA	SURFACING: Field	WEATHER: Clear		
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q _p tsf	MC %	Tests or Remarks
888.4		SANDY LEAN CLAY (CL), dark brown, moist (TOPSOIL)					
2.0		CLAYEY SAND (SC), with Gravel, brown, moist, very stiff (GLACIAL TILL)		5-11-13 (24) 13"			
886.4		SHAKOPEE FORMATION, LIMESTONE, tan, slightly weathered to highly weathered	5	19-13-9 (22) 17"			
4.0				10-8-16 (24) 12"			
			10	21-33-25 (58) 14"			
876.0				40-50/5" (REF)			
14.4		END OF BORING	15				Water not observed while drilling.
		Boring immediately backfilled					
			20				

See Descriptive Terminology sheet for explanation of abbreviations

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					TEST PIT: TP-1		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 200980.4	EASTING: 610880.9	
EXCAVATOR: Enebak		LOGGED BY: M. Kudanovych		START DATE: 03/17/26	END DATE: 03/17/26		
SURFACE ELEVATION: 869.2 ft		RIG: Excavator		SURFACING: Farm field	WEATHER: Cloudy		
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487)	Sample	Sample Blows Recovery	q _p tsf	MC %	Tests or Remarks
867.2		SANDY LEAN CLAY (CL), trace Gravel, trace roots, dark brown, moist (TOPSOIL)					
2.0		SANDY LEAN CLAY (CL), brown, moist					
865.2		CLAYEY SAND (SC), trace to with Gravel, contains lenses of Silty Sand, brown, moist					
4.0							
861.2		SHAKOPEE FORMATION, LIMESTONE, tan, slightly weathered to highly weathered					
8.0							
859.2		END OF TEST PIT					
10.0		Test pit then backfilled with spoils					
							Water not observed while excavating.

See Descriptive Terminology sheet for explanation of abbreviations

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					TEST PIT: TP-2		
					LOCATION: Captured with submeter GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 201166	EASTING: 610630	
EXCAVATOR: Enebak		LOGGED BY: M. Kudanovych		START DATE: 03/17/26	END DATE: 03/17/26		
SURFACE ELEVATION: 875.9 ft		RIG: Excavator		SURFACING: Farm field	WEATHER: Cloudy		
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487)	Sample	Sample Blows Recovery	q _p tsf	MC %	Tests or Remarks
873.9		SANDY LEAN CLAY (CL), trace Gravel, trace roots, dark brown, moist (TOPSOIL)					
2.0		SANDY LEAN CLAY (CL), trace Gravel, contains lenses of Silty Sand, brown, moist					
871.9		SILTY SAND (SM), fine to medium-grained, trace Gravel, contains lenses of Lean Clay, brown, moist	5				
4.0							
868.9		CLAYEY SAND (SC), with Gravel, brown, moist	10				
7.0							
864.9		SHAKOPEE FORMATION, LIMESTONE, tan, slightly weathered to highly weathered	15				
11.0							
859.9		END OF TEST PIT					Water not observed while excavating.
16.0		Test pit then backfilled with spoils					

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					TEST PIT: TP-3		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 201540.0	EASTING: 610675.0	
EXCAVATOR: Enebak		LOGGED BY: M. Kudanovych		START DATE: 03/17/26	END DATE: 03/17/26		
SURFACE ELEVATION: 852.8 ft		RIG: Excavator		SURFACING: Farm field	WEATHER: Cloudy		
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487)	Sample	Sample Blows Recovery	q _p tsf	MC %	Tests or Remarks
850.8		SANDY LEAN CLAY (CL), dark brown, moist (TOPSOIL)					
2.0		SANDY LEAN CLAY (CL), trace Gravel, brown, moist					
848.8		POORLY GRADED SAND (SP), fine to medium-grained, trace to with Gravel, brown, moist	5				
4.0							
843.8		SHAKOPEE FORMATION, LIMESTONE, tan, slightly weathered to highly weathered	10				
9.0							
			15				
836.8		END OF TEST PIT					Water not observed while excavating.
16.0		Test pit then backfilled with spoils					

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					TEST PIT: TP-4		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 201157.4	EASTING: 611210.1	
EXCAVATOR: Enebak		LOGGED BY: M. Kudanovych		START DATE: 03/17/26	END DATE: 03/17/26		
SURFACE ELEVATION: 870.9 ft		RIG: Excavator		SURFACING: Farm field	WEATHER: Cloudy		
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487)	Sample	Sample Blows Recovery	q _p tsf	MC %	Tests or Remarks
868.9		SANDY LEAN CLAY (CL), trace roots, dark brown, moist (TOPSOIL)					Water not observed while excavating.
2.0		SANDY LEAN CLAY (CL), contains lenses of Silty Sand, trace Gravel, brown, moist					
866.9		SILTY SAND (SM), fine to medium-grained, trace to with Gravel, contains lenses of Lean Clay, brown, moist	5				
4.0							
863.9		CLAYEY SAND (SC), with Gravel, brown, moist					
7.0		SHAKOPEE FORMATION, LIMESTONE, tan, slightly weathered to highly weathered					
862.4							
860.9		END OF TEST PIT	10				
10.0		Test pit then backfilled with spoils					
			15				

See Descriptive Terminology sheet for explanation of abbreviations

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					TEST PIT: TP-5		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 201265.3	EASTING: 611560.1	
EXCAVATOR: Enebak		LOGGED BY: M. Kudanovych		START DATE: 03/17/26	END DATE: 03/17/26		
SURFACE ELEVATION: 843.9 ft		RIG: Excavator		SURFACING: Farm field	WEATHER: Cloudy		
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487)	Sample	Sample Blows Recovery	q _p tsf	MC %	Tests or Remarks
841.9		SANDY LEAN CLAY (CL), trace roots, dark brown, moist (TOPSOIL)					Water not observed while excavating.
2.0		SANDY LEAN CLAY (CL), contains lenses of Silty Sand, brown, moist					
839.9		SILTY SAND (SM), fine to medium-grained, trace Gravel, brown, moist					
4.0			5				
837.9		SHAKOPEE FORMATION, LIMESTONE, tan, slightly weathered to highly weathered					
6.0			10				
832.9		END OF TEST PIT					
11.0		Test pit then backfilled with spoils					
			15				

See Descriptive Terminology sheet for explanation of abbreviations

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					TEST PIT: TP-6		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 201438.1	EASTING: 610909.3	
EXCAVATOR: Enebak		LOGGED BY: M. Kudanovych		START DATE: 03/17/26	END DATE: 03/17/26		
SURFACE ELEVATION: 845.7 ft		RIG: Excavator		SURFACING: Farm field	WEATHER: Cloudy		
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487)	Sample	Sample Blows Recovery	q _p tsf	MC %	Tests or Remarks
843.7		SANDY LEAN CLAY (CL), trace roots, dark brown, moist (TOPSOIL)					
2.0		SANDY LEAN CLAY (CL), trace Gravel, brown, moist					
841.7		SILTY SAND (SM), fine to medium-grained, trace to with Gravel, brown, moist					
4.0			5				
838.7		SHAKOPEE FORMATION, LIMESTONE, tan, slightly weathered to highly weathered					
7.0			10				
832.7		END OF TEST PIT					
13.0		Test pit then backfilled with spoils	15				Water not observed while excavating.

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					TEST PIT: TP-7		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 201956.9	EASTING: 611215.5	
EXCAVATOR: Enebak		LOGGED BY: M. Kudanovych		START DATE: 03/17/26	END DATE: 03/17/26		
SURFACE ELEVATION: 836.5 ft		RIG: Excavator		SURFACING: Farm field	WEATHER: Cloudy		
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487)	Sample	Sample Blows Recovery	q _p tsf	MC %	Tests or Remarks
834.5		SANDY LEAN CLAY (CL), trace roots, dark brown, moist (TOPSOIL)					
2.0		SANDY LEAN CLAY (CL), contains lenses of Silty Sand, brown, moist					
832.5		SILTY SAND (SM), fine to medium-grained, trace to with Gravel, brown, moist					
4.0			5				
829.5		POORLY GRADED SAND (SP), fine to medium-grained, trace to with Gravel, brown, moist					
7.0			10				
824.5		END OF TEST PIT					
12.0		Test pit then backfilled with spoils					
			15				
							Water not observed while excavating.

See Descriptive Terminology sheet for explanation of abbreviations

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota				TEST PIT: TP-8			
				LOCATION: Captured with RTK GPS.			
				DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)			
				NORTHING: 200326.9		EASTING: 610698.5	
EXCAVATOR: Enebak		LOGGED BY: M. Kudanovych		START DATE: 05/07/26		END DATE: 05/07/26	
SURFACE ELEVATION: 896.4 ft		RIG: Excavator		SURFACING: Farm field		WEATHER: Sunny	
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487)	Sample	Sample Blows Recovery	q _p tsf	MC %	Tests or Remarks
894.9		SANDY LEAN CLAY (CL), trace roots, dark brown, moist (TOPSOIL)					
1.5		SILTY SAND (SM), fine to medium-grained, trace to with Gravel, contains lenses of Lean Clay, brown, moist					
			5				
889.9		CLAYEY SAND (SC), trace to with Gravel, brown, moist					
6.5			10				
			15				
879.4		SHAKOPEE FORMATION, LIMESTONE, tan, slightly weathered to highly weathered					
17.0							
878.4		END OF TEST PIT					Refusal at 18 feet
18.0		Test pit then backfilled with spoils					Water not observed while excavating.

See Descriptive Terminology sheet for explanation of abbreviations

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					TEST PIT: TP-9		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 200328.1	EASTING: 611147.7	
EXCAVATOR: Enebak		LOGGED BY: M. Kudanovych		START DATE: 05/07/26	END DATE: 05/07/26		
SURFACE ELEVATION: 896.0 ft		RIG: Excavator		SURFACING: Farm field	WEATHER: Sunny		
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487)	Sample	Sample Blows Recovery	q _p tsf	MC %	Tests or Remarks
894.0		SANDY LEAN CLAY (CL), trace roots, trace Gravel, dark brown, moist (TOPSOIL)					
2.0		SILTY SAND (SM), fine to medium-grained, trace to with Gravel, brown, moist					
891.0		SHAKOPEE FORMATION, LIMESTONE, tan, slightly weathered to highly weathered	5				
890.0		END OF TEST PIT					Refusal at 6 feet
6.0		Test pit then backfilled with spoils					Water not observed while excavating.
			10				
			15				

See Descriptive Terminology sheet for explanation of abbreviations

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota						TEST PIT:		TP-10			
						LOCATION: Captured with RTK GPS.					
						DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)					
						NORTHING:		200345.7	EASTING:	611457.1	
EXCAVATOR:		Enebak	LOGGED BY:		M. Kudanovych	START DATE:		05/07/26	END DATE:		05/07/26
SURFACE ELEVATION:		887.8 ft	RIG:		Excavator	SURFACING:		Farm field	WEATHER:		Sunny
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487)				Sample	Sample Blows Recovery	q _p tsf	MC %	Tests or Remarks	
886.3	1.5	SANDY LEAN CLAY (CL), trace roots, trace Gravel, dark brown, moist (TOPSOIL)									
884.3	3.5	CLAYEY SAND (SC), with Gravel, brown, moist									
		SHAKOPEE FORMATION, LIMESTONE, tan, slightly weathered to highly weathered									
						5					
						10					
876.8	11.0	END OF TEST PIT								Refusal at 11 feet	
		Test pit then backfilled with spoils								Water not observed while excavating.	
						15					

See Descriptive Terminology sheet for explanation of abbreviations

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					TEST PIT: TP-11		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 200614.0	EASTING: 611450.7	
EXCAVATOR: Enebak		LOGGED BY: M. Kudanovych		START DATE: 05/07/26		END DATE: 05/07/26	
SURFACE ELEVATION: 879.0 ft		RIG: Excavator		SURFACING: Farm field		WEATHER: Sunny	

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487)	Sample	Sample Blows Recovery	q _p tsf	MC %	Tests or Remarks
877.0		SANDY LEAN CLAY (CL), trace roots, dark brown, moist (TOPSOIL)					
2.0		SANDY LEAN CLAY (CL), trace Gravel, contains lenses of Silty Sand, brown, moist					
873.0		SHAKOPEE FORMATION, LIMESTONE, tan, slightly weathered to highly weathered					
6.0							
864.0							
15.0		END OF TEST PIT					
		Test pit then backfilled with spoils					

Refusal at 15 feet
Water not observed while excavating.

See Descriptive Terminology sheet for explanation of abbreviations

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					TEST PIT: TP-12		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 201220.9	EASTING: 611764.1	
EXCAVATOR: Enebak		LOGGED BY: M. Kudanovych		START DATE: 05/07/26	END DATE: 05/07/26		
SURFACE ELEVATION: 840.8 ft		RIG: Excavator		SURFACING: Farm field	WEATHER: Sunny		
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487)	Sample	Sample Blows Recovery	q _p tsf	MC %	Tests or Remarks
836.8		SANDY LEAN CLAY (CL), trace roots, trace Gravel, dark brown, moist (TOPSOIL)					
4.0		SANDY LEAN CLAY (CL), trace Gravel, contains lenses of Silty Sand, brown, moist	5				
833.8		SHAKOPEE FORMATION, LIMESTONE, tan, slightly weathered to highly weathered					
7.0							
832.8		END OF TEST PIT					Refusal at 8 feet
8.0		Test pit then backfilled with spoils	10				Water not observed while excavating.
			15				

See Descriptive Terminology sheet for explanation of abbreviations

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					TEST PIT: TP-13		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 201398.3	EASTING: 611708.0	
EXCAVATOR: Enebak		LOGGED BY: M. Kudanovych		START DATE: 05/07/26	END DATE: 05/07/26		
SURFACE ELEVATION: 838.2 ft		RIG: Excavator		SURFACING: Farm field	WEATHER: Sunny		
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487)	Sample	Sample Blows Recovery	q _p tsf	MC %	Tests or Remarks
832.2		SANDY LEAN CLAY (CL), trace roots, trace Gravel, dark brown, moist (TOPSOIL)					
6.0		SANDY LEAN CLAY (CL), contains lenses of Silty Sand, trace Gravel, brown, moist					
829.7		SHAKOPEE FORMATION, LIMESTONE, tan, slightly weathered					
828.7		END OF TEST PIT					
9.5		Test pit then backfilled with spoils					
							Refusal at 9 1/2 feet
							Water not observed while excavating.

See Descriptive Terminology sheet for explanation of abbreviations

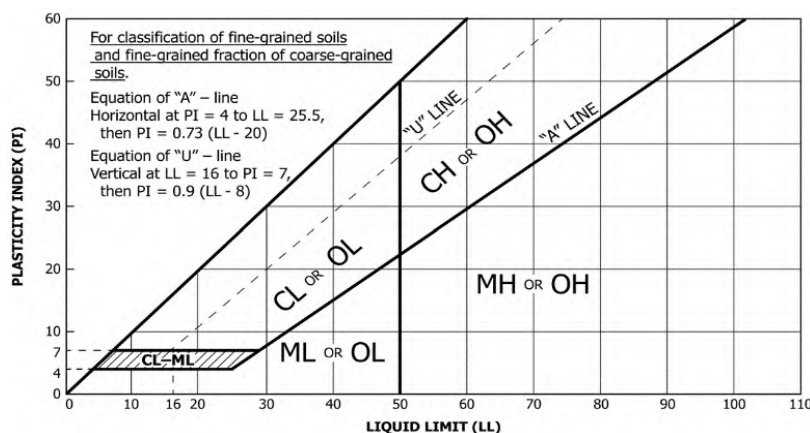
Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					TEST PIT: TP-14				
					LOCATION: Captured with RTK GPS.				
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)				
					NORTHING: 201662.7	EASTING: 611345.1			
EXCAVATOR: Enebak		LOGGED BY: M. Kudanovych		START DATE: 05/07/26	END DATE: 05/07/26				
SURFACE ELEVATION: 834.1 ft		RIG: Excavator		SURFACING: Farm field	WEATHER: Sunny				
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487)			Sample	Sample Blows Recovery	q _p tsf	MC %	Tests or Remarks
832.1 2.0		SANDY LEAN CLAY (CL), trace roots, dark brown, moist (TOPSOIL)							
		SANDY LEAN CLAY (CL), trace Gravel, contains lenses of Silty Sand, brown, moist			5				
825.1 9.0		SHAKOPEE FORMATION, LIMESTONE, tan, slightly weathered to highly weathered			10				
823.1 11.0		END OF TEST PIT							Refusal at 11 feet
		Test pit then backfilled with spoils							Water not observed while excavating.
					15				

See Descriptive Terminology sheet for explanation of abbreviations

Project Number 10006938_001 Geotechnical Evaluation Conzemius Property South of 13335 Lock Blvd Hastings, Minnesota					TEST PIT: TP-15		
					LOCATION: Captured with RTK GPS.		
					DATUM: NAD 1983 HARN Adj MN Dakota (US Feet)		
					NORTHING: 201831.7	EASTING: 611340.8	
EXCAVATOR: Enebak		LOGGED BY: M. Kudanovych		START DATE: 05/07/26	END DATE: 05/07/26		
SURFACE ELEVATION: 837.3 ft		RIG: Excavator		SURFACING: Farm field	WEATHER: Sunny		
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487)	Sample	Sample Blows Recovery	q _p tsf	MC %	Tests or Remarks
834.3		SANDY LEAN CLAY (CL), trace roots, dark brown, moist (TOPSOIL)					
3.0		SANDY LEAN CLAY (CL), contains lenses of Silty Sand, brown, moist	5				
831.3		POORLY GRADED SAND with SILT (SP-SM), fine to medium-grained, with Gravel, brown, moist	10				
6.0							
825.3		SHAKOPEE FORMATION, LIMESTONE, tan, slightly weathered					
12.0							
824.3		END OF TEST PIT					Refusal at 13 feet
13.0		Test pit then backfilled with spoils	15				Water not observed while excavating.

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A				Soil Classification	
				Group Symbol	Group Name ^B
Coarse-grained Soils (more than 50% retained on No. 200 sieve)	Gravels (More than 50% of coarse fraction retained on No. 4 sieve)	Clean Gravels (Less than 5% fines ^C)	$C_u \geq 4$ and $1 \leq C_c \leq 3^D$	GW	Well-graded gravel ^E
			$C_u < 4$ and/or ($C_c < 1$ or $C_c > 3$) ^D	GP	Poorly graded gravel ^E
		Gravels with Fines (More than 12% fines ^C)	Fines classify as ML or MH	GM	Silty gravel ^{EFG}
			Fines Classify as CL or CH	GC	Clayey gravel ^{EFG}
	Sands (50% or more coarse fraction passes No. 4 sieve)	Clean Sands (Less than 5% fines ^H)	$C_u \geq 6$ and $1 \leq C_c \leq 3^D$	SW	Well-graded sand ^I
			$C_u < 6$ and/or ($C_c < 1$ or $C_c > 3$) ^D	SP	Poorly graded sand ^I
Fine-grained Soils (50% or more passes the No. 200 sieve)	Silt and Clays (Liquid limit less than 50)	Inorganic	PI > 7 and plots on or above "A" line ^J	CL	Lean clay ^{KLM}
			PI < 4 or plots below "A" line ^J	ML	Silt ^{KLM}
		Organic	Liquid Limit – oven dried Liquid Limit – not dried <0.75	OL	Organic clay ^{KLMN} Organic silt ^{KLM O}
	Silt and Clays (Liquid limit 50 or more)	Inorganic	PI plots on or above "A" line	CH	Fat clay ^{KLM}
			PI plots below "A" line	MH	Elastic silt ^{KLM}
	Organic	Liquid Limit – oven dried Liquid Limit – not dried <0.75	OH	Organic clay ^{KLM P} Organic silt ^{KLM Q}	
Highly Organic Soils		Primarily organic matter, dark in color, and organic odor		PT	Peat

- A. Based on the material passing the 3-inch (75-mm) sieve.
B. If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.
C. Gravels with 5 to 12% fines require dual symbols:
GW-GM well-graded gravel with silt
GW-GC well-graded gravel with clay
GP-GM poorly graded gravel with silt
GP-GC poorly graded gravel with clay
D. $C_u = D_{60} / D_{10}$ $C_c = (D_{30})^2 / (D_{10} \times D_{60})$
E. If soil contains $\geq 15\%$ sand, add "with sand" to group name.
F. If fines classify as CL-ML, use dual symbol GC-GM or SC-SM.
G. If fines are organic, add "with organic fines" to group name.
H. Sands with 5 to 12% fines require dual symbols:
SW-SM well-graded sand with silt
SW-SC well-graded sand with clay
SP-SM poorly graded sand with silt
SP-SC poorly graded sand with clay
I. If soil contains $\geq 15\%$ gravel, add "with gravel" to group name.
J. If Atterberg limits plot in hatched area, soil is CL-ML, silty clay.
K. If soil contains 15 to $< 30\%$ plus No. 200, add "with sand" or "with gravel", whichever is predominant.
L. If soil contains $\geq 30\%$ plus No. 200, predominantly sand, add "sandy" to group name.
M. If soil contains $\geq 30\%$ plus No. 200 predominantly gravel, add "gravelly" to group name.
N. PI ≥ 4 and plots on or above "A" line.
O. PI < 4 or plots below "A" line.
P. PI plots on or above "A" line.
Q. PI plots below "A" line.



DD Dry density, pcf
WD Wet density, pcf
P200 % Passing #200 sieve
MC Moisture content, %
OC Organic content, %

Laboratory Tests

q_p Pocket penetrometer strength, tsf
 q_u Unconfined compression test, tsf
LL Liquid limit
PL Plastic limit
PI Plasticity index

Particle Size Identification

Boulders..... over 12"
Cobbles..... 3" to 12"
Gravel
Coarse..... 3/4" to 3" (19.00 mm to 75.00 mm)
Fine..... No. 4 to 3/4" (4.75 mm to 19.00 mm)
Sand
Coarse..... No. 10 to No. 4 (2.00 mm to 4.75 mm)
Medium..... No. 40 to No. 10 (0.425 mm to 2.00 mm)
Fine..... No. 200 to No. 40 (0.075 mm to 0.425 mm)
Silt..... No. 200 (0.075 mm) to .005 mm
Clay..... < .005 mm

Relative Proportions^{L, M}

trace..... 0 to 5%
little..... 6 to 14%
with..... $\geq 15\%$

Inclusion Thicknesses

lens..... 0 to 1/8"
seam..... 1/8" to 1"
layer..... over 1"

Apparent Relative Density of Cohesionless Soils

Very loose 0 to 4 BPF
Loose 5 to 10 BPF
Medium dense..... 11 to 30 BPF
Dense..... 31 to 50 BPF
Very dense..... over 50 BPF

Consistency of Cohesive Soils

Very soft..... 0 to 1 BPF..... < 0.25 tsf
Soft..... 2 to 4 BPF..... 0.25 to 0.5 tsf
Medium..... 5 to 8 BPF..... 0.5 to 1 tsf
Stiff..... 9 to 15 BPF..... 1 to 2 tsf
Very Stiff..... 16 to 30 BPF..... 2 to 4 tsf
Hard..... over 30 BPF..... > 4 tsf

Moisture Content:

Dry: Absence of moisture, dusty, dry to the touch.

Moist: Damp but no visible water.

Wet: Visible free water, usually soil is below water table.

Drilling Notes:

Blows/N-value: Blows indicate the driving resistance recorded for each 6-inch interval. The reported N-value is the blows per foot recorded by summing the second and third interval in accordance with the Standard Penetration Test, ASTM D1586.

Partial Penetration: If the sampler could not be driven through a full 6-inch interval, the number of blows for that partial penetration is shown as #/x" (i.e. 50/2"). The N-value is reported as "REF" indicating refusal.

Recovery: Indicates the inches of sample recovered from the sampled interval. For a standard penetration test, full recovery is 18", and is 24" for a thinwall/shelby tube sample.

WOH: Indicates the sampler penetrated soil under weight of hammer and rods alone; driving not required.

WOR: Indicates the sampler penetrated soil under weight of rods alone; hammer weight and driving not required.

Water Level: Indicates the water level measured by the drillers either while drilling (∇), at the end of drilling ($\blacktriangledown$), or at some time after drilling (∇).

Sample Symbols

	Standard Penetration Test		Rock Core
	Modified California (MC)		Thinwall (TW)/Shelby Tube (SH)
	Auger		Texas Cone Penetrometer
	Grab Sample		Dynamic Cone Penetrometer

APPENDIX D

Phase I Environmental Site Assessment

Truncated report attached. Full report available upon request.

Phase I Environmental Site Assessment

Conzemius Property

Dakota County Property ID Numbers 30-02000-30-011, 30-02000-50-010, 30-02000-51-011, 30-02000-52-013 and 30-02000-29-010 (13217 Lock Boulevard)
Hastings, Minnesota

Prepared for

Tradition Development

Prepared by

Braun Intertec Corporation

Project 10006938_001
July 23, 2026

July 23, 2026

Project 10006938_001

Mr. Patrick Wrase

Tradition Development

7601 France Avenue South, Suite 170
Minneapolis, MN 55435

Re: Phase I Environmental Site Assessment
Conzemius Property
Dakota County Property ID Numbers 30-02000-30-011, 30-02000-50-010, 30-02000-51-011,
30-02000-52-013 and 30-02000-29-010 (13217 Lock Boulevard)
Hastings, Minnesota

Dear Mr. Wrase:

In accordance with your written authorization, Braun Intertec Corporation (Braun Intertec) conducted a Phase I Environmental Site Assessment (ESA) of the above-referenced property (Site). The objective of the Phase I ESA was to identify recognized environmental conditions in connection with the Site and to assist in satisfying All Appropriate Inquiries (AAI) standards and practices. The Phase I ESA was conducted in general conformance with the scope and limitations of ASTM International (ASTM) Practice E1527-21 and 40 Code of Federal Regulations (CFR) Part 312.

The Phase I ESA was prepared on behalf of, and for sole use by, Tradition Development (Client) unless otherwise specified in Section 1.3 of the following report. Please refer to the report for the scope, methods, and conclusions of our assessment.

We appreciate the opportunity to provide professional services to you for this project. If you have any questions regarding the following report, please contact Kevin Hoffman at 612.360.0725 or khoffman@braunintertec.com.

Sincerely,

Braun Intertec Corporation

Kevin J. Hoffman
Senior Scientist

James E. Stephan
Senior Manager, Senior Scientist



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Qualifications of Consultants

DRAFT



Executive Summary

Braun Intertec Corporation (Braun Intertec) conducted a Phase I Environmental Site Assessment (ESA) of the 158.04-Acre property described by the Dakota County Property ID Numbers 30-02000-30-011, 30-02000-50-010, 30-02000-51-011, 30-02000-52-013 and 30-02000-29-010 (13217 Lock Boulevard) in Hastings, Minnesota (Subject Property, hereafter referred to as Site) in general conformance with the scope and limitations of ASTM International (ASTM) Practice E1527-21 and 40 Code of Federal Regulations (CFR) Part 312.

The Site consists of five parcels totaling approximately 158.04 acres. The majority of the Site is developed for cultivated agricultural purposes with a wooded area on the central and southern portions of the Site. The northern portion of the Site is planted with corn, and the southern portion of the Site is planted with soybeans. Historically the majority of the Site has consisted of cultivated agricultural land. Over the years wooded areas expanded on the southern half of the Site. On the 1937 to 1997 aerial photographs exposed and disturbed soil was on the west-central portion of the Site. Based on information obtained from Dakota County this was described as the Conzemius Fill Site (Site ID 6011). Photographs provided by the county indicated that discarded materials consisted of pieces of concrete and asphalt. Based on our observations of the Site there was no evidence of dumping in that part of the Site.

From at least the mid-1930s to mid-1950s the adjoining properties generally consisted of cultivated agricultural land except for farmsteads on adjoining properties northeast, north, west and southeast of the Site. In the mid-1960s single-family homes were constructed on adjoining properties northeast of the Site along Nininger Road. Additional homes were built on the adjoining properties to the east and northeast of the Site through the mid-2000s. Conzemius Companies/Conzemius Carriers is listed at 13335 Lock Boulevard on the adjoining property to the northeast in the 1992 to 2024 city directories. In the mid-2000s Hastings High School and single-family homes were constructed on adjoining properties to the south and southeast of the Site, respectively. No obvious indications of environmental concerns were noted on adjoining or nearby properties at the time of the reconnaissance, and no facilities indicative of a release that appeared to have a potential to impact the Site were identified in the surrounding area.

This assessment has revealed no recognized environmental conditions, controlled recognized environmental conditions, or significant data gaps in connection with the Site.

Additional Consideration

An additional consideration is a condition that does not meet the definition of a REC, CREC, or historical recognized environmental condition (HREC) but, in our opinion, should be brought to the attention of the User. The following additional consideration was identified during the Phase I ESA.

- Exposed and disturbed soil was evident on the west-central portion of the Site on aerial photographs from 1937 to 1997. Based on information obtained from Dakota County this was described as the Conzemius Fill Site (Site ID 6011). Photographs provided by the county indicated that discarded materials consisted of pieces of concrete and asphalt. Based on our observations of the Site there were no indications of concrete, asphalt, debris, filled in areas or any other evidence of dumping in



that part of the Site. It is unknown if the debris associated with the Conzemius Fill Site was left in place or hauled away for disposal. There is a potential that buried materials are present at the Site that may require management as solid waste if encountered during redevelopment activities. If fill soils, which could include concrete, asphalt or other wastes/demolition are encountered during redevelopment, then additional assessment of the fill soils may be required to evaluate appropriate management and/or disposal requirements.



1.0 Introduction

Braun Intertec Corporation (Braun Intertec) conducted a Phase I Environmental Site Assessment (ESA) of the 158.04-Acre property described by the Dakota County Property ID Numbers 30-02000-30-011, 30-02000-50-010, 30-02000-51-011, 30-02000-52-013 and 30-02000-29-010 (13217 Lock Boulevard) in Hastings, Minnesota (Subject Property, hereafter referred to as Site). The Site is 158.04 acres in size and developed for cultivated agricultural purposes.

1.1 Purpose

The United States Environmental Protection Agency (USEPA) All Appropriate Inquiry (AAI) rule allows a user to qualify for certain protections from Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) liability for innocent landowners, bona fide prospective purchasers, and contiguous property owners in that it constitutes all appropriate inquiry into prior ownership and use of a property prior to or on the date of property acquisition. The purpose of this Phase I ESA was to identify, to the extent feasible pursuant to the processes defined by ASTM International (ASTM) Standard Practice E1527-21 (ASTM E1527-21), recognized environmental conditions in connection with the Site and to assist in satisfying All Appropriate Inquiries (AAI) standards and practices. Definitions of common terms associated with ASTM E1527-21 are presented in [Appendix A](#).

A *recognized environmental condition* (REC) is defined by ASTM E1527-21 as “(1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment.” For the purposes of this definition, “likely” is that which is neither certain nor proved but can be expected or believed by a reasonable observer based on the logic and/or experience of the Environmental Professional (EP), and/or available evidence, as stated in the report to support the opinions given therein.

A REC may include a *controlled recognized environmental condition* (CREC) which is defined by ASTM E1527-21 as “a recognized environmental condition affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities with hazardous substances or petroleum products allowed to remain in place subject to implementation of required controls (for example, activity and use limitations or other property use limitations).”

A *historical recognized environmental condition* (HREC) is defined by ASTM E1527-21 as “a previous release of hazardous substances or petroleum products affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the subject property to any controls (for example, activity and use limitations or other property use limitations). A historical recognized environmental condition is not a recognized environmental condition.”



1.2 Scope of Services

The Phase I ESA was conducted in general conformance with the scope and limitations of ASTM E1527-21 and 40 Code of Federal Regulations (CFR) Part 312. Generally, this scope of services as defined by ASTM E1527-21 included the following.

- Searches for recorded environmental cleanup liens (a User Responsibility).
- Reviews of federal, tribal, state, and local government records.
- A review of readily available historical information; interviews with owners, operators, and occupants (as available).
- Visual reconnaissance of the Site and of adjoining properties.
- Preparation of this report.

1.3 Use of Report

According to the User, the Phase I ESA was conducted in association with the acquisition and redevelopment of the Site.

The Phase I ESA was prepared on behalf of, and for use by, Tradition Development (User) (collectively, the User) in accordance with the contract between Tradition Development (Client) and Braun Intertec, including the Braun Intertec General Conditions or specific contractual terms agreed between parties. No other party has a right to rely on the contents of the Phase I ESA without written authorization by Braun Intertec. All authorized parties are entitled to rely on the report according to our contract with Client, and under the same terms, conditions, and circumstances. Please note that our contract with Client may contain a limitation of our total liability. If so, such limitation also applies to all those receiving this permission.

1.4 Limitations, Significant Assumptions, and Exceptions

The scope of work defined by the ASTM E1527-21 is not intended to provide a universal analysis of potential environmental risks and hazards. A Phase I ESA cannot wholly eliminate uncertainty regarding the potential for RECs in connection with a property. Braun Intertec used that degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession currently practicing in the same locality. No warranty, express or implied, is made.

This Phase I ESA included no evaluation of non-ASTM scope considerations such as those listed in ASTM E1527-21, Section 13.1 unless otherwise addressed in this report. These include, but are not limited to, asbestos-containing materials (ACM), radon, indoor air quality, mold or microbial growth conditions, lead-based paint (LBP), lead in drinking water, or wetlands. A complete evaluation of business environmental risk associated with a parcel of commercial real estate may necessitate investigation beyond that addressed by this scope of work. Vapor migration in the subsurface is described by ASTM E2600; however,



ASTM E1527-21 does not require application of the E2600 standard to achieve compliance with AAI. An ASTM E2600-15 vapor encroachment screen is not within the scope of this Phase I ESA and will not be conducted unless specifically requested by the User. However, vapors present or likely present from hazardous substances or petroleum products are considered no differently than hazardous substances or petroleum products present or likely present as a result of a release to the environment. The determination of whether a REC related to vapor encroachment actually exists may require additional information or evaluation that is beyond the scope of a Phase I ESA.

Observations made regarding the layout of the Site and surrounding properties were true at the time of this assessment. Although these features are described using present tense, many described features are not permanent and may change over time.

No significant assumptions were made for this assessment. The findings of this Phase I ESA are based solely upon evaluation of information from the sources referenced within this report. The information obtained from records review is limited to that which is reasonably ascertainable, as defined by ASTM E1527-21. Information obtained from businesses or individuals is limited to that which is voluntarily disclosed. The identification of conditions that could affect the Site may be limited by the availability and accuracy of information provided by governmental and private sources. To the extent practical, the accuracy of information obtained has been verified. The information presented in this report is based upon records that are currently available and upon the conditions that existed at the time of our visual reconnaissance of the Site. Limiting conditions, if any, present at the time observations of the Site were made are detailed in [Section 5.1](#).

1.5 Viability

Subject to Section 4.6 (*Continued Viability of ESA*) and Section 6 (*User's Responsibilities*) of ASTM E1527-21, an environmental site assessment meeting or exceeding this practice and for which the information was collected or updated within 1 year prior to the date of acquisition of the Site may be used provided that the following components of the inquiries were updated within 180 days of the date of purchase or the date of the intended transaction.

- Interviews with owners, operators, and occupants.
- Searches for recorded environmental cleanup liens (a User Responsibility).
- Reviews of federal, tribal, state, and local government records.
- Visual reconnaissance of the Site and of adjoining properties.
- The declaration by the EP responsible for the assessment or update.

The 180-day period shall commence from the completion of any of these components, whichever is first.

The dates of the referenced components for this ESA are provided below.



Required ESA Components	Date Completed
Earliest date of interview of past and present owners, occupants, or operators	July 20, 2026
Date of Environmental Lien Search or Title Commitment	Not provided
Reviews of federal, tribal, state, and local government records	June 22, 2026
Date of visual reconnaissance of subject and adjoining properties	July 21, 2026
EP declaration/Phase I ESA Report Issuance Date	July 23, 2026

2.0 User Provided Information

The purpose of this section is to describe tasks to be performed by the “User.” The “User” as defined by ASTM E1527-21, is “the party seeking to use Practice E1527 to complete an environmental site assessment of the subject property.” A User may include, without limitation, a potential purchaser of property, a potential tenant of property, an owner of property, a lender, or a property manager.

ASTM E1527-21 identifies the following activities as User responsibilities: searches for environmental liens, assessments of any specialized knowledge on the part of the User, assessment of commonly known or reasonably ascertainable information about the Site, and assessment of the relationship of the purchase price to fair market value. If the User conducts one or more of these inquiries and/or activities, ASTM E1527-21 allows (but does not mandate) that the User may communicate information gathered from these inquiries and/or activities to their EP to identify a possible REC. However, failure to conduct these inquiries and communicate the information gathered to the EP could result in a determination that AAI is not complete.

Braun Intertec provided a User Questionnaire to the Client to communicate information gathered from these inquiries and/or activities to the EP ([Appendix B](#)). As indicated in our contract, if multiple Users are requesting reliance on the Phase I ESA, the Client was responsible for forwarding a copy of the questionnaire to all appropriate entities (collectively the User). User-supplied information, if received, is discussed in the following sections.

At the time of this assessment, a completed User Questionnaire had not been received.

2.1 Environmental Liens

An environmental lien is a charge, security, or encumbrance, upon title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup, or other remediation of hazardous substances or petroleum products upon a property.



No information was provided by the User that identified a record or awareness of environmental liens recorded against the Site.

2.2 Activity and Use Limitations

Activity and Use Limitations (AULs) are legal or physical restrictions or limitations on the use of, or access to, a site or facility intended to prevent adverse impacts to individuals or populations that may be exposed to hazardous substances or petroleum products in environmental media.

No information was provided by the User regarding the presence of AULs recorded against the Site.

2.3 Specialized Knowledge

Specialized environmental knowledge includes any information and/or experience related to the Site or nearby properties that is material to identifying RECs in connection with the Site.

No information was provided by the User regarding specialized knowledge or experience regarding the Site or nearby properties.

2.4 Valuation Reduction for Environmental Issues

Valuation reduction for environmental issues includes the relationship of the purchase price to the fair market value of the property.

No information was provided by the User indicating any reduction in purchase price or fair market value of the Site due to environmental issues.

2.5 Commonly Known or Reasonably Ascertainable Information

Commonly known or reasonably ascertainable information includes information about the Site that is generally known to the public within the local community where the Site is located, and that is material to the identification of RECs in connection with the Site.

No information was provided by the User regarding commonly known or reasonably ascertainable information about the Site.

2.6 Degree of Obviousness

The User must consider the degree of obviousness of the presence or likely presence of releases or threatened releases at the Site and the ability to detect releases or threatened releases by appropriate investigation.



No information was provided by the User regarding obvious indications of the presence or likely presence of releases or threatened releases at the Site.

2.7 Other

No other information was provided by the User.

3.0 Site Location and Description

Site information was obtained from User-provided information, observations during the Site reconnaissance, and from a review of readily available documents and online information sources.

3.1 Site Location

A Site Location Map is included as Figure 1 (Figures). Information regarding the Site obtained from the county website is included in [Appendix C](#). Relevant Site information obtained from the county website and from other sources is summarized below.

Address:	13217 Lock Boulevard	Not assigned	Not assigned	Not assigned	Not assigned
Property Identification Number:	30-02000-29-010	30-02000-30-011	30-02000-50-010	30-02000-51-011	30-02000-52-013
Parcel Size:	19.72 acres	7.66 acres	78.69 acres	24.78 acres	27.19 acres
City:	Hastings				
County:	Dakota County				
State:	Minnesota				
Owner:	Conzemius Family Limited Partnership				
Latitude:	44.7547 North				
Longitude:	-92.8876 West				
Size:	158.04 acres				

3.2 Site Description and Use

The Site consists of five parcels totaling approximately 156.28 acres. The majority of the Site is developed for cultivated agricultural purposes with a wooded area on the central and southern portions of the Site. The northern portion of the Site is planted with corn, and the southern portion of the Site is planted with soybeans. A Site Layout Plan is included as Figure 2 (Figures).



3.3 Current Uses of the Adjoining Properties

Direction	Property Use
North	Farmstead/Former Conzemius Company and 132nd Street East/Lock Boulevard followed by cultivated agricultural land and a sculpture park with cultivated agricultural land and a farmstead located beyond
South	A cemetery and 1st Street Southwest followed by Hastings High School with commercial properties located beyond
East	Residential properties with residential properties located beyond
West	A residential property and cultivated agricultural land with cultivated agricultural land located beyond

Adjoining properties are depicted on Figure 2 ([Figures](#)).

4.0 Records Review

The purpose of the records review is to obtain and review records that will help identify RECs in connection with the Site. References identifying published sources and Client- or User-provided reports relied upon in preparation of this Phase I ESA are provided in [Appendix D](#).

4.1 Physical Setting

The purpose of the physical setting review is to provide information about the physical setting of the Site in order to aid in the evaluation of both physical characteristics of the Site and additional attribute data, which is useful in assessing the impact of migration of contaminants and subsequent impact on soils and/or groundwater.

4.1.1 Topography

Surface elevations at the Site range from approximately 780 feet on the northern portion of the Site and 900 feet above mean sea level in the southern portion of the Site.

4.1.2 Geology

The unconsolidated sediments in the Site vicinity are Pleistocene age glaciofluvial terrace deposits and postglacial colluvium deposits. The glaciofluvial terrace deposits are in the northern portion of the Site and consists of stratified sand and gravel deposited by glacial meltwater (Gowan and Staley, 2023).

The postglacial colluvium deposits are in the southern portion of the Site and consists of loose, reworked sediments ranging from till, outwash, topsoil, loess, boulders and cobbles, and bedrock residuum (Gowan and Staley, 2023).



The uppermost bedrock units in the Site vicinity is the Upper Cambrian, Jordan Sandstone, Lower Ordovician, Oneota Dolomite, and Lower Ordovician, Shakopee Formation (Steenberg, 2023). The Jordan Sandstone and Oneota Dolomite are in the northeast corner of the Site. The Jordan Sandstone is described as white to yellow, medium- to coarse-grained, friable, quartzose sandstone that is trough cross-bedded. The lower part of the Jordan Sandstone is primarily fine-grained sandstone that commonly is feldspathic, massively bedded and bioturbated. The Oneota Dolomite is described as yellowish-gray to light brown, medium to thick-bedded dolostone without corresponding sedimentary features (including oolites, quartz sands) except at the lowermost portion of the formation. The remainder of the Site is the Shakopee Formation, which is described as tan to orangish-brown dolostone, sandy dolostone, sandstone, and shale. The depth to bedrock in the Site vicinity is within 25 feet to 175 below land surface (Steenberg and Chandler, 2023).

4.1.3 Hydrogeology

The depth to groundwater in the vicinity of the Site is expected to lie between 80 feet and 200 feet below land surface. According to published geologic information, the regional groundwater flow direction within the unconsolidated deposits in the Site vicinity is generally northeast (Palen, 1990). However, the local direction of groundwater flow may be affected by nearby streams, lakes, wells, and/or wetlands and may vary seasonally.

The Site-specific groundwater flow direction was not determined through direct measurement during this Phase I ESA. Additional field investigation, beyond the Scope of Services of this Phase I ESA, would be required to determine this information.

4.2 Regulatory Database Review

We obtained regulatory database information pertaining to the Site and surrounding area from Environmental Data Resource, Inc. (EDR). The EDR report is a compilation of records of facilities that are included on current federal and state environmental regulatory databases. The databases were searched based on the specified minimum search distances from the Site as established by ASTM E1527-21.

The EDR report also includes a description, source reference, date of acquisition, and the specified approximate minimum search distance criteria for each database and list. A copy of the EDR report is included in [Appendix E](#).

We reviewed the EDR report to identify records that indicate known or potential RECs on the Site and/or surrounding area and to evaluate the likelihood for those RECs to impact the Site based upon their distance, topographic position relative to the Site, and the documented presence of contaminant releases that have not been remediated to the satisfaction of regulatory authorities. In addition to the ASTM standard environmental records reviewed, EDR provides listings based upon review of supplemental federal, state and local records (where available), and on exclusive or proprietary databases. Where those databases yielded relevant information regarding environmental conditions at or proximate to the Site, they have been included in the discussion below.



4.2.1 Site

Based on a review of the EDR report, the Site is not listed on any of the standard environmental record sources as specified in ASTM E1527-21.

4.2.2 Adjoining Properties

Based on the EDR report, the following facilities are identified on properties that adjoin the Site:

- **Conzemius Companies Inc., 13335 Lock Boulevard, Map ID #1 and #2, located on an adjoining property northeast of the Site.** At the time of our reconnaissance the business appeared to be out of business. The facility is listed on the EDR report which indicates that Conzemius Companies is listed on the Resource Conservation and Recovery Act (RCRA) Very Small Quantity Generator (VSQG), aboveground storage (AST), Financial Assurance, Manifest, Electronic Manifest (E Manifest), Enforcement and Compliance History Information (ECHO) and Environmental Protection Agency (EPA) Facility Index System (FINDS) databases. Identification on the RCRA-VSQG database indicates that the facility is required to register their hazardous waste activity under RCRA and does not imply that a release has occurred. Waste streams identified for the facility included ignitable waste, corrosive waste, lead, and mercury. According to the EDR report one active 2,200-gallon used oil AST is registered at the facility. The AST was installed in 1995, is single-walled and made of steel. The Financial Assurance listing is associated with the AST at the facility. According to the Manifest listing contractors removed petroleum naphtha from the facility. The ECHO listing indicates that no violations have been identified at the facility. Identification on the FINDS database indicates that the facility is tracked on one or more programs which report information to EPA. No releases were reported at the facility in the regulatory report.
- **ISD 200 High School/Hastings Senior High School, Map ID #3, #4, #5, and #6, 200 General Sieben Drive, located on an adjoining property south of the Site.** The facility is listed on the RCRA-VSQG, underground storage tank (UST), leaking underground storage tank (LUST), Site Remediation Section (SRS), Financial Assurance, Manifest, E Manifest, ECHO, and Tier 2 databases. Identification on the RCRA-VSQG database indicates that the facility is required to register their hazardous waste activity under RCRA and does not imply that a release has occurred. Waste streams identified for the facility included ignitable waste, corrosive waste, arsenic, lead, silver and halogenated solvents. According to the EDR report, one active 8,000-gallon diesel UST is registered at the facility. The UST was installed in 2000, is double-walled and made of fiberglass. A release at the facility was reported to the Minnesota Pollution Control Agency (MPCA) on November 19, 2001 and was assigned LS0014550. Approximately 29 cubic-yards of impacted soil was excavated from the facility. No groundwater contamination was reportedly associated with this release. The MPCA closed the file regarding this release on July 14, 2004 indicating that the investigation and/or remediation was completed to their satisfaction. The Financial Assurance listing is associated with the UST at the facility. According to the Manifest listing contractors removed petroleum naphtha from the facility. The ECHO listing indicates that no violations have been identified at the facility. The Tier 2 listing is associated with the storage of fuel oil in a UST located on the west side of the building by the loading dock.



4.2.3 Surrounding Area

We reviewed the EDR report for facilities located beyond adjoining properties that may indicate a release or likely release of hazardous substances and/or petroleum products that may impact the Site. Based on factors that include the nature of the database listing, regulatory status, distance from the Site, and/or location relative to the regional groundwater flow direction, as referenced in [Section 4.1](#), no facilities were identified report that appear to warrant further consideration as potential RECs.

4.2.4 Unmapped Facilities

The EDR report identified one unmappable or orphan facility, which, because of poor or inadequate address information, could not be located. Using online mapping resources, the unmappable facility was identified outside the appropriate minimum search distances for the Site. It is our opinion the unmappable facilities do not warrant further consideration as potential RECs.

4.2.5 Additional Environmental Record Sources

To enhance and supplement the regulatory database report, we requested reasonably ascertainable local city, county or state records to identify information relevant to the identification of potential RECs at the Site.

State Regulatory Websites

The Minnesota Department of Agriculture (MDA) "What's In My Neighborhood" Agricultural Interactive Mapping and the MPCA "What's In My Neighborhood", "Groundwater Contamination Atlas", and "Institutional Controls" websites were accessed to evaluate for regulatory listings at the Site, adjoining properties, or surrounding properties that would be of environmental concern but were not identified in the regulatory database report.

We did not identify facilities on the state regulatory websites we accessed that were not already listed in the EDR report discussed in [Section 4.2](#).

MPCA Land Application Database

The MPCA Land Application Database, as made available online, was also reviewed as part of this assessment. This database contains the locations of approved biosolid land application sites, defined as the "process of incorporating products such as biosolids from wastewater treatment, manure, petroleum contaminated soil, or selected industrial by-products to agricultural land for treatment by natural process." Identifying the presence of sites approved for land application in or near the investigation area is considered a potential risk for biosolid distribution. The accuracy and completeness of the data in the database is somewhat limited, and information regarding whether or not land application occurred was not provided; further, these locations simply represent the geographical center of a site where biosolid land applications were approved. As a result, these locations are approximate and do not indicate a confirmed land application of biosolids. No land application sites were plotted within the boundaries of the Site.



County Information

We requested the Dakota County Environmental Resources Department (DCERD) to conduct an environmental file search for information pertaining to the Site. The DCERD file records include the following information:

- A map depicting the environmental sites within a 1/2-mile radius of the Site.
- Licensed hazardous waste generators within 1/2-mile of the Site.
- Dakota County Waste/Contaminated sites within 1/2-mile of the Site.
- MPCA What's In My Neighborhood sites within 1/2-mile of the Site.
- Wells

According to the DCERD file review, Dakota County has no complaint files for the Site. Dakota County has no records for wells located at the Site.

The DCERD report depicts an “open household or farm dump” on the central portion of the Site referred to as the Conzemius Fill Site (Site ID 6011). Photographs taken of the Conzemius Fill Site dump in 1997 provided by DCERD indicate that the dump consisted of pieces of concrete and asphalt. No drums, storage tanks or other containers that potentially contained petroleum products or hazardous substances were noted on the photographs or information obtained from DCERD.

Included in the DCERD report are Hazardous Waste Generator Inspection Reports for the years 2010 to 2018 for Conzemius Companies on the adjoining property to the northeast. According to the DCERD report Conzemius Companies generated parts washer solvent, lead acid batteries, used oil, fluorescent lamps, and oil filters. According to the DCERD report Conzemius Companies is out of business. A Letter of Warning was issued on April 10, 2019 to Conzemius Companies for operating without a valid hazardous generator license.

No additional facilities were identified in the DCERD file review that were not already discussed in Section 4.2. or warrant further consideration as potential recognized environmental conditions. A copy of the DCERD file review is attached in Appendix F.

City Information

Braun Intertec requested Site-specific information of environmental relevance from the City of Hastings. Braun Intertec has not received a response to date but will notify the User upon receiving information that would change the conclusions of this report.

Well Databases

The Minnesota Geological Survey (MGS) maintains the Minnesota Well Index (MWI), which is a limited database of water well records. The MWI was accessed through the Minnesota Department of Health (MDH) website. Not all private water wells are listed in that database. In addition, the MDH maintains a database of water well records disclosed and registered during real estate property transactions, the Well Disclosure Certificate database, within their Well Management Section that may contain well records not listed in the MWI. Our review of these sources identified no water well records related to the Site.



4.2.6 Regulatory Agency File and Records Review

The purpose of the regulatory file review is to obtain sufficient information to assist in determining if a REC, CREC, HREC, or a *de minimis* condition exists at the Site in connection with a regulatory report listing.

Although an adjoining property was identified in the regulatory report, based on our review of the database listings, it is our opinion that a regulatory agency file and records review is not warranted due to factors that include the nature and regulatory status of the listing, the facility's distance from the Site, and/or its location relative to the estimated regional groundwater flow direction.

4.3 Historical Use Information Review

The objective of compiling and analyzing historical property information is to develop a history of the previous uses of the Site, adjoining properties, and surrounding area, in order to help identify the likelihood of past uses having led to RECs in connection with the Site.

The following table summarizes the historical information reviewed. Details regarding the information reviewed are provided in the sections below.

Historical Source	Provided By	Years Available
Fire Insurance Maps	EDR	No coverage
Topographic Maps	EDR	1951/1951 (northern half), 1957 (southern half), 1967 (northern half), 1972 (northern half), 1974/1977 (southern half), 1980 (northern half), 1993, 2013, 2016/2018, 2019, and 2022
Aerial Photographs	EDR	1937, 1940, 1947, 1953, 1957, 1964, 1966, 1972, 1984, 1987, 1991, 197, 2006, 2010, 2015, 2019, and 2023
City Directories	EDT	At approximate 5-year intervals between 1976 and 2024

If relevant and useful, other on-line historical sources were reviewed and are cited in the subsections below.

4.3.1 Fire Insurance Maps

Historical maps sometimes produced by private fire insurance map companies may be useful to indicate uses of the Site and nearby properties at specified dates. The information noted on the maps commonly includes uses of individual structures, locations of fuel and/or chemical storage tanks, and storage of other potentially toxic substances. According to EDR, no fire insurance map coverage is available for the Site. A copy of the no coverage document is provided in [Appendix G](#).

4.3.2 Topographic Maps

Topographic maps provide a detailed record of a land area, giving geographic positions and elevations for both natural and man-made features such as pipelines, power lines, and many types of buildings. Maps published after 2009 typically do not include detail related to man-made features. Copies of the historical topographic maps are included in [Appendix H](#). The following is a summary of the information reviewed.



Site

No structures are depicted at the Site. Trees are depicted on the southern portion of the Site. Lock Boulevard/132nd Street East borders the Site to the north and northeast and 1st Street West borders the Site to the south.

Adjoining Properties

On the 1950/1951 to 1993 topographic maps buildings are depicted on the adjoining property northeast of the Site. Farmsteads are depicted north, east and west of the Site. On the 1957 to 1980 topographic maps Oakwood Cemetery and a farmstead are depicted south and southeast of the Site, respectively. On the 1993 topographic map houses are depicted southeast of the Site along Niniger Road and southwest of the Site.

The 2013 to 2022 topographic maps only show topography, roads, waterways, and other similar features; therefore, buildings or areas of development are not depicted on these maps. The adjoining properties are similar to the 1993 topographic map except houses are on the adjoining property to the west and southwest and Hastings High School is on the adjoining property to the south based on aerial photographs of the corresponding time period.

4.3.3 Aerial Photographs

Aerial photographs provide a visual record of land use and landcover conditions frequently dating back to the 1930s or 1940s. Copies of the aerial photographs are included in [Appendix I](#). The following is a summary of the information reviewed.

Site

No structures are at the Site on all of the aerial photographs reviewed. Lock Boulevard/132nd Street East borders the Site to the north and northeast and 1st Street West borders the Site to the south. The majority of the Site consists of cultivated agricultural land. Over the years wooded areas expand on the southern half of the Site. On the 1937 to 1997 aerial photographs exposed and disturbed soil is evident on the west-central portion of the Site. On the 2006 to 2023 aerial photographs the area of disturbed soil is obscured by trees.

Adjoining Properties

On the 1937 to 1957 aerial photographs the adjoining properties generally consist of cultivated agricultural land except for farmsteads on adjoining properties northeast, north, west and southeast of the Site. Beginning on the 1966 aerial photograph, single-family homes are on adjoining properties northeast of the Site along Nininger Road. Additional homes are on the adjoining properties to the east and northeast of the Site through the 2006 aerial photograph. On the 1984 aerial photograph a single-family house is on an adjoining property southwest of the Site. Beginning on the 2006 aerial photograph Hastings High School and single-family homes are on adjoining properties to the south and southeast, respectively.



4.3.4 City Directories

City directories provide a listing, by street address, of residents, businesses, organizations or institutions for the date of directory publication. The available city directory listings were reviewed to identify past occupants at the Site and surrounding area. Copies of the city directories reviewed are provided in [Appendix J](#). A summary of the relevant information is provided below.

Site

The Site address is not listed on any of the directories reviewed.

Adjoining Properties

The surrounding properties were listed primarily as residential and commercial on the city directories reviewed. Conzemius Companies/Conzemius Carriers is listed at 13335 Lock Boulevard on the 1992 to 2024 city directories. General Truck Repair is listed at the Conzemius Companie property for 1995.

4.3.5 Previous Environmental Documents

No previous environmental reports or documents containing relevant historical information were provided for our review.

4.3.6 Other Historical Resources

No other historical sources were reviewed as part of this assessment.

4.3.7 Summary of Site History

Historically the majority of the Site has consisted of cultivated agricultural land. Over the years wooded areas expanded on the southern half of the Site. On the 1937 to 1997 aerial photographs exposed and disturbed soil was on the west-central portion of the Site. Based on information obtained from Dakota County this was described as the Conzemius Fill Site (Site ID 6011). Photographs provided by the county indicated that discarded materials consisted of pieces of concrete and asphalt. Based on our observations of the Site there was no evidence of dumping in that part of the Site.

4.3.8 Summary of Historical Information for Adjoining and Area Properties

From at least the mid-1930s to mid-1950s the adjoining properties generally consisted of cultivated agricultural land except for farmsteads on adjoining properties northeast, north, west and southeast of the Site. In the mid-1960s single-family homes were constructed on adjoining properties northeast of the Site along Nininger Road. Additional homes were built on the adjoining properties to the east and northeast of the Site through the mid-2000s. Conzemius Companies/Conzemius Carriers is listed at 13335 Lock Boulevard on the adjoining property to the northeast in the 1992 to 2024 city directories. In the mid-2000s Hastings High School and single-family homes were constructed on adjoining properties to the south and southeast of the Site, respectively. No obvious indications of environmental concerns were noted on adjoining or nearby properties at the time of the reconnaissance, and no facilities indicative of a release that appeared to have a potential to impact the Site were identified in the surrounding area.



5.0 Site Reconnaissance

The objective of the site reconnaissance is to obtain information and make observations to help indicate the likelihood of identifying RECs in connection with the Site. The Site Layout is presented on Figure 2 (Figures), and photographs of the Site are presented in [Appendix K](#).

5.1 Observations, Methodology and Limiting Conditions

Braun Intertec Environmental Professional Kevin Hoffman visited the Site on July 21, 2026. We were unaccompanied during the Site reconnaissance. At the time, the weather was partly cloudy and windy with a temperature of about 78 degrees Fahrenheit.

Observations made at the time of the Site reconnaissance were conducted by physically traversing and visually observing the exterior aspects of the Site. Adjoining properties were visually observed from the Site boundaries or nearby public rights-of-way.

Our observations of the wooded areas on the central and southern portions of the Site and a majority of the cultivated agricultural areas were limited due to dense vegetation and mature crops, respectively.

5.2 Site Observations

5.2.1 Site Description

The Site consists of five parcels totaling approximately 156.04 acres. The majority of the Site is developed for cultivated agricultural purposes with a wooded area on the central and southern portions of the Site. The northern portion of the Site is planted with corn, and the southern portion of the Site is planted with soybeans.

There were no other apparent past uses evident from observations during the Site reconnaissance.

5.2.2 Pits, Ponds, Pools of Liquid, or Lagoons

No indications of pits, ponds, pools of liquid, or lagoons having the potential to contain hazardous substances or petroleum products were observed at the Site or on adjoining properties at the time of our reconnaissance.

5.2.3 Stained or Corroded Surfaces

No stained soil, pavement, or interior building surfaces were observed at the time of our reconnaissance.



5.2.4 Solid Waste Disposal

At the time of the reconnaissance, no indications of waste disposal areas, fill, mounds, depressions, burn pits or disturbed areas were observed that were suggestive of the presence of buried debris or other solid waste disposal.

5.2.5 Stressed Vegetation

No areas of stressed, discolored, stained or dead vegetation beyond what would be expected due to seasonal conditions were observed at the time of the Site reconnaissance.

5.2.6 Hazardous Substances and Petroleum Products

No indications of current and/or historical use, storage, staining, or spills of hazardous substances or petroleum products were observed at the Site at the time of the reconnaissance.

5.2.7 Storage Tanks

No indications of ASTs or USTs were noted at the Site at the time of the reconnaissance.

5.2.8 Drums and Unidentified Substance Containers

No labeled drums or drums containing unidentified substances suspected of being a hazardous substance or petroleum product were observed at the Site at the time of our reconnaissance.

5.2.9 Odors

No strong, pungent, or noxious odors were noted at the time of the Site reconnaissance.

5.2.10 Potential PCB-Containing Electrical and Hydraulic Equipment

No indications of potential PCB-containing electrical or hydraulic equipment were noted at the Site at the time of the reconnaissance.

5.2.11 Wastewater Discharges

No process wastewater was observed during the Site reconnaissance.

5.2.12 Sewage Disposal System

The Site consists of cultivated agricultural land and thus does not have a private sewage disposal system, nor is it connected to municipal sewer services.

5.2.13 Wells

No indications of wells such as monitoring wells, dry wells, irrigation wells, injection wells, abandoned wells, or other non-potable wells were observed at the Site at the time of the reconnaissance.



5.2.14 Potable Water Supply

The Site consists of agricultural land and thus does not have a potable water supply, nor is it connected to municipal water services.

5.2.15 Additional Observations

The DCERD report obtained as part of this Phase I ESA depicts an open household or farm dump on the central portion of the Site referred to as the Conzemius Fill Site (Site ID 6011). At the time of our reconnaissance no indications of concrete, asphalt, debris, filled in areas or containers that potentially contained petroleum products or hazardous substances were noted in the area of the depicted household or farm dump.

5.3 Current and Past Use of Adjoining Properties and Surrounding Area

The area reconnaissance was performed to assist in determining whether land use on the adjacent or nearby properties may have features, activities, uses, or conditions that indicate the presence of RECs. The area was toured by foot and automobile from public rights-of-way. The properties surrounding the Site are as follows:

Direction	Property Use
North	Farmstead/Former Conzemius Company and 132nd Street East/Lock Boulevard followed by cultivated agricultural land and a sculpture park with cultivated agricultural land and a farmstead located beyond
South	A cemetery and 1st Street Southwest followed by Hastings High School with commercial properties located beyond
East	Residential properties with residential properties located beyond
West	A residential property and cultivated agricultural land with cultivated agricultural land located beyond

No obvious indications of environmental concern were noted on adjoining properties at the time of the reconnaissance.

6.0 Interviews

The objective of interviews is to obtain information indicating RECs in connection with the Site. Interviews with past and present owners, operators, and occupants of the property, consisted of questions asked in an attempt to obtain information about current and past uses and conditions of the Site.

6.1 Site Representatives

We contacted Mr. Todd Stutz, Vice President, Tradition Development (Potential purchaser), to obtain contact information for a representative for the Site to interview. According to Mr. Stutz the representative that would have the most information regarding the Site was Mr. Leo Conzemius, who recently passed away. Mr. Stutz



stated the current owners/representatives of the Site have not been associated with the property and wouldn't be able to provide any pertinent information regarding the Site. Therefore, we did not interview a Site owner or representative for information regarding the Site.

6.2 Local Government Officials

Braun Intertec contacted representatives of local government agencies to obtain information relevant to the identification of RECs on the Site. We did not interview local government officials in person; however we submitted written requests for information via letter or electronic media; information obtained from the inquiry is provided in [Section 4.2.5](#) of this report.

6.3 Others

No additional persons were interviewed as part of the assessment.

7.0 Data Gaps

Data gaps, which result from a lack of or inability to obtain information required by this practice despite good faith efforts, may include limiting conditions such as client imposed constraints; physical obstructions that may have limited observations of the Site or surrounding area; physical constraints such as snow, rain or other weather conditions; and data failures which result from a failure to achieve the historical research objectives of developing a history of the previous uses of the Site, adjoining properties, and surrounding area.

No data gaps were identified as part of this Phase I ESA with the exception of the following:

- Our observations of the wooded areas on the central and southern portions of the Site and a majority of the cultivated agricultural areas were limited due to dense vegetation and mature crops, respectively.
- Responses to our inquiries to local government offices and/or officials were not received prior to issuance of the assessment.
- Historical resources were not readily available for 5-year-or-less intervals from the time of the first developed use.
- Interviews with the knowledgeable Site representatives were not available.
- The User did not provide information to evaluate the presence of environmental liens filed against the Site.
- The User did not return the User Questionnaire.

The identified data gaps did not affect the EP's ability to render opinions regarding conditions indicative of a release or threatened release and are unlikely to alter the report findings.



8.0 Findings and Opinions

According to the User, the Phase I ESA was conducted in association with the acquisition and redevelopment of the Site. Opinions expressed herein are influenced by the stated reason for conducting the Phase I ESA. Furthermore, the expressed opinions might not be applicable to alternate reasons for reliance on the content of the Phase I ESA. The findings include identified features, activities, uses, and conditions that may indicate the presence or likely presence of hazardous substances or petroleum products at the Site; and include a discussion of significant data gaps, if any. The following findings are based on the results of our assessment:

- The Site consists of five parcels totaling approximately 158.04 acres. The majority of the Site is developed for cultivated agricultural purposes with a wooded area on the central and southern portions of the Site. The northern portion of the Site is planted with corn, and the southern portion of the Site is planted with soybeans. Historically the majority of the Site has consisted of cultivated agricultural land. Over the years wooded areas have expanded on the southern half of the Site. It is our opinion that the current and past uses of the Site do not represent a REC.
- From at least the mid-1930s to mid-1950s the adjoining properties generally consisted of cultivated agricultural land except for farmsteads on adjoining properties northeast, north, west and southeast of the Site. In the mid-1960s single-family homes were constructed on adjoining properties northeast of the Site along Nininger Road. Conzemius Companies/Conzemius Carriers is listed at 13335 Lock Boulevard on the adjoining property to the northeast in the 1992 to 2024 city directories. Additional homes were built on the adjoining properties to the east and northeast of the Site through the mid-2000s. In the mid-2000s Hastings High School and single-family homes were constructed on adjoining properties to the south and southeast of the Site, respectively. No obvious indications of environmental concerns were noted on adjoining or nearby properties at the time of the reconnaissance, and no facilities indicative of a release that appeared to have a potential to impact the Site were identified in the surrounding area; therefore, it is our opinion that the past and current uses of the adjoining and surrounding properties are not a REC.
- Exposed and disturbed soil was evident on the west-central portion of the Site on aerial photographs from 1937 to 1997. Based on information obtained from Dakota County this was described as the Conzemius Fill Site (Site ID 6011). Photographs provided by the county indicated that discarded materials consisted of pieces of concrete and asphalt. Based on our observations of the Site there were no indications of concrete, asphalt, debris, filled in areas or any other evidence of dumping in that part of the Site. It is unknown if the debris associated with the Conzemius Fill Site was left in place or hauled away for disposal. Since the debris was described as concrete and asphalt and since there was no indication of these material on the Site it is our opinion that this does not represent a REC; however, there is a potential that buried materials are present at the Site that may require management as solid waste if encountered during redevelopment activities. If fill soils, which could include concrete, asphalt or other wastes/demolition are encountered during redevelopment, then additional assessment of the fill soils may be required to evaluate appropriate management and/or disposal requirements.



9.0 Conclusions

Braun Intertec has performed a Phase I ESA of the Site in general conformance with the scope and limitations of ASTM E1527-21, of the property located at 13217 Lock Boulevard and Dakota County Property ID Numbers 30-02000-30-011, 30-02000-50-010, 30-02000-51-011, and 30-02000-52-013 in Hastings, Minnesota. Any exceptions to, or deletions from, this practice are described in [Section 1.4](#).

This assessment has revealed no RECs, CRECs, or significant data gaps in connection with the Site.

Additional Considerations

An additional consideration is a condition that does not meet the definition of a REC, CREC, or HREC but, in our opinion, should be brought to the attention of the User. The following additional considerations were identified during the Phase I ESA:

- Exposed and disturbed soil was evident on the west-central portion of the Site on aerial photographs from 1937 to 1997. Based on information obtained from Dakota County this was described as the Conzemius Fill Site (Site ID 6011). Photographs provided by the county indicated that discarded materials consisted of pieces of concrete and asphalt. Based on our observations of the Site there were no indications of concrete, asphalt, debris, filled in areas or any other evidence of dumping in that part of the Site. It is unknown if the debris associated with the Conzemius Fill Site was left in place or hauled away for disposal. There is a potential that buried materials are present at the Site that may require management as solid waste if encountered during redevelopment activities. If fill soils, which could include concrete, asphalt or other wastes/demolition are encountered during redevelopment, then additional assessment of the fill soils may be required to evaluate appropriate management and/or disposal requirements.

10.0 Environmental Professional Statement

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 Part 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Site. We have developed and performed the AAI in conformance with the standards and practices set forth in 40 CFR Part 312. Qualifications of the environmental professional and personnel who completed the ESA are presented in [Appendix L](#).

Sincerely,

Braun Intertec Corporation

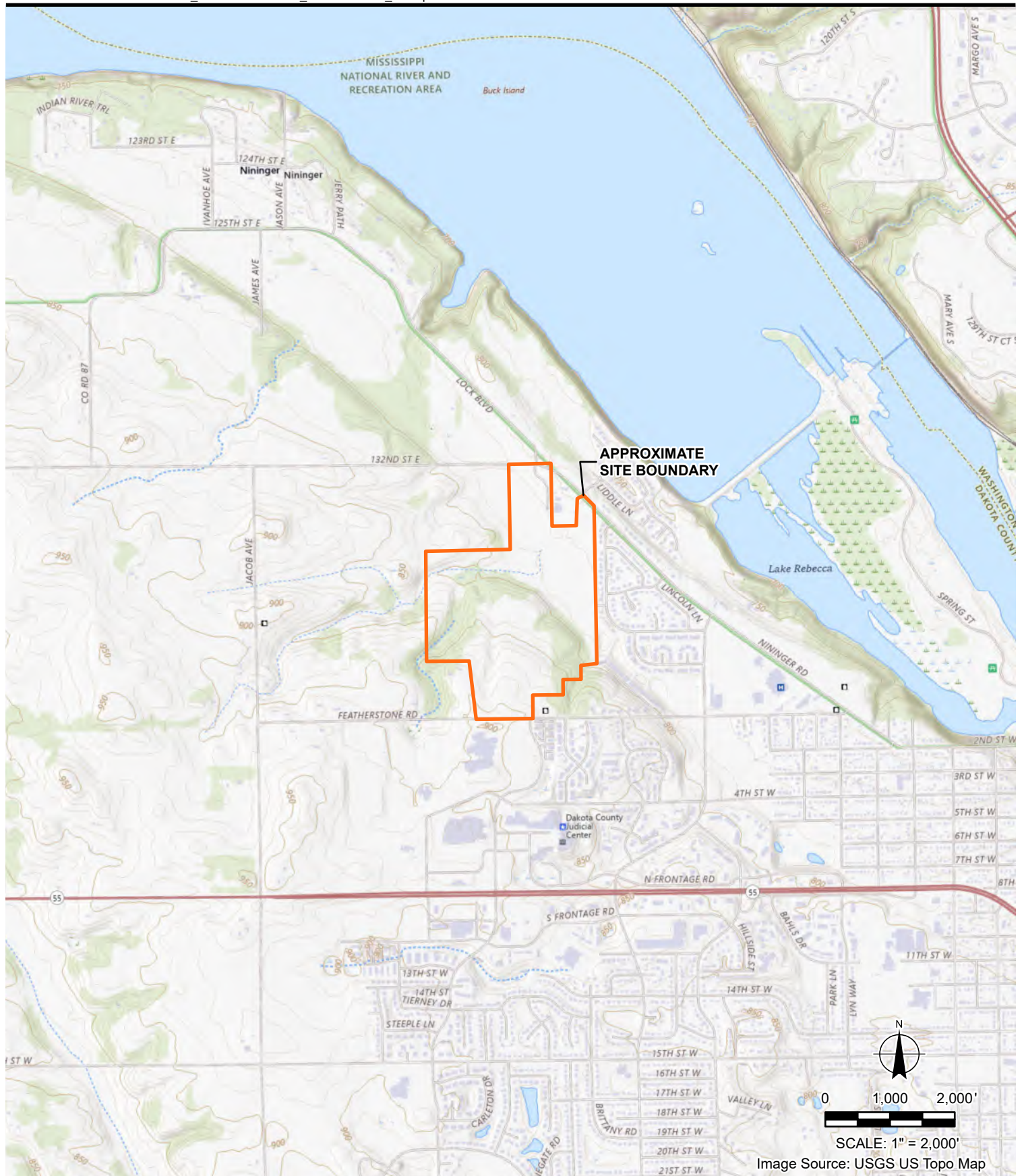
Kevin J. Hoffman
Senior Scientist

James E. Stephan
Senior Manager, Senior Scientist

Figures

Figure 1: Site Location

Figure 2: Site Layout



**BRAUN
INTERTEC**

the science you build on

2309 Palace Street
La Crosse, WI 54603
608.781.7277
braunintertec.com

Project No:
10006938_001

Drawing No:
Fig1_SiteLocation

Drawn By: VL
Date Drawn: 7/23/2026
Checked By: KH
Last Modified: 7/23/2026

Conzemius Property

South of 13335 Lock Blvd

Hastings, Minnesota

Site Location Map

Figure 1



**BRAUN
INTERTEC**

the science you build on

2309 Palace Street
La Crosse, WI 54603
608.781.7277
braunintertec.com

Project No:
10006938_001

Drawing No:
Fig2_SiteLayout

Drawn By: VL
Date Drawn: 7/23/2026
Checked By: KH
Last Modified: 7/23/2026

Conzemius Property

South of 13335 Lock Blvd

Hastings, Minnesota

Site Layout

Figure 2

Appendix A.

Definitions

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Definitions

Activity and Use Limitations (AUL) – Legal or physical restrictions or limitations on the use of, or access to, a site or facility: (1) to reduce or eliminate potential exposure to hazardous substances or petroleum products in the soil, soil vapor, groundwater, and/or surface water on the property, or (2) to prevent activities that could interfere with the effectiveness of a response action, in order to ensure maintenance of a condition of no significant risk to public health or the environment. These legal or physical restrictions, which may include institutional and/or engineering controls, are intended to prevent adverse impacts to individuals or populations that may be exposed to hazardous substances and petroleum products in the soil, soil vapor, groundwater, and/or surface water on the property.

Adjoining Properties – Any real property or properties the border of which is contiguous or partially contiguous with that of the subject property, or that would be contiguous or partially contiguous with that of the subject property but for a street, road, or other public thoroughfare separating them.

Bona Fide Prospective Purchaser Liability Protection – A person may qualify as a bona fide prospective purchaser if, among other requirements, such person made “all appropriate inquiries into the previous ownership and uses of the facility in accordance with generally accepted good commercial and customary standards and practices.” Knowledge of contamination resulting from all appropriate inquiries would not generally preclude this liability protection. A person must make all appropriate inquiries on or before the date of purchase. The facility must have been purchased after January 11, 2002.

Business Environmental Risk – A risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated in this practice. Consideration of business environmental risk issues may involve addressing one or more non-scope considerations.

Contiguous Property Owner Liability Protection – A person may qualify for the contiguous property owner liability protection if, among other requirements, such person owns real property that is contiguous to, and that is or may be contaminated by hazardous substances from other real property that is not owned by that person. Furthermore, such person conducted all appropriate inquiries at the time of acquisition of the subject property and did not know or have reason to know that the subject property was or could be contaminated by a release or threatened release from the contiguous property. The all appropriate inquiries must not result in knowledge of contamination. If it does, then such person did “know” or “had reason to know” of contamination and would not be eligible for the contiguous property owner liability protection. See Appendix X1 (of ASTM E1527-21) for the other necessary requirements that are beyond the scope of this practice.

Controlled Recognized Environmental Condition—A recognized environmental condition affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, activity and use limitations or other property use limitations).



Data Failure – A failure to achieve the historical research objectives in 8.3.1 (of ASTM E1527-21) even after reviewing the standard historical sources in 8.3.4.1 through 8.3.4.8 (of ASTM E1527-21) that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap.

Data Gap – A lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice, including, but not limited to, site reconnaissance (for example, an inability to conduct the site visit), and interviews (for example, an inability to interview the key site manager, regulatory officials, etc.).

De Minimis Condition – A condition related to a release that generally does 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. A condition determined to be a de minimis condition is not a recognized environmental condition nor a controlled recognized environmental condition.

Hazardous Substance – A substance defined as a hazardous substance pursuant to CERCLA 42 U.S.C. §9601(14), as interpreted by EPA regulations and the courts: “(A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33, (B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title, (C) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, (42 U.S.C. §6921) (but not including any waste the regulation of which under RCRA (42 U.S.C. §6901 et seq.) has been suspended by Act of Congress), (D) any toxic pollutant listed under section 1317(a) of Title 33, (E) any hazardous air pollutant listed under section 112 of the Clean Air Act (42 U.S.C. §7412), and (F) any imminently hazardous chemical substance or mixture with respect to which the Administrator (of EPA) has taken action pursuant to section 2606 of Title 15. The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).”

Hazardous Waste – Any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of RCRA, as amended, (42 U.S.C. §6921) (but not including any waste the regulation of which under RCRA (42 U.S.C. §§6901-6992k) has been suspended by Act of Congress). RCRA is sometimes also identified as the Solid Waste Disposal Act. RCRA defines a hazardous waste, at 42 U.S.C. §6903, as: “a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may– (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.”

Historical Recognized Environmental Condition – A previous release of hazardous substances or petroleum products affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by a regulatory authority or authorities, without subjecting the subject property to any controls (for example, activity and use limitations or other property use limitations). A historical recognized environmental condition is not a recognized environmental condition.



Innocent Landowner – A person may qualify as one of three types of innocent landowners: (1) a person who “did not know and had no reason to know” that contamination existed on the subject property at the time the purchaser acquired the subject property; (2) a government entity which acquired the subject property by escheat, or through any other involuntary transfer or acquisition, or through the exercise of eminent domain authority by purchase or condemnation; and (3) a person who “acquired the facility by inheritance or bequest.” To qualify for the innocent landowner defense, such person must have made all appropriate inquiries on or before the date of purchase. Furthermore, the all appropriate inquiries must not have resulted in knowledge of the contamination. If it does, then such person did “know” or “had reason to know” of contamination and would not be eligible for the innocent landowner defense. See Appendix X1 (of ASTM E 1527-21) for the other necessary requirements that are beyond the scope of this practice.

Key Site Manager – The person identified by the owner or operator of a subject property as having good knowledge of the uses and physical characteristics of the subject property.

Landowner Liability Protections (LLPs) – A defense to CERCLA available to bona fide prospective purchasers, contiguous property owners, and innocent landowners See 42 U.S.C. §§9601(35)(A), 9601(40), 9607(b), 9607(q), 9607®.

Material Threat – Obvious threat which is likely to lead to a release and that, in the opinion of the environmental professional, would likely result in the impact to public health or the environment.

Petroleum Products – Those substances included within the meaning of the petroleum exclusion to CERCLA, 42 U.S.C. §9601(14), as interpreted by the courts and EPA, that is: petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under Subparagraphs (A) through (F) of 42 U.S.C. §9601(14), natural gas, natural gas liquids, liquefied natural gas, and synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas). (The word fraction refers to certain distillates of crude oil, including gasoline, kerosene, diesel oil, jet fuels, and fuel oil, pursuant to Standard Definitions of Petroleum Statistics.)

Property Use Limitation – Limitation or restriction on current or future use of a property in connection with a response to a release, in accordance with the applicable regulatory authority or authorities that allows hazardous substances or petroleum products to remain in place at concentrations exceeding unrestricted use criteria.

Recognized Environmental Condition (REC) – (1) The presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment. For the purposes of this definition, “likely” is that which is neither certain nor proved but can be expected or believed by a reasonable observer based on the logic and/or experience of the environmental professional, and/or available evidence, as stated in the report to support the opinions given herein.

Significant Data Gap – A data gap that affects the ability of the environmental professional to identify a recognized environmental condition

Appendix B.

User Questionnaire and User-Provided Documents

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ASTM Practice E1527-21 User Questionnaire

To be completed by the User

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Site: Site Name: _____
Site Address: _____
Site City, State: _____

User Name: _____ **Date:** _____

Company: _____

In order to qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2002 (the “Brownfields Amendment”), the User must conduct the following inquiries. The User should provide the following information to the environmental professional. Failure to conduct these inquiries could result in a determination that “all appropriate inquiries” is not complete.

1. Environmental cleanup liens that are filed or recorded against the property.

The types of title reports that may disclose environmental liens include Preliminary Title Reports, Title Commitments, Condition of Title, and Title Abstracts. Chain-of-title reports will not normally disclose environmental liens. Did a search of recorded land title records (or judicial records where appropriate) identify any environmental cleanup liens filed or recorded against the property under federal, tribal, state or local law? _____

2. Activity and use limitations (AULs) that are in place on the property or that have been filed or recorded against the property.

The types of title reports that may disclose AULs include Preliminary Title Reports, Title Commitments, Condition of Title, and Title Abstracts. Chain-of-title reports will not normally disclose AULs. Did a search of recorded land title records (or judicial records where appropriate) identify any AULs, such as engineering controls, land use restrictions, or institutional controls that are in place at the property and/or have been filed or recorded against the property under federal, tribal, state or local law? _____

3. Specialized knowledge or experience of the person seeking to qualify for the LLP.

Do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business? _____



4. Relationship of the purchase price to the fair market value of the property if it were not contaminated.

Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?

5. Commonly known or reasonably ascertainable information about the property.

Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example,

a. Do you know the past uses of the property? If so, please explain. _____

b. Do you know of specific chemicals that are present or once were present at the property? If so, please explain. _____

c. Do you know of spills or other chemical releases that have taken place at the property? If so, please explain. _____

d. Do you know of any environmental cleanups that have taken place at the property? If so, please explain. _____

6. The degree of obviousness of the presence or likely presence of contamination at the property, and the ability to detect the contamination by appropriate investigation.

Based on your knowledge and experience related to the property, are there any obvious indicators that point to the presence or likely presence of contamination at the property? If so, please explain.

Client Information Request Form for Phase I Environmental Site Assessments

Project/Site Name: _____

So that we may serve you better, please answer the following questions concerning the project Site. If a question does not apply to the Site, write "NA." If you do not know the answer, write "Unknown." Please return the completed form along with one copy of the signed authorization letter.

Client Objectives

A. What is your interest in the Site? Check all that apply.

- ☐ Buying property
- ☐ Refinancing
- ☐ Selling property
- ☐ Development
- ☐ Redevelopment
- ☐ Other: _____

B. In addition to the User, are there any additional entities you would like included on the report for reliance purposes?

C. A final PDF of the report will be provided. If hard copies are needed, how many? _____

D. What is the desired completion date for this project?

Date: _____

E. Do you wish to receive a verbal report before the written report is received?

☐ Yes ☐ No

F. Is confidentiality requested?

☐ Yes ☐ No

If so, to whom is it limited? _____



Site-Specific Information

A. Where is the Site located?

Address: _____

Legal Description, County ID Number, or attach Survey/Plat Map:

B. Is a current Site plan available? If yes, please provide.

☐ Yes ☐ No ☐ Unknown

C. How large is the property (total acreage)?

_____ Acres

D. What is the proposed use of the property?

E. Who is the current property owner?

Name: _____

Phone/Email: _____

F. Who will provide access to the property and/or who is the Site contact?

Name: _____

Phone/Email: _____

G. Has any previous environmental work been performed on the Site? Check all that apply.

☐ No previous environmental work has been performed

☐ Unknown

☐ Geotechnical/Soil borings

☐ Phase I Environmental Site Assessment

☐ Phase II Environmental Site Assessment

☐ Soil Vapor/Sub-slab Soil Vapor Investigation

☐ Radon Investigation

☐ Asbestos/Lead-based Paint Inspections

☐ Hazardous Materials Testing

☐ Other: _____

If previous environmental work has been performed...

When was it performed? _____

By whom?

Name: _____

Phone: _____

What were the results?

Are copies of the report(s) available?

☐ Yes ☐ No ☐ Unknown



H. How is the property currently used? Check all that apply.

- | | |
|---------------------------------------|---|
| ☐ Undeveloped | ☐ Light industrial |
| ☐ Agricultural | ☐ Retail |
| ☐ Residential | ☐ Office Building |
| ☐ Parking Lot | ☐ Warehouse |
| ☐ Commercial | ☐ Other: _____ |

I. Are there existing buildings on the property?

- ☐ Yes ☐ No ☐ Unknown

If yes:

How many buildings? _____

What year was each building originally built? _____

What year(s) was/were any subsequent addition(s) completed for each building?

What is the total square footage of each building and/or additions? _____

Are you aware of any asbestos-containing building materials in any building? _____

Provide a brief description and use of each building.

J. What was the property used for in the past?

K. Are there currently or previously any aboveground or underground storage tanks located on the property?

Aboveground storage tanks: ☐ Yes ☐ No ☐ Unknown

Underground storage tanks: ☐ Yes ☐ No ☐ Unknown

If yes:

Where are they located?

What are the sizes and contents of the tanks (e.g., 500-gallon diesel)?

When were the tanks installed?

Are there any maintenance records available for the tanks?

Are the tanks currently being used?

☐ Yes ☐ No ☐ Unknown

If no:

When were the tank(s) closed? _____

Was the MPCA notified? _____

L. Have hazardous chemicals or petroleum products ever been stored at the Site?

Hazardous chemicals: ☐ Yes ☐ No ☐ Unknown

Petroleum products: ☐ Yes ☐ No ☐ Unknown

If yes, which ones? _____



M. Has the property ever been used or is the property currently used for dumping or landfilling?

N. Utilities:

Are there any wells or septic systems formerly or currently located at the Site?

Wells: ☐ Yes ☐ No ☐ Unknown

Septic systems: ☐ Yes ☐ No ☐ Unknown

Is the Site connected to city sewer and water?

Sewer: ☐ Yes ☐ No ☐ Unknown

Water: ☐ Yes ☐ No ☐ Unknown

What types of utilities service the Site? Check all that apply.

☐ Unknown

☐ Gas

☐ Electric

☐ Propane

☐ Other: _____

O. Are there any environmental concerns regarding the property or adjoining properties?

P. How are the adjacent properties used?

Appendix C.

County Property Information

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Property Card	Parcel ID Number	30-02000-29-010
----------------------	-------------------------	------------------------

Owner Information	
Fee Owner	
CONZEMIUS FAMILY LIMITED PARTNERSHIP	
Mailing Address	
10979 140TH ST E	
HASTINGS MN 55033	
Property Address	
Address	
13217 LOCK BLVD	
Municipality	
NININGER TWP	

Parcel Information					
Sale Date		Total Acres	19.72	Plat	SECTION 20 TWN 115 RANGE 17
Sale Value	\$0.00	R/W Acres	1.25	Lot and Block	020000 2011517
Uses	AG-GREEN ACRES	Water Acres	0	Tax Description	W 1/2 OF SE 1/4 OF NW 1/4 SUBJ TO PARCEL 5 DAKOTA CO R/W MAP 181

2026 Building Characteristics (payable 2027)*					
Building Type		Year Built	0	Bedrooms	
Building Style		Foundation Sq Ft		Bathrooms	0
Frame		Above Grade Sq Ft	0	Garage Sq Ft	0
Multiple Buildings		Finished Sq Ft	0	Other Garage	

Miscellaneous Information					
School District	200	Watershed District	VERMILLION RIVER	Homestead	FULL HOMESTEAD
Green Acres	Y	Ag Preserve		Open Space	

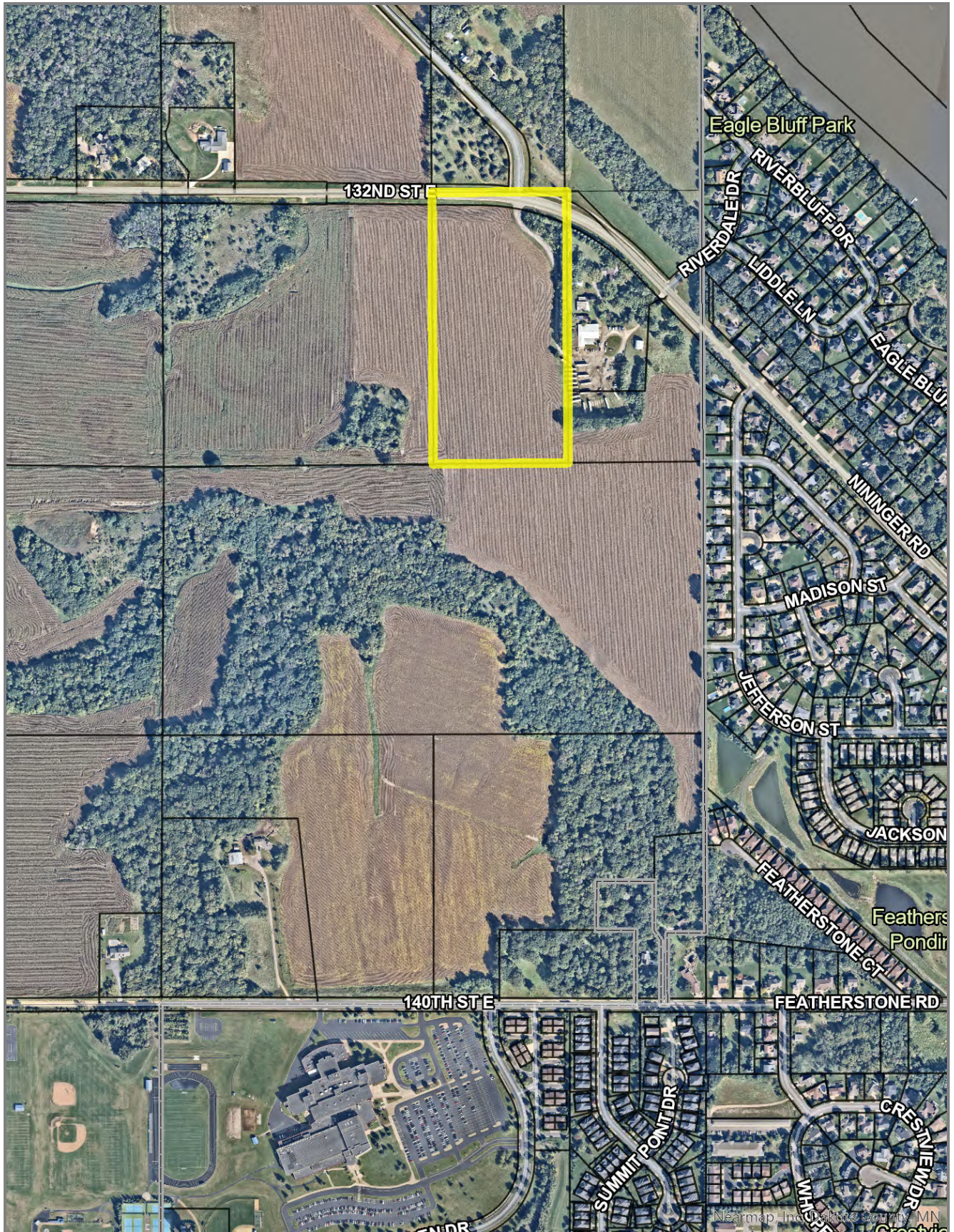
Assessor Valuation		
	Taxable	Estimated
2026 Land Values (payable 2027)	\$192,800.00	\$209,500.00
2026 Building Values (payable 2027)*	\$0.00	\$0.00
2026 Total Values (payable 2027)*	\$192,800.00	\$209,500.00
2025 Total Values (payable 2026)*	\$189,100.00	\$196,700.00

Property Tax Information		
Net Tax (payable 2026)	Special Assessments (2026)	Total Tax & Assessments (2026)
\$470.00	\$0.00	\$470.00

* Manufactured Homes Payable the Same Year as Assessment.

Disclaimer: data is believed to be accurate, but accuracy is not guaranteed. This is not a legal document and should not be substituted for a title search, appraisal, survey, or for zoning verification.

Dakota County, MN



Disclaimer: Map and parcel data are believed to be accurate, but accuracy is not guaranteed.
This is not a legal document and should not be substituted for a title search, appraisal, survey, or
for zoning verification.

Map Scale
1 inch = 660 feet
6/17/2026

Property Card	Parcel ID Number	30-02000-30-011
----------------------	-------------------------	------------------------

Owner Information	
Fee Owner	
CONZEMIUS FAMILY LIMITED PARTNERSHIP	
Mailing Address	
10979 140TH ST E	
HASTINGS MN 55033	
Property Address	
Address	
Municipality	
NININGER TWP	

Parcel Information					
Sale Date		Total Acres	7.66	Plat	SECTION 20 TWN 115 RANGE 17
Sale Value	\$0.00	R/W Acres	0.30	Lot and Block	007500 2011517
Uses	AG-GREEN ACRES	Water Acres	0	Tax Description	ALL S OF RD OF E 1/2 OF SE 1/4 OF NW 1/4 EX COM INT E LINE & C/L CR #42 N 44D 01M 50S W ON C/L 231.58 FT TO BEG S 45D 58M 10S W 33 FT S 60D 14M 30S W 74.36 FT S 3D 11M W 417.55 FT N 89D 59M W 389.23 FT N 0D 01M E 931 FT TO C/L CR #42 SE ON C/L TO BEG SUBJ TO PARCEL 7 DAKOTA CO R/W MAP 181

2026 Building Characteristics (payable 2027)*					
Building Type		Year Built	0	Bedrooms	
Building Style		Foundation Sq Ft		Bathrooms	0
Frame		Above Grade Sq Ft	0	Garage Sq Ft	0
Multiple Buildings		Finished Sq Ft	0	Other Garage	

Miscellaneous Information					
School District	200	Watershed District	VERMILLION RIVER	Homestead	FULL HOMESTEAD
Green Acres	Y	Ag Preserve		Open Space	

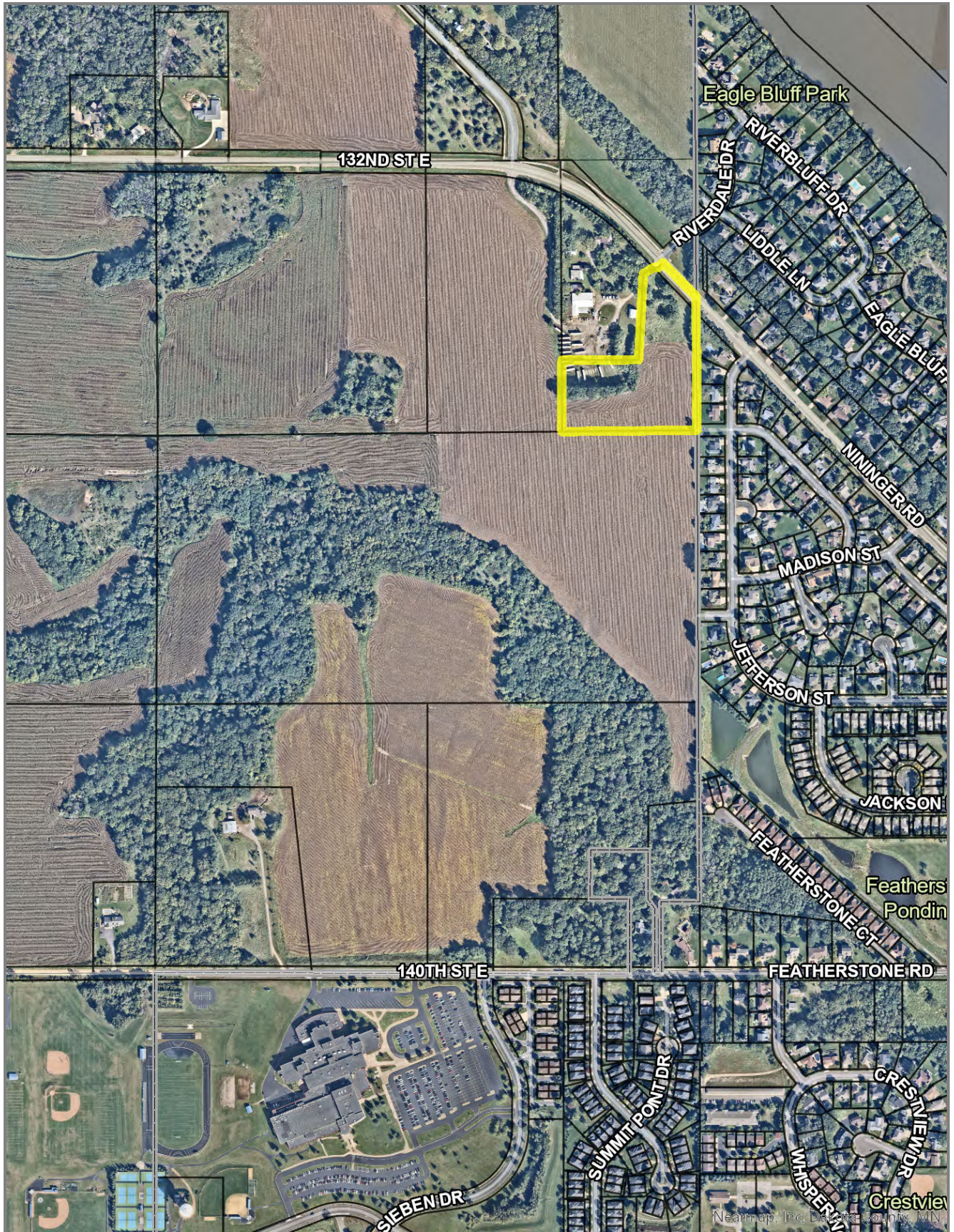
Assessor Valuation		
	Taxable	Estimated
2026 Land Values (payable 2027)	\$57,600.00	\$69,400.00
2026 Building Values (payable 2027)*	\$0.00	\$0.00
2026 Total Values (payable 2027)*	\$57,600.00	\$69,400.00
2025 Total Values (payable 2026)*	\$56,100.00	\$64,900.00

Property Tax Information		
Net Tax (payable 2026)	Special Assessments (2026)	Total Tax & Assessments (2026)
\$140.00	\$0.00	\$140.00

* Manufactured Homes Payable the Same Year as Assessment.

Disclaimer: data is believed to be accurate, but accuracy is not guaranteed. This is not a legal document and should not be substituted for a title search, appraisal, survey, or for zoning verification.

Dakota County, MN



Disclaimer: Map and parcel data are believed to be accurate, but accuracy is not guaranteed.
This is not a legal document and should not be substituted for a title search, appraisal, survey, or
for zoning verification.

Map Scale
1 inch = 660 feet
6/17/2026

Property Card	Parcel ID Number	30-02000-50-010
----------------------	-------------------------	------------------------

Owner Information	
Fee Owner	
CONZEMIUS FAMILY LIMITED PARTNERSHIP	
Mailing Address	
10979 140TH ST E	
HASTINGS MN 55033	
Property Address	
Address	
Municipality	
NININGER TWP	

Parcel Information					
Sale Date		Total Acres	78.69	Plat	SECTION 20 TWN 115 RANGE 17
Sale Value	\$0.00	R/W Acres	0	Lot and Block	080000 2011517
Uses	AG-GREEN ACRES	Water Acres	0	Tax Description	N 1/2 OF SW 1/4

2026 Building Characteristics (payable 2027)*					
Building Type		Year Built	0	Bedrooms	
Building Style		Foundation Sq Ft		Bathrooms	0
Frame		Above Grade Sq Ft	0	Garage Sq Ft	0
Multiple Buildings		Finished Sq Ft	0	Other Garage	

Miscellaneous Information					
School District	200	Watershed District	VERMILLION RIVER	Homestead	FULL HOMESTEAD
Green Acres	Y	Ag Preserve		Open Space	

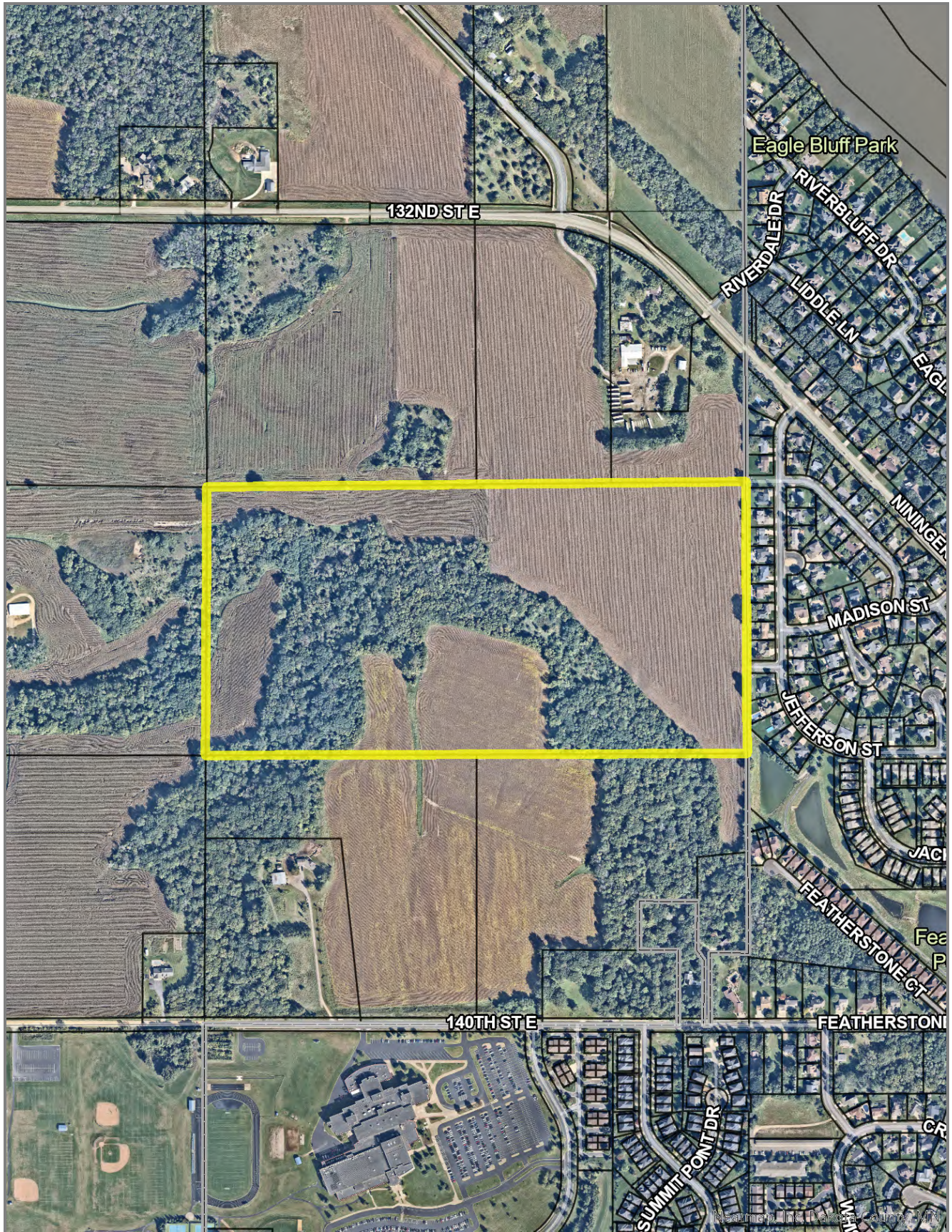
Assessor Valuation		
	Taxable	Estimated
2026 Land Values (payable 2027)	\$574,600.00	\$710,100.00
2026 Building Values (payable 2027)*	\$0.00	\$0.00
2026 Total Values (payable 2027)*	\$574,600.00	\$710,100.00
2025 Total Values (payable 2026)*	\$559,400.00	\$663,700.00

Property Tax Information		
Net Tax (payable 2026)	Special Assessments (2026)	Total Tax & Assessments (2026)
\$1,388.00	\$0.00	\$1,388.00

* Manufactured Homes Payable the Same Year as Assessment.

Disclaimer: data is believed to be accurate, but accuracy is not guaranteed. This is not a legal document and should not be substituted for a title search, appraisal, survey, or for zoning verification.

Dakota County, MN



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for zoning verification.

Map Scale
1 inch = 660 feet
6/17/2026

Property Card	Parcel ID Number	30-02000-51-011
----------------------	-------------------------	------------------------

Owner Information	
Fee Owner	
CONZEMIUS FAMILY LIMITED PARTNERSHIP	
Mailing Address	
10979 140TH ST E	
HASTINGS MN 55033	
Property Address	
Address	
Municipality	
NININGER TWP	

Parcel Information					
Sale Date		Total Acres	24.78	Plat	SECTION 20 TWN 115 RANGE 17
Sale Value	\$0.00	R/W Acres	0.43	Lot and Block	2011517
Uses	AG-GREEN ACRES	Water Acres	0	Tax Description	SW 1/4 OF SW 1/4 EX BEG SW COR E 760.40 FT N 6D 21M 43S W 905.20 FT W 661.57 FT S 899.60 FT TO BEG

2026 Building Characteristics (payable 2027)*					
Building Type		Year Built	0	Bedrooms	
Building Style		Foundation Sq Ft		Bathrooms	0
Frame		Above Grade Sq Ft	0	Garage Sq Ft	0
Multiple Buildings		Finished Sq Ft	0	Other Garage	

Miscellaneous Information					
School District	200	Watershed District	VERMILLION RIVER	Homestead	FULL HOMESTEAD
Green Acres	Y	Ag Preserve		Open Space	

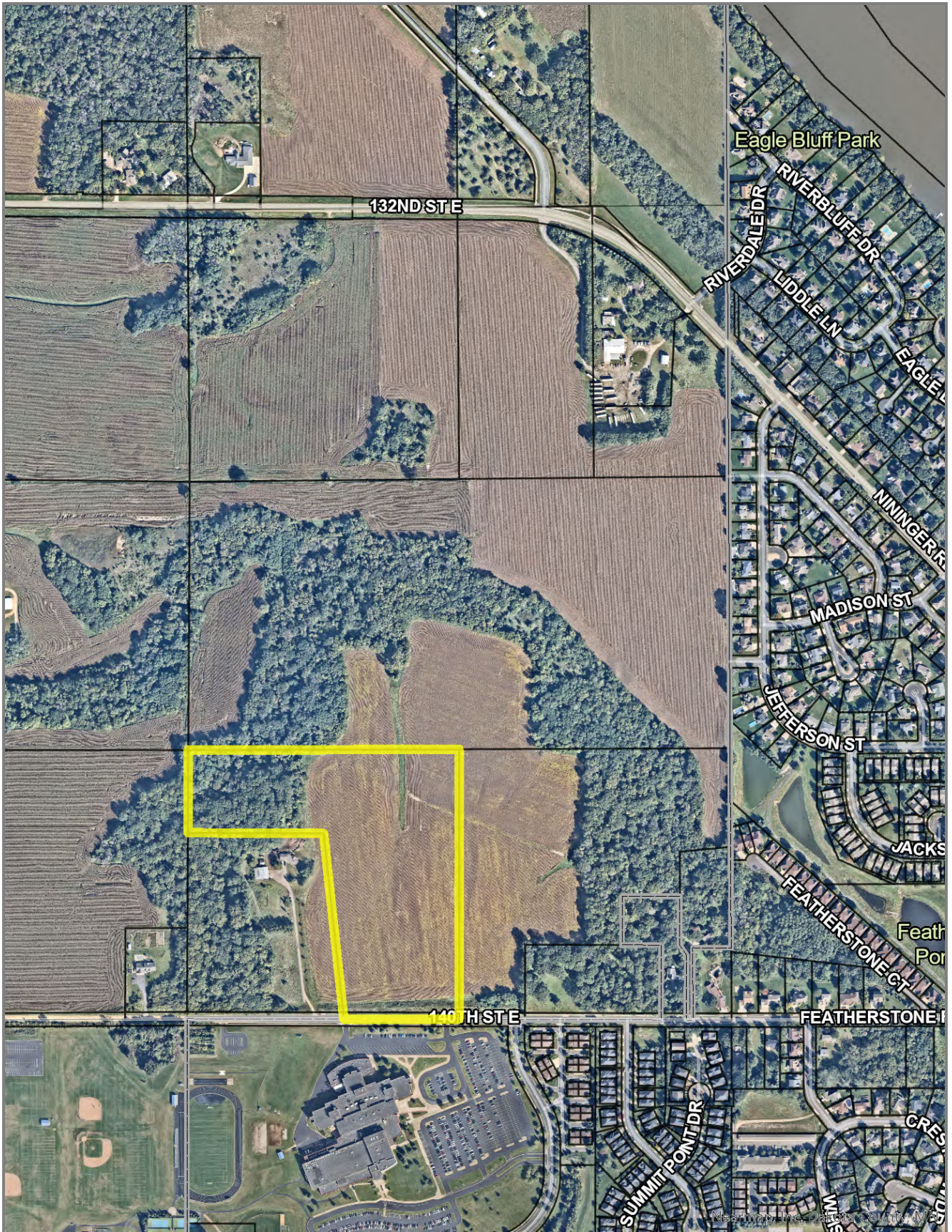
Assessor Valuation		
	Taxable	Estimated
2026 Land Values (payable 2027)	\$209,900.00	\$238,400.00
2026 Building Values (payable 2027)*	\$0.00	\$0.00
2026 Total Values (payable 2027)*	\$209,900.00	\$238,400.00
2025 Total Values (payable 2026)*	\$205,100.00	\$223,900.00

Property Tax Information		
Net Tax (payable 2026)	Special Assessments (2026)	Total Tax & Assessments (2026)
\$510.00	\$0.00	\$510.00

* Manufactured Homes Payable the Same Year as Assessment.

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Dakota County, MN



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Map Scale
1 inch = 660 feet
6/17/2026

Property Card	Parcel ID Number	30-02000-52-013
----------------------	-------------------------	------------------------

Owner Information	
Fee Owner	
CONZEMIUS FAMILY LIMITED PARTNERSHIP	
Mailing Address	
10979 140TH ST E	
HASTINGS MN 55033	
Property Address	
Address	
Municipality	
NININGER TWP	

Parcel Information					
Sale Date		Total Acres	27.19	Plat	SECTION 20 TWN 115 RANGE 17
Sale Value	\$0.00	R/W Acres	0.24	Lot and Block	20 115 17
Uses	AG-GREEN ACRES	Water Acres	0	Tax Description	SE 1/4 OF SW 1/4 EX CEM 5A & EX S 350 FT OF E 186.7 FT EX COM SE COR W 219 FT TO BEG CONT W 123 FT R 90D 363 FT L 90D 190 FT R 90D 237 FT R 90D 279 FT R 90D 237 FT L 35D 18M 40S 58.82 FT R 35D 18M 40S 315 FT TO BEG EX PARCEL 30-02000-014- 52

2026 Building Characteristics (payable 2027)*					
Building Type		Year Built	0	Bedrooms	
Building Style		Foundation Sq Ft		Bathrooms	0
Frame		Above Grade Sq Ft	0	Garage Sq Ft	0
Multiple Buildings		Finished Sq Ft	0	Other Garage	

Miscellaneous Information					
School District	200	Watershed District	VERMILLION RIVER	Homestead	FULL HOMESTEAD
Green Acres	Y	Ag Preserve		Open Space	

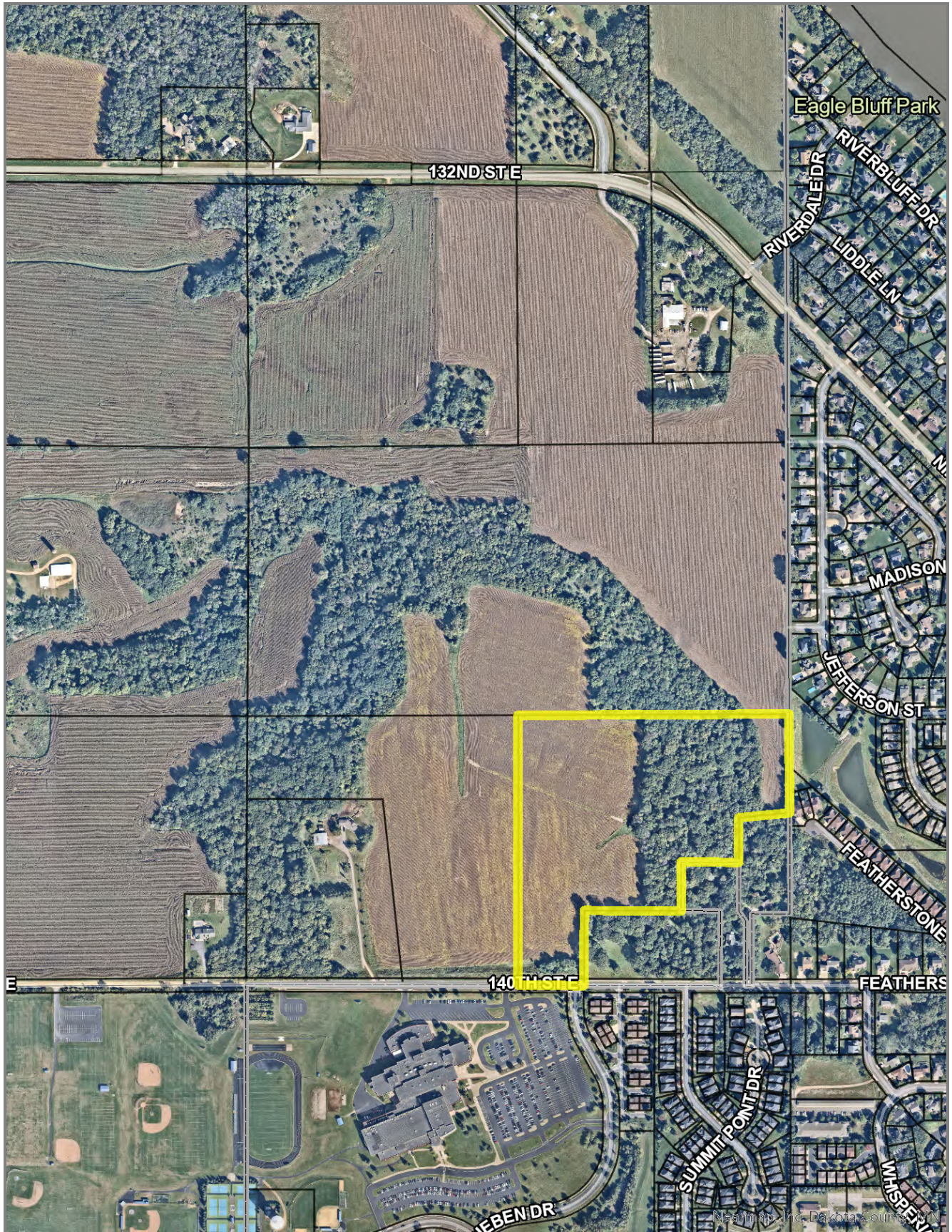
Assessor Valuation		
	Taxable	Estimated
2026 Land Values (payable 2027)	\$222,300.00	\$260,100.00
2026 Building Values (payable 2027)*	\$0.00	\$0.00
2026 Total Values (payable 2027)*	\$222,300.00	\$260,100.00
2025 Total Values (payable 2026)*	\$216,900.00	\$243,800.00

Property Tax Information		
Net Tax (payable 2026)	Special Assessments (2026)	Total Tax & Assessments (2026)
\$538.00	\$0.00	\$538.00

* Manufactured Homes Payable the Same Year as Assessment.

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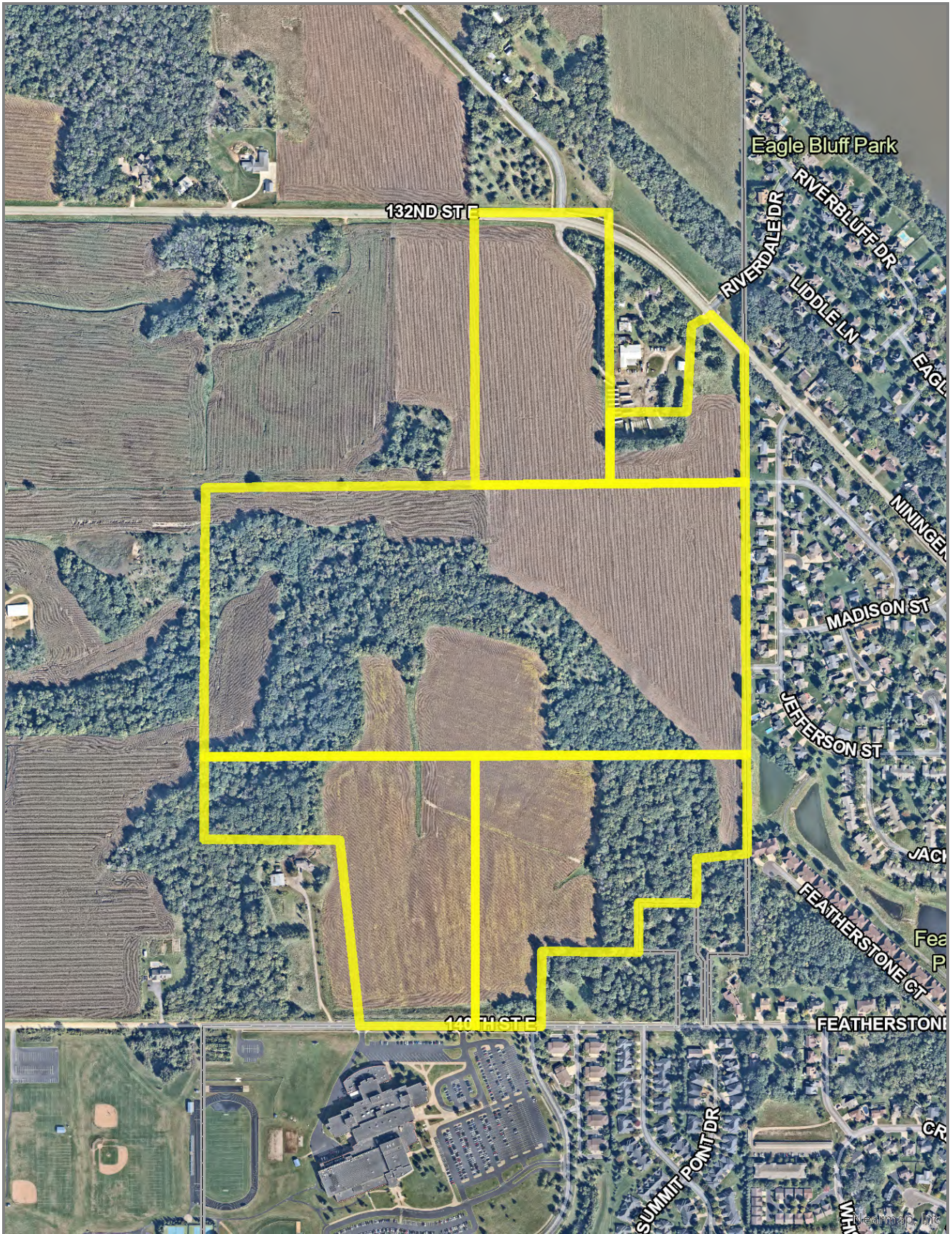
Dakota County, MN



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Map Scale
1 inch = 660 feet
6/17/2026

Dakota County, MN



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Map Scale
1 inch = 660 feet
6/17/2026

APPENDIX E

Greenhouse Gas (GHG) Calculator Analysis

Minnesota Climate Calculator: Project Summary Report

Date Prepared: 7/8/2026

The results shown below were generated using the Minnesota Climate Calculator. The emissions quantified account for the full greenhouse gas impact of a potential project throughout the construction and operational phases of the project. This includes emissions from project activities that occur on-site as well as emissions that occur upstream and downstream of the project. The results are based on user inputs and assumptions; actual project emissions may vary.

Background Information

Project Name	Pleasant Valley Farms	
Project Category (primary)	Subp. 19, Residential Development	
Project Category (secondary)		
Location (County)	Dakota	
Construction Start Date	4/1/2027	
Operational Year	2030	
Operational Lifetime (Years)	50	

Electricity Provider	Grid Average	
Portion of Building Electricity Consumption to be Generated On-Site via Renewables or Supplied through the Purchase of Renewable Energy Credits (RECs)		0%
Portion of Building Natural Gas Consumption to be Supplied from Renewable Sources		0%

Building Construction Project?	0
--------------------------------	---

Construction Stage	Duration (Days)
Demolition	150
Site Preparation	150
Grading	150
Building Construction	3,650
Architectural Coatings	165
Paving and Landscaping	1,825

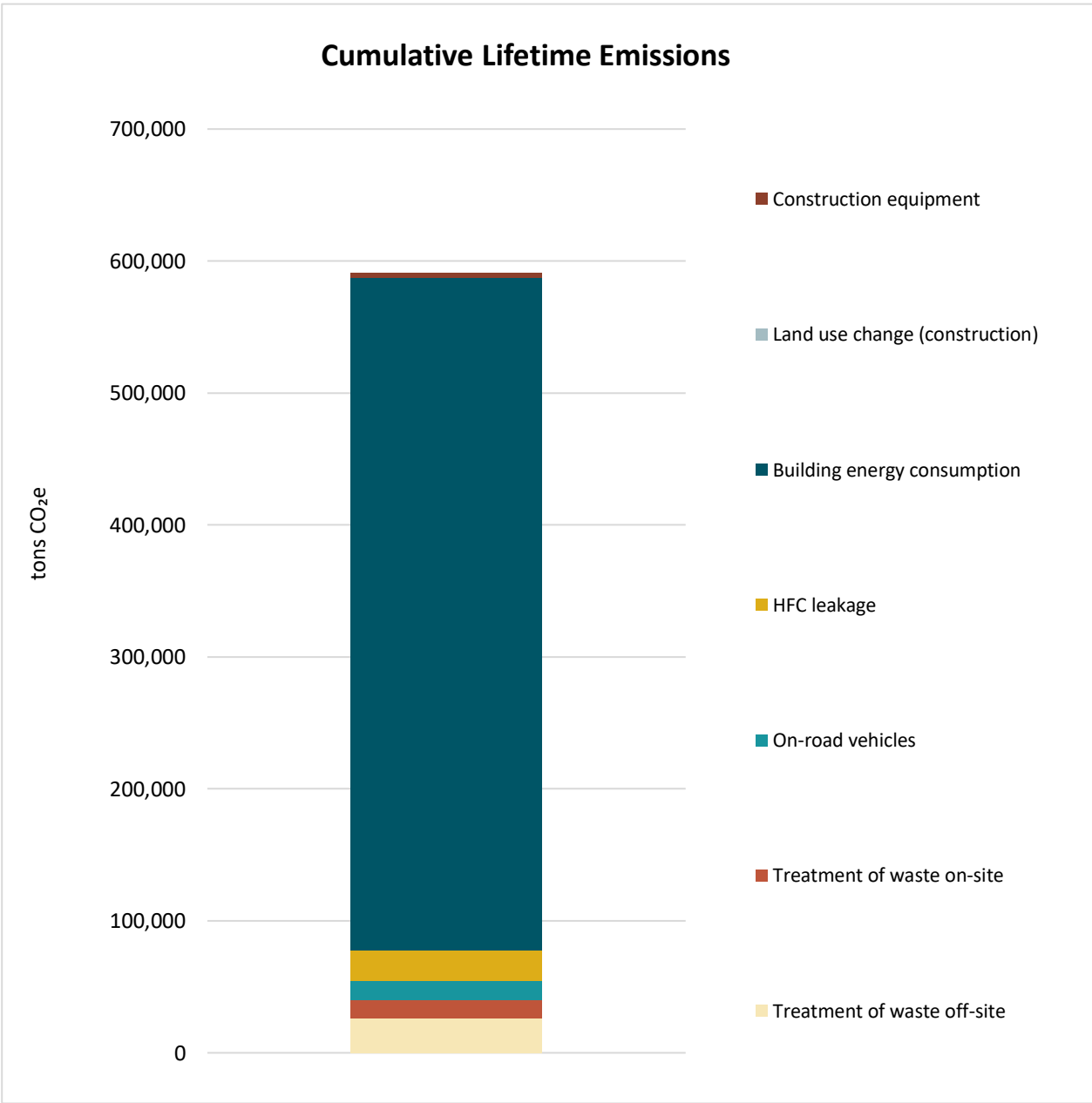
Total Project Acreage	158
Residential Building Area (sq ft)	4644744
Commercial Building Area (sq ft)	0
Industrial Building Area (sq ft)	0
Institutional Building Area (sq ft)	0
Other Building Area (sq ft)	0

Summary Results

Project Lifetime	53
Unit	tons

Phase	CO ₂ e Emissions	
	Cumulative	Annualized
Construction		
Material inputs	NA	NA
Transportation of material inputs	NA	NA
Employee commuting	NA	NA
Construction equipment	3,902.62	73.63
Land use change (construction)	17.92	0.34
Construction waste	NA	NA
Operation		
Building energy consumption	510,418.11	9,630.53
Coal production	NA	NA
Natural gas and oil products	NA	NA
Industrial processes	NA	NA
HFC leakage	23,123.91	436.30
Land use change (operations)	NA	NA
On-road vehicles	13,855.27	261.42
Treatment of waste on-site	NA	NA
Treatment of wastewater on-site	NA	NA
Treatment of waste off-site	26,436.33	498.80
Enteric fermentation	NA	NA
Manure management	NA	NA
Total	577,754.17	10,901.02

Note: NA indicates that emissions were not quantified and/or are not applicable.



User Inputs

Note: NA indicates that emissions were not quantified and/or activity is not applicable.

Material Inputs

Material Type	Quantity	Unit	Geographical Sourcing
Aluminum	NA	Tons	Unknown
Asphalt	NA	Tons	Domestic
Brick	NA	Tons	Unknown
Concrete	NA	Tons	Domestic
Glass	NA	Tons	Unknown
Insulation (residential)	NA	Tons	Unknown
Insulation (commercial)	NA	Tons	Unknown
Steel	NA	Tons	Unknown
Wood Products	NA	Tons	Unknown

Employee Commuting

Construction Stage	Daily Average Number of Employees Commuting
Demolition	NA
Site Preparation	NA
Grading	NA
Building Construction	NA
Architectural Coatings	NA
Paving and Landscaping	NA

Transportation Mode	Percent of Employees
Single Occupancy Vehicle	NA
Carpool	NA
Motorcycle	NA
Bus	NA
Transit Rail	NA
Bike/Walk	NA

Average One-Way Commute Length (miles)	NA
--	----

Construction Equipment

Approach:	Equipment Use
-----------	---------------

Equipment Type	Fuel Type	Number of Hours per Day by Construction Stage					
		Demolition	Site Preparation	Grading	Building Construction	Architectural Coatings	Paving and Landscaping
Air Compressors	Diesel	0	0	0	0	0	0
Cement and Mortar Mixers	Diesel	0	0	0	0	0	0
Concrete/Industrial Saws	Diesel	12	0	0	0	0	0
Cranes	Diesel	0	0	0	0	0	0
Excavators	Diesel	12	0	0	0	0	0
Forklifts	Diesel	0	0	0	12	0	0
Generator Sets	Diesel	0	0	0	0	0	0
Graders	Diesel	0	0	0	0	0	0
Pavers	Diesel	0	0	0	0	0	12
Paving Equipment	Diesel	0	0	0	0	0	12
Rollers	Diesel	0	0	0	0	0	12
Rubber Tired Dozers	Diesel	12	12	8	0	0	0
Scrapers	Diesel	0	0	12	0	0	0
Tractors/Loaders/Backhoes	Diesel	0	12	12	12	0	0
Welders	Diesel	0	0	0	0	0	0

Fuel Type	Total Consumption	Units
Diesel	NA	Gallons
Electricity	NA	kWh
Biodiesel 100	NA	Gallons
Biodiesel 20	NA	Gallons
Renewable Diesel	NA	Gallons

Land Use Change

Land Use Type	Acres		
	Pre-Construction	Post-Construction	Post-Operation
Wetlands: peatland, non forested	4.00	2.20	NA
Wetlands: peatland, forested	0.00	0.00	NA
Wetlands: mineral soil, non forested	0.00	0.00	NA
Wetlands: mineral soil, forested	0.00	0.00	NA
Forest	30.10	27.80	NA
Rivers and streams	0.00	0.00	NA
Brush and grassland	9.60	0.00	NA
Cropland	107.10	0.00	NA
Livestock rangeland/pastureland	0.00	0.00	NA
Lawn/landscaping	0.00	0.00	NA
Green Infrastructure: Constructed wetlands, paved	0.00	0.00	NA
Green Infrastructure: Constructed wetlands, vegetated	0.00	0.00	NA
Green Infrastructure: Constructed green roofs	0.00	0.00	NA
Green Infrastructure: Constructed permeable pavements	0.00	0.00	NA
Impervious surface	7.20	122.00	NA
Stormwater pond (wet sedimentation basin)	0.00	6.00	NA

Trees	Number
Number of mature trees removed	170
Number of new trees planted	830

Construction Waste

Material Type	Quantity (tons)
Aluminum	NA
Asphalt	NA
Brick	NA
Concrete	NA
Glass	NA
Insulation	NA
Steel	NA
Wood Products	NA
Mixed Waste	NA

Building Energy Consumption	Approach:	Energy Intensity
-----------------------------	-----------	------------------

Building Type	Energy Intensity (Btu/sq ft/year)			
	Electricity	Natural Gas	Propane	Kerosene or Fuel Oil
Residential	18,096.91	24,460.01	3,619.38	233.51
Commercial	0.00	0.00	0.00	0.00
Industrial	0.00	0.00	0.00	0.00
Institutional	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00

Fuel Type	Fuel Consumption (units/year)	Unit
Electricity	NA	kWh
Natural Gas	NA	Cubic feet
Propane	NA	Gallons
Kerosene or Fuel Oil	NA	Gallons

Emissions from Coal Production

Coal Type	Incremental Production (tons/year)
Mixed Coal	NA
Anthracite Coal	NA
Bituminous Coal	NA
Subbituminous Coal	NA
Lignite Coal	NA
Coal Coke	NA

Emissions from Natural Gas and Oil Products

Fuel Type	Incremental Throughput	Unit
Natural Gas	NA	Cubic Feet/year
Renewable Natural Gas	NA	Cubic Feet/year
Propane	NA	Gallons/year
Gasoline	NA	Gallons/year
Distillate Fuel Oil No. 1	NA	Gallons/year
Distillate Fuel Oil No. 2	NA	Gallons/year
Distillate Fuel Oil No. 4	NA	Gallons/year
Residual Fuel Oil No. 5	NA	Gallons/year
Residual Fuel Oil No. 6	NA	Gallons/year
Liquified Petroleum Gas (LPG)	NA	Gallons/year
Kerosene	NA	Gallons/year
Kerosene Jet Fuel	NA	Gallons/year
Biodiesel 100	NA	Gallons/year
Biodiesel 20	NA	Gallons/year
Renewable Diesel	NA	Gallons/year

Natural Gas Assumptions

Percent Reduction in Leakage and Venting Emissions	NA
Leakage and Venting Emissions (kgCO ₂ e/MMBtu)	NA

Industrial Processes

Product Type	Quantity (tons/year)	Emission Factor (kgCO ₂ e/ton)
Cement	NA	NA
Lime	NA	NA
Limestone Use	NA	NA
Magnesium	NA	NA
Iron and Steel	NA	NA
Ammonia	NA	NA
Aluminum	NA	NA
Nitric Acid	NA	NA

HFC Leakage

Building Type	Percent of Building Area Utilized	Equipment Type	HFC
Residential	100%	Room A/C & Other residential A/C and heat pumps	R-454B
Commercial	0%	Other commercial A/C and heat pumps	0
Industrial	0%	Other commercial A/C and heat pumps	0
Institutional	0%	Walk-in refrigerators and freezers	0
		Other commercial A/C and heat pumps	0

On-Road Vehicles

Speed Bin (miles/hr)	Additional VMT (miles/year)
Fleet Average	0
0-30	0
31-55	1017328
56-75	0

Treatment of Waste On-Site

Waste Treatment Practice	Quantity of Waste Treated (tons/year)
	NA
	NA
	NA

Treatment of Wastewater On-Site

Population Served by Treatment Plant	NA
Wastewater Treatment System Type	

Product Type	Production (MT/year)
	NA

Treatment of Waste Off-Site

Activity	Quantity	Waste Generation Rate	Unit
Number of single family households	407	14.60	lb/household/day
Number of employees (commercial)	0	0.00	lb/employee/day
Number of employees (industrial)	0	0.00	lb/employee/day
Number of employees (institutional)	0	0.00	lb/employee/day
Visitors per year (public venues)	0	0.00	lb/visitor

Waste Treatment Practice	Percent of Waste
Recycled	18%
Composted	11%
Landfilled	71%
Combusted	0%

Enteric Fermentation and Manure Management

Livestock Type	Population	Percentage of Manure Management System											
		Anaerobic digester	Anaerobic lagoon - liquid	Cattle deep litter	Composting	Daily spread	Deep pit	Dry lot	Liquid/ slurry	Pasture, range, paddock	Poultry with litter	Poultry without litter	Solid storage
Bulls	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beef cows	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beef heifers	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Steer stockers	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heifer stockers	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Feedlot beef	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beef calves	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dairy heifers	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dairy cows	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dairy calves	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Swine, <55 lbs	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Swine 55-330 lbs	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Swine 330+ lbs	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Poultry, layers	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Poultry, pullets	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Poultry, chickens	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Poultry, broilers	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Turkeys	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Percent of manure applied or sold for application to agricultural soils (pasture or cropland) as fertilizer	0%
---	----

Notes

General Notes	
Material inputs	
Transportation of material inputs	
Employee commuting	
Construction equipment	
Land use change (construction)	
Construction waste	
Building energy consumption	
Coal production	
Natural gas and oil products	
Industrial processes	
HFC leakage	
Land use change (operations)	
On-road vehicles	Assumes length of N-S Collector will be ~4,300 linear feet and that the Proposed Project will produce 3,484 weekday average daily traffic (ADT) at full build.
Treatment of waste on-site	
Treatment of wastewater on-site	
Treatment of waste off-site	
Enteric fermentation	
Manure management	
Mitigation Measures and Quantified Reductions	
Adaptation Strategies	

APPENDIX F

Traffic Impact Study

Pleasant Valley Farms Traffic Impact Study

Hastings, MN
July 1, 2026

Prepared For: Tradition Development Corp.	Prepared By: SSTS, LLC
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:	
Katie A Schmidt, P.E.	
Date:	Lic. No.:

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1 INTRODUCTION

1.1 Report Purpose

The Pleasant Valley Farms of Hastings development (the “Proposed Project”) is subject to the Environmental Assessment Worksheet (EAW) process and follows EAW traffic study guidelines. This study evaluates how project-generated traffic will affect the operation and safety of nearby roads, intersections and proposed access points. It also describes existing and future roadway conditions in the study area and recommends improvements to accommodate site traffic and expected background growth.

1.2 Development Overview

The Proposed Project includes the development of approximately 158 acres into residential land uses in Hastings, Dakota County, Minnesota. The site lies north of Featherstone Rd, south of 132nd St E/Nininger Rd (CSAH 42), west of the existing Pleasant Valley neighborhood and east of Jacob Ave. Full buildout of the Proposed Project includes 401 residential units, consisting of 337 single-family homes and 64 townhomes. Construction will occur in phases progressing from south to north. Phase 1 includes 119 single-family homes and is anticipated to be completed by 2030. Full buildout of the site is projected by 2040.

1.3 Development Access

General Sieben Dr is proposed to be constructed through the development as a north-south collector roadway. On the south side of the development, General Sieben Dr will be extended north from Featherstone Rd creating a full movement primary access at the intersection of General Sieben Dr/Featherstone Rd. On the north side of the development, Lock Blvd is proposed to be realigned to the west to line up with the new General Sieben Dr providing another full movement primary access at the intersection of 132nd St E (CSAH 42)/General Sieben Dr/Lock Blvd. Minor access would be provided by two connections to the existing neighborhood east of the site at Roosevelt Rd and Hamilton Dr. **Figure 1**, Conceptual Site Plan, illustrates the project location, layout, land uses, and access points.

1.4 Study Area

Input from the City of Hastings helped define the following study area intersections:

1. General Sieben Dr & 4th St WAll-Way Stop
2. General Sieben Dr & Featherstone Rd Side-Street Stop
3. 132nd St E (CSAH 42) & Lock Blvd Side-Street Stop
4. Nininger Rd (CSAH 42) & Monroe St..... Side-Street Stop
5. Nininger Rd (CSAH 42) & Madison St..... Side-Street Stop
6. Nininger Rd (CSAH 42) & Pleasant Dr Side-Street Stop
7. Pleasant Dr & Jefferson St..... Side-Street Stop

1.5 Development Scenarios

This study considers development of the site in two timeframes:

- **Year 2030 Development:** Phase 1 development of the southern portion of the site, consisting of 119 single-family homes. Access for the 2030 Phase 1 development will be provided via the General Sieben Dr/Featherstone Rd intersection.
- **Year 2040 Development:** Full site development with 401 residential units, including 337 single-family homes and 64 townhomes. Two access scenarios are evaluated based on development potential. The first scenario includes all four access points (referred to as the “Full Access

Scenario”), as shown on the site plan. The second scenario excludes the northern General Sieben Dr connection to CSAH 42 and is referred to as the “Three Access Scenario”.

1.6 Study Years Scenarios

Existing (2026) conditions are evaluated to document current traffic operations within the study area. Future years 2030 and 2040 are analyzed under both No-Build and Build conditions. No-Build conditions represent the anticipated traffic volumes and roadway geometry at the time of project completion without the Proposed Project. Build conditions include the No-Build scenario plus the addition of project-generated traffic and proposed access configurations.

The study year scenarios are summarized as follows:

- **2026 Existing Conditions:** Current operations within the study area.
- **2030 Conditions**
 - ▶ **No-Build:** Operations without the Proposed Project.
 - ▶ **Phase 1 Build:** Operations with Phase 1 development.
- **2040 Conditions**
 - ▶ **No-Build:** Operations without the Proposed Project.
 - ▶ **Full Build - Full Access Layout:** Operations with full development and all four access.
 - ▶ **Full Build - Three Access Layout:** Operations with full development and three accesses.

1.7 Analysis Periods

The traffic analysis has been conducted for the following weekday peak times:

- **AM peak:** 7:00–9:00 a.m.
- **PM peak:** 4:00–6:00 p.m.
- **School dismissal:** 2:15–3:15 p.m. (key intersections only - General Sieben Dr/4th St W and General Sieben Dr/Featherstone Rd intersections)

These peak periods are generally considered the most critical from a traffic operations perspective, as they represent the highest traffic generation periods for the proposed development and for existing traffic on the surrounding road network.

2 EXISTING CONDITIONS

2.1 Study Area Transportation Characteristics

Figure 2 and the following summarizes roadway and intersection traffic characteristics in the study area.

132nd St E / Nininger Rd (CSAH 42)

Jurisdiction: Dakota County

Functional Class: Major Collector

Section: Two-lane undivided

Speed & Parking: 55 MPH west of Lock Blvd; 45 MPH east of Lock Blvd; no parking

ADT: 2,445 vehicles/day (2024), west of Pleasant Dr

General Sieben Dr

Jurisdiction: City of Hastings

Functional Class: Major Collector

Section: Two-lane undivided with two northbound lanes through 4th St W

Speed & Parking: 30 MPH; no parking

ADT: 2,677 vehicles/day (2023), north of 4th St W

Lock Blvd

Jurisdiction: Township

Functional Class: Minor Collector

Section: Two-lane undivided

Speed & Parking: 55 MPH; no parking

ADT: Not available

4th St W

Jurisdiction: City of Hastings

Functional Class: Minor Collector east of General Sieben Dr; Local to the west

Section: Two-lane undivided

Speed & Parking: 30 MPH; no parking

ADT: 2,580 vehicles/day (2023), west of Pleasant Dr

Featherstone Rd

Jurisdiction: City of Hastings

Functional Class: Minor Collector east of General Sieben Dr; Local to the west

Section: Two-lane undivided

Speed & Parking: 30 MPH; no parking during school days

ADT: 2,064 vehicles/day (2023), west of Pleasant Dr

Pleasant Dr

Jurisdiction: City of Hastings

Functional Class: Major Collector

Section: Two-lane undivided

Speed & Parking: 40 MPH; parking allowed

ADT: 2,244 vehicles/day (2023), south of CSAH 42

Jefferson St, Monroe St, and Madison St

Jurisdiction: City of Hastings

Functional Class: Local

Section: Two-lane undivided

Speed & Parking: 30 MPH; parking allowed

ADT: Not available

2.2 Pedestrian and Bicycle Network

Existing trails and sidewalks are present throughout the study area, as shown in **Figure 3**. The Mississippi River Greenway, a regional trail extending to St. Paul, runs north of the development along Lock Blvd and Nininger Rd (CSAH 42), before turning northeast near Madison Rd. Dakota County and the City of Hastings plan to improve the Nininger Rd (CSAH 42) trail by adding new segments and implementing safety enhancements, as described in **Section 3.2 - Future Roadway Projects**. The Proposed Project plans a multi-use trail on the east side of General Sieben Dr, connecting to existing facilities.

2.3 Existing Traffic Volumes

Turning movement counts were collected at the study area intersections on a typical weekday in June 2026 while school was in session. The AM peak hour was 7:15-8:15 a.m. for all intersections, while the PM peak hour varied by intersection between 4:00-6:00 p.m.

Hastings High School influences traffic conditions at the nearby General Sieben Dr/4th St W and General Sieben Dr/Featherstone Rd intersections. Classes begin at 7:50 a.m. and dismiss at 2:31 p.m. During the AM peak hour, a pronounced traffic peak occurs between 7:30-7:45 a.m. The traffic operational analysis evaluates the general AM peak hour (excluding the highest 15-minute period) separately from the 15-minute peak interval.

In the afternoon, traffic during school dismissal exceeds typical evening PM peak hour volumes at these two intersections. To capture these conditions, this study evaluates an additional School PM peak hour from 2:15-3:15 p.m. for the key intersections. **Figure 4** illustrates the existing peak-hour traffic volumes at the study area intersections.

2.4 Crash History

Crash records for the study area intersections were reviewed to assess existing safety conditions and whether future traffic growth could worsen them. Historical crash data from the most recent 5 years of data (2021 through 2025) was obtained from MnDOT's Crash Mapping Analysis Tool (MnCMAT2). The analysis focused on two measures:

- **Crash Rate:** Crashes are a function of exposure. Roadways with higher traffic volumes experience more crashes than similar roadways with lower volumes and a crash rate is considered to normalize the locations and accurately assess safety. Intersection crash rates are defined by the number of crashes occurring per million entering vehicles (MEV).
- **Critical Crash Rate:** This measure identifies locations with crash rates statistically higher than similar facilities. It adjusts the system-wide average crash rate for exposure and a 95th-percent confidence level. If the actual crash rate exceeds the critical rate (critical index >1.0), intersection design or other factors may be contributing to crashes, and further study is recommended.

Table 1 summarizes the crash data for the study area intersections and provides a comparison of crash rates to critical crash rates through the critical index. All study area intersections have a crash rate under the critical crash rate (critical index <1.0), indicating existing conditions are not currently contributing to an overall safety problem and future traffic growth is unlikely to create safety concerns.

Table 1. Intersection Crash Data

Intersection	Control	Years of Data	Crash Details		Entering ADT	Intersection Crash Rates (CR)			
			Total	F&A*		CR	MnDOT Ave. CR**	Critical CR	Critical Index
General Sieben Dr & 4 th St W	All-Way Stop	5	2	0	8,425	0.13	0.289	0.67	0.19
General Sieben Dr & Featherstone Rd	Side-Street Stop	5	0	0	2,371	0.00	0.151	0.75	0.00
132 nd St E (CSAH 42) & Lock Blvd	Side-Street Stop	5	0	0	2,396	0.00	0.151	0.74	0.00
Nininger Rd (CSAH 42) & Monroe St	Side-Street Stop	5	0	0	2,945	0.00	0.151	0.68	0.00
Nininger Rd (CSAH 42) & Madison St	Side-Street Stop	5	0	0	2,945	0.00	0.151	0.68	0.00
Nininger Rd (CSAH 42) & Pleasant Dr	Side-Street Stop	5	2	0	4,725	0.23	0.151	0.55	0.42
Pleasant Dr & Jefferson St	Side-Street Stop	5	0	0	2,744	0.00	0.151	0.70	0.00

* Fatal and "A" type serious injury crashes.

** System-wide average crash rates from MnDOT's Intersection Green Sheets

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3 NO-BUILD TRAFFIC CONDITIONS

To assess how the Proposed Project affects the study area, traffic conditions for year 2030 without the project (the No-Build scenario) are used as a baseline. These are then compared to scenarios where the project is included (the Build scenario). Background traffic growth, planned developments and future roadway projects are considered to develop the No-Build scenarios.

3.1 Background Traffic Growth

Historical AADT data for study area roadways obtained from MnDOT indicate generally static traffic volumes over the past 10 years. Traffic south of the study area has experienced modest growth, averaging approximately 0.5% annually, which may suggest similar growth potential in the study area. Based on this trend, an annual background traffic growth rate of 0.5% has been assumed.

3.2 Future Roadway Projects

The Nininger Rd (CSAH 42) Trail Improvement project is planned by Dakota County and the City of Hastings for 2027. The project includes roadway and trail enhancements along Nininger Rd (CSAH 42) to improve safety and accessibility for all users.

Geometric modifications at the following study area intersections are assumed to be in place for the 2030 and 2040 No-Build conditions:

- **132nd St E/Nininger Rd (CSAH 42) & Lock Blvd:** Construction of a new trail on the south side of CSAH 42, installation of pedestrian curb ramps at all corners, and narrowing of CSAH 42, including removal of the eastbound bypass lane.
- **Nininger Rd (CSAH 42) & Monroe St:** Upgraded trail on the south side of CSAH 42, installation of pedestrian curb ramps at all corners, and narrowing of CSAH 42, including removal of the westbound bypass lane.
- **Nininger Rd (CSAH 42) & Madison St:** Upgraded trail on the south side of CSAH 42, installation of pedestrian curb ramps at all corners, and narrowing of CSAH 42, including removal of the westbound bypass lane and the eastbound right-turn lane.
- **Nininger Rd (CSAH 42) & Pleasant Dr:** Upgraded trail on the south side of CSAH 42, removal of the existing north-side trail, installation of pedestrian curb ramps at all corners, and addition of a westbound left-turn lane on CSAH 42 in place of the existing bypass lane.

3.3 No-Build Traffic Volumes

Figure 5 and Figure 6 show the 2030 and 2040 No-Build traffic volumes and geometric conditions, respectively.

4 BUILD TRAFFIC CONDITIONS

Build conditions consider No-Build conditions with the addition of site generated traffic and proposed access configurations. This study analyzes three Build scenarios: 2030 Phase 1 Build scenario, 2040 Full Build Full Access scenario and 2040 Full Build Three Access scenario (without the northern 132nd St E (CSAH 42)/General Sieben Dr/Lock Blvd access).

Site-generated traffic volumes were estimated for the weekday AM, School PM and PM peak hours, as well as on a daily basis, using the data and methodology presented in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual (TGM)*¹.

4.1 2030 Phase 1 Build Conditions

Construction of Phase 1 includes 119 single family homes with one primary full access at the General Sieben Dr/Featherstone Rd intersection. **Table 2** summarizes the trip generation estimate.

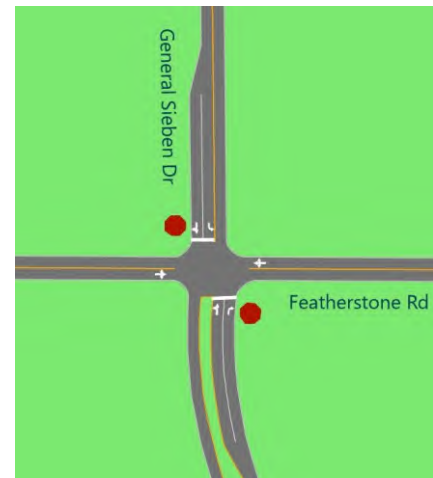
Table 2. Trip Generation - Phase 1

Land Use	ITE Code	Size	Trips Generated:						Weekday ADT
			AM Peak Enter	AM Peak Exit	School PM * Enter	School PM * Exit	PM Peak Enter	PM Peak Exit	
Single-Family Detached Housing	210	119 units	22	61	39	33	69	42	1,082
Totals			22	61	39	33	69	42	1,082
			83		72		111		

* School PM Peak trip rates based on ITE's TGM Time of Day Distribution Appendices

Access control and configuration at the General Sieben Dr/Featherstone Rd intersection is assumed to be side-street stop-control with existing geometry for the eastbound, westbound and northbound approaches. The proposed southbound approach is stop controlled and it is recommended to have two exiting lanes; a southbound left turn lane and a southbound shared through/right turn lane as illustrated in **Graphic 1**.

Site-generated traffic was distributed to the study area network according to current volume patterns and expected site traffic origins and destinations. **Figure 7** illustrates the global distribution percentages and localized site-generated traffic assignment at study area intersections and access points. When combined, the site-generated traffic volumes and No-Build scenario traffic volumes result in the 2030 Build Phase 1 scenario traffic volumes shown in **Figure 8**.



Graphic 1. Access Configuration - General Sieben Dr/Featherstone Rd

4.2 2040 Full Build - Full Access Conditions

Full Build - Full Access conditions include 337 single family homes and 64 townhomes with primary full access at General Sieben Dr/Featherstone Rd and 132nd St E (CSAH 42)/General Sieben Dr/Lock Blvd and minor access at two connections to the existing neighborhood east of the site. **Table 3** summarizes the trip generation estimate.

¹ *Trip Generation Manual (TGM)*, Institute of Transportation Engineers (ITE), 12th Edition

Table 3. Trip Generation - Full Build

Land Use	ITE Code	Size	Trips Generated:						Weekday ADT
			AM Peak Enter	AM Peak Exit	School PM * Enter	School PM * Exit	PM Peak Enter	PM Peak Exit	
Single-Family Detached Housing	210	337 units	64	172	110	93	194	119	3,063
Single-Family Attached Housing	215	64 units	7	23	12	13	19	14	421
Totals			71	195	122	106	213	133	3,484
			265		228		346		

* School PM Peak trip rates based on ITE's TGM Time of Day Distribution Appendices

Access control and configuration for the General Sieben Dr/Featherstone Rd intersection is assumed to be side-street stop-controlled, as detailed in the 2030 Phase 1 Build conditions and illustrated in **Graphic 1**.

Access control and configuration for the 132nd St E (CSAH 42)/General Sieben Dr/Lock Blvd intersection is assumed to be side-street stop-controlled, with single-lane northbound and southbound approaches, and two-lane eastbound and westbound approaches consisting of a shared left/through lane and a dedicated right-turn lane, as shown in **Graphic 2**. Mainline right turn lanes are assumed based on Dakota County design standards.



Graphic 2. Access Configuration - CSAH 42/General Sieben Dr

Site-generated traffic was distributed to the study area network and access points according to current volume patterns and expected site traffic origins and destinations. **Figure 9** illustrates the global distribution percentages and localized site-generated traffic assignment at study area intersections and access points. When combined, the site-generated traffic volumes and No-Build scenario traffic volumes result in the 2040 Build Full Access scenario traffic volumes shown in **Figure 10**.

4.3 2040 Full Build - Three Access Conditions

This scenario includes the 2040 Full Build - Full Access Conditions noted above without the northern 132nd St E (CSAH 42)/General Sieben Dr/Lock Blvd access intersection. Access control and configuration at the General Sieben Dr/Featherstone Rd intersection is assumed to be the same as Phase 1 and Full Build scenarios.

Site-generated traffic was distributed to the study area network and access points according to current volume patterns and expected site traffic origins and destinations. **Figure 11** illustrates the global distribution percentages and localized site-generated traffic assignment at study area intersections and access points. When combined, the site-generated traffic volumes and No-Build scenario traffic volumes result in the 2040 Full Build - Three Access scenario traffic volumes shown in **Figure 12**.

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5 TRAFFIC OPERATIONAL ANALYSIS

5.1 Intersection Capacity Analysis Methodology

Intersection capacity analyses were conducted using Synchro/SimTraffic (12th Edition) traffic analysis software. The methodology follows the procedures outlined in the *Highway Capacity Manual* ².

The analysis reports:

- **Level of Service (LOS)** for each intersection and lane group, based on average vehicle delay;
- **95th Percentile Queue (95% Q)** for each intersection lane group.

LOS is graded from "A" as free-flowing conditions to "F" as excessive delays and congestion. Typically, LOS "D" represents the threshold for acceptable overall intersection operations, and LOS "E" represents the acceptable individual movement threshold operating during a peak hour. For side-street stop-controlled movements on high volume mainline roads, it is common for side-streets to operate at LOS "D" or "E".

The 95% Queue refers to the length of vehicle queue that has a five-percent probability of occurring during an analysis hour. An intersection can operate with acceptable LOS, but if queues extend back to block entrances to turn lanes, access driveways or adjacent intersections, unsafe operating conditions could result.

5.2 Model Calibration and Simulation

The study intersections and road network were modelled in Synchro/SimTraffic to replicate real-world conditions. Inputs included:

- **Lane configurations** per field observation, future plans and recommended access geometry
- **Traffic volumes** based on turning movement counts and future volume projections
- **Intersection Peak Hour Factors** based on existing turning movement counts
- **Intersection control types** (signalized, stop-controlled, etc.)

LOS and 95% Queues are reported from an average of 10 SimTraffic simulations. For side-street stop-controlled intersections, the worst opposing left or side-street movement delay is reported rather than the overall intersection delay. Overall intersection delay for side-street stop-controlled intersections can misrepresent operations, since most mainline free-flowing vehicles experience no delay. Detailed operational analysis tables for each scenario are included in the appendix.

Because SimTraffic simulations include random variation, minor movements may occasionally show slightly better operations under higher traffic volumes when intersections operate well. This can result in minor-movement delays and queues in the Build Scenario appearing slightly lower than those in the No-Build Scenario.

For the AM peak hour, the General Sieben Dr/4th St W and General Sieben Dr/Featherstone Dr intersections were modeled in SimTraffic using 15-minute volume increments to capture the high school-related peak from 7:30 to 7:45 a.m. General AM peak-hour results exclude this 15-minute peak, which is reported separately.

5.3 Operational Analysis Results – Existing Conditions

Table 4 summarizes the Existing Conditions operational analysis for the peak hours.

² *Highway Capacity Manual (HCM)*, Transportation Research Board, 7th Edition

Table 4. Traffic Operational Results – Existing Conditions

Intersection	Control	MOE	General AM Peak	15 Min AM Peak	School PM Peak	PM Peak
General Sieben Dr & 4th St W*	AWSC	Overall LOS	A-5.5	A-9.9	A-9.0	A-6.0
		Worst LOS	A-7.6 (WBTR)	B-12.2 (NBLT)	B-12.0 (SBLTR)	B-10.6 (WBTR)
		Queuing	56' NB Queue	138' NB Queue	140' SB Queue	65' WBL Queue
General Sieben Dr & Featherstone Rd*	SSSC	Worst LOS	A-4.5 (NBL)	A-7.2 (NBL)	A-7.6 (NBL)	A-4.8 (NBL)
		Queuing	Minimal Queues	Minimal Queues	Minimal Queues	Minimal Queues
132nd St E (CSAH 42) & Lock Blvd	SSSC	Worst LOS	A-2.9 (SBLR)			A-3.1 (SBLR)
		Queuing	Minimal Queues			Minimal Queues
Nininger Rd (CSAH 42) & Monroe St	SSSC	Worst LOS	A-4.1 (NBLR)			A-3.9 (NBLR)
		Queuing	Minimal Queues			Minimal Queues
Nininger Rd (CSAH 42) & Madison St	SSSC	Worst LOS	A-2.9 (NBLR)			A-4.1 (NBLR)
		Queuing	Minimal Queues			Minimal Queues
Nininger Rd (CSAH 42) & Pleasant Dr	SSSC	Worst LOS	A-5.4 (NBL)			A-5.0 (NBL)
		Queuing	Minimal Queues			Minimal Queues
Pleasant Dr & Jefferson St	SSSC	Worst LOS	A-3.5 (EBLR)			A-3.7 (EBLR)
		Queuing	Minimal Queues			Minimal Queues

- Unacceptable operations are highlighted in red and discussed below.

* AM Peak results show the general AM peak and 15 min school peak operations.

All study area intersections operate acceptably under Existing Conditions, with overall intersection and lane group LOS of B or better. Existing roadway geometry adequately accommodates vehicle queues at all intersections. During the school 15-minute AM peak and the school PM peak, delays and queue lengths increase; however, operations remain within acceptable limits. No improvements are recommended for Existing Conditions.

5.4 Operational Analysis Results – 2030 No-Build Conditions

Table 5 Table 5 summarizes the 2030 No-Build Conditions operational analysis for the peak hours. 2030 No-Build Conditions include background traffic growth and updated intersection geometry from the Nininger Rd (CSAH 42) Trail Improvement Project.

Table 5. Traffic Operational Results – 2030 No-Build Conditions

Intersection	Control	MOE	General AM Peak	15 Min AM Peak	School PM Peak	PM Peak
General Sieben Dr & 4th St W*	AWSC	Overall LOS	A-5.6	B-10.4	A-9.4	A-6.1
		Worst LOS	A-7.7 (WBTR)	B-12.7 (NBLT)	B-12.7 (SBLTR)	B-10.9 (WBTR)
		Queuing	59' SB Queue	177' NB Queue	145' SB Queue	66' WBL Queue
General Sieben Dr & Featherstone Rd*	SSSC	Worst LOS	A-4.9 (NBL)	A-9.6 (NBL)	A-7.8 (NBL)	A-5.0 (NBL)
		Queuing	Minimal Queues	Minimal Queues	Minimal Queues	Minimal Queues
132nd St E (CSAH 42) & Lock Blvd	SSSC	Worst LOS	A-2.8 (SBLR)			A-3.2 (SBLR)
		Queuing	Minimal Queues			Minimal Queues
Nininger Rd (CSAH 42) & Monroe St	SSSC	Worst LOS	A-3.7 (NBLR)			A-3.7 (NBLR)
		Queuing	Minimal Queues			Minimal Queues
Nininger Rd (CSAH 42) & Madison St	SSSC	Worst LOS	A-3.2 (NBLR)			A-3.8 (NBLR)
		Queuing	Minimal Queues			Minimal Queues
Nininger Rd (CSAH 42) & Pleasant Dr	SSSC	Worst LOS	A-5.6 (NBL)			A-5.3 (NBL)
		Queuing	Minimal Queues			Minimal Queues
Pleasant Dr & Jefferson St	SSSC	Worst LOS	A-3.1 (EBLR)			A-3.7 (EBLR)
		Queuing	Minimal Queues			Minimal Queues

- Unacceptable operations are highlighted in red and discussed below.

* AM Peak results show the general AM peak and 15 min school peak operations.

All study area intersections operate acceptably for 2030 No-Build Conditions, with overall intersection and lane group LOS of B or better. Existing geometry adequately accommodates vehicle queues at all intersections. During the school 15 minute AM peak and the school PM peak delay and queuing increase

but not to unacceptable levels. Traffic operations for CSAH 42 intersections with updated geometry for the trail improvement project operate acceptably. There are no recommendations to improve 2030 No-Build Conditions.

5.5 Operational Analysis Results – 2040 No-Build Conditions

Table 6 summarizes the 2040 No-Build Conditions operational analysis for the peak hours. 2040 No-Build Conditions include background traffic growth and updated intersection geometry from the Nininger Rd (CSAH 42) Trail Improvements Project.

Table 6. Traffic Operational Results – 2040 No-Build Conditions

Intersection	Control	MOE	General AM Peak	15 Min AM Peak	School PM Peak	PM Peak
General Sieben Dr & 4th St W*	AWSC	Overall LOS	A-5.8	B-11.7	B-10.1	A-6.4
		Worst LOS	A-8.2 (WBTR)	C-15.1 (NBLT)	B-13.5 (SBLTR)	B-11.8 (WBTR)
		Queuing	77' NB Queue	210' NB Queue	153' SB Queue	73' WBL Queue
General Sieben Dr & Featherstone Rd*	SSSC	Worst LOS	A-4.6 (NBL)	A-7.7 (NBL)	A-7.7 (NBL)	A-5.2 (NBL)
		Queuing	Minimal Queues	Minimal Queues	Minimal Queues	Minimal Queues
132nd St E (CSAH 42) & Lock Blvd	SSSC	Worst LOS	A-2.7 (SBLR)			A-3.0 (SBLR)
		Queuing	Minimal Queues			Minimal Queues
Nininger Rd (CSAH 42) & Monroe St	SSSC	Worst LOS	A-4.6 (NBLR)			A-4.5 (NBLR)
		Queuing	Minimal Queues			Minimal Queues
Nininger Rd (CSAH 42) & Madison St	SSSC	Worst LOS	A-3.4 (NBLR)			A-4.5 (NBLR)
		Queuing	Minimal Queues			Minimal Queues
Nininger Rd (CSAH 42) & Pleasant Dr	SSSC	Worst LOS	A-5.6 (NBL)			A-5.1 (NBL)
		Queuing	Minimal Queues			Minimal Queues
Pleasant Dr & Jefferson St	SSSC	Worst LOS	A-3.4 (EBLR)			A-3.8 (EBLR)
		Queuing	Minimal Queues			Minimal Queues

- Unacceptable operations are highlighted in red and discussed below.

* AM Peak results show the general AM peak and 15 min school peak operations.

All study area intersections operate acceptably for 2040 No-Build Conditions, with overall intersection and lane group LOS of C or better. Existing geometry adequately accommodates vehicle queues at all intersections. During the school 15 minute AM peak and the school PM peak, delay and queuing increase but not to unacceptable levels. Traffic operations for CSAH 42 intersections with updated geometry for the trail improvement project operate acceptably. There are no recommendations to improve 2040 No-Build Conditions.

5.6 Operational Analysis Results – 2030 Phase 1 Conditions

Table 7 summarizes the 2030 Phase 1 Build Conditions operational analysis for the peak hours. Access is via the General Sieben Dr/Featherstone Rd intersection (highlighted light blue).

Table 7. Traffic Operational Results – 2030 Phase 1 Build Conditions

Intersection	Control	MOE	General AM Peak	15 Min AM Peak	School PM Peak	PM Peak
General Sieben Dr & 4th St W*	AWSC	Overall LOS	A-5.8	B-11.9	B-10.1	A-8.8
		Worst LOS	A-7.8 (WBTR)	B-14.5 (NBLT)	B-14.4 (SBLTR)	B-13.1 (WBTR)
		Queuing	66' SB Queue	181' NB Queue	161' SB Queue	129' NB Queue
General Sieben Dr & Featherstone Rd*	SSSC	Worst LOS	A-5.9 (SBTR)	B-10.4 (SBL)	A-9.7 (NBLT)	A-6.4 (NBLT)
		Queuing	41' NBLT Queue	57' WBLTR Queue	67' NBR Queue	67' NBLT Queue
132nd St E (CSAH 42) & Lock Blvd	SSSC	Worst LOS	A-2.7 (SBLR)			A-3.3 (SBLR)
		Queuing	Minimal Queues			Minimal Queues
Nininger Rd (CSAH 42) & Monroe St	SSSC	Worst LOS	A-4.4 (NBLR)			A-4.0 (NBLR)
		Queuing	Minimal Queues			Minimal Queues
Nininger Rd (CSAH 42) & Madison St	SSSC	Worst LOS	A-3.3 (NBLR)			A-4.0 (NBLR)
		Queuing	Minimal Queues			Minimal Queues
Nininger Rd (CSAH 42) & Pleasant Dr	SSSC	Worst LOS	A-5.8 (NBL)			A-4.2 (NBL)
		Queuing	Minimal Queues			Minimal Queues
Pleasant Dr & Jefferson St	SSSC	Worst LOS	A-3.0 (EBLR)			A-3.9 (EBLR)
		Queuing	Minimal Queues			Minimal Queues

- Primary access(es) are shaded light blue. Unacceptable operations are highlighted in red and discussed below.

* AM Peak results show the general AM peak and 15 min school peak operations.

All study area intersections operate acceptably for 2030 Phase 1 Build Conditions, with overall intersection and lane group LOS of B or better. Existing intersection and proposed access geometry adequately accommodate vehicle queues at all intersections. During the school 15 minute AM peak and the school PM peak, delay and queuing increase but not to unacceptable levels.

For site access, it is recommended that the General Sieben Dr/Featherstone Rd intersection operate as a side-street stop-controlled intersection, maintaining the existing geometry for the eastbound, westbound, and northbound approaches. The proposed southbound approach should also be stop-controlled and include two exit lanes: a dedicated southbound left-turn lane and a shared southbound through/right-turn lane. No additional measures are recommended to mitigate traffic operations.

5.7 Operational Analysis Results – 2040 Full Build - Full Access Conditions

Table 8 summarizes the 2040 Full Build - Full Access Conditions operational analysis for the peak hours. Primary access is via the General Sieben Dr/Featherstone Rd intersection and the 132nd St E (CSAH 42)/General Sieben Dr/Lock Blvd intersection (both highlighted light blue) with minor access through the neighborhood to the east.

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Table 8. Traffic Operational Results – 2040 Full Build - Full Access Conditions

Intersection	Control	MOE	General AM Peak	15 Min AM Peak	School PM Peak	PM Peak
General Sieben Dr & 4th St W*	AWSC	Overall LOS	A-6.6	B-15.0	C-15.3	A-9.1
		Worst LOS	A-8.2 (WBTR)	C-18.9 (SBLTR)	D-27.5 (SBLTR)	B-13.6 (WBTR)
		Queuing	100' SB Queue	231' SB Queue	291' SB Queue	100' SB Queue
General Sieben Dr & Featherstone Rd*	SSSC	Worst LOS	A-6.6 (SBTR)	B-11.8 (SBTR)	B-10.8 (NBLT)	A-7.7 (NBLT)
		Queuing	61' SBTR Queue	64' NBR Queue	76' NBLT Queue	90' NBLT Queue
132nd St E (CSAH 42) & Lock Blvd	SSSC	Worst LOS	A-4.4 (NBLTR)			A-5.5 (NBLTR)
		Queuing	42' NBLTR Queue			32' SBLTR Queue
Nininger Rd (CSAH 42) & Monroe St	SSSC	Worst LOS	A-3.8 (NBLR)			A-4.2 (NBLR)
		Queuing	Minimal Queues			Minimal Queues
Nininger Rd (CSAH 42) & Madison St	SSSC	Worst LOS	A-3.6 (NBLR)			A-3.9 (NBLR)
		Queuing	Minimal Queues			Minimal Queues
Nininger Rd (CSAH 42) & Pleasant Dr	SSSC	Worst LOS	A-6.3 (NBL)			A-4.5 (NBL)
		Queuing	Minimal Queues			Minimal Queues
Pleasant Dr & Jefferson St	SSSC	Worst LOS	A-3.4 (EBLR)			A-3.7 (EBLR)
		Queuing	Minimal Queues			Minimal Queues

- Primary access(es) are shaded light blue. Unacceptable operations are highlighted in red and discussed below.

* AM Peak results show the general AM peak and 15 min school peak operations.

All study area intersections operate acceptably for 2040 Full Build - Full Access Conditions, with overall intersection LOS of C or better and lane group LOS of D or better. Existing intersection and proposed access geometry adequately accommodate vehicle queues at all intersections. During the school 15 minute AM peak and the school PM peak, delay and queuing increase but not to unacceptable levels and queuing quickly dissipates after the peak.

For site access, it is recommended that the General Sieben Dr/Featherstone Rd intersection be designed as noted in the 2030 Build recommendation. It is recommended the 132nd St E (CSAH 42)/General Sieben Dr/Lock Blvd intersection be side-street stop-controlled, with single-lane northbound and southbound approaches, and two-lane eastbound and westbound approaches consisting of a shared left/through lane and a dedicated right-turn lane. No additional measures are recommended to mitigate traffic operations.

5.8 Operational Analysis Results – 2040 Full Build - Three Access Conditions

Table 9 summarizes the 2040 Full Build - Three Access Conditions operational analysis for the peak hours. Primary access is via the General Sieben Dr/Featherstone Rd intersection (highlighted light blue) with minor access through the neighborhood to the east.

Table 9. Traffic Operational Results – 2040 Full Build - Three Access Conditions

Intersection	Control	MOE	General AM Peak	15 Min AM Peak	School PM Peak	PM Peak
General Sieben Dr & 4th St W*	AWSC	Overall LOS	A-6.6	C-16.8	C-16.4	A-9.5
		Worst LOS	A-8.1 (SBLTR)	C-23.3 (SBLTR)	D-27.8 (SBLTR)	B-13.6 (WBTR)
		Queuing	101' SB Queue	265' SB Queue	286' SB Queue	106' SB Queue
General Sieben Dr & Featherstone Rd*	SSSC	Worst LOS	A-6.7 (SBTR)	B-12.2 (SBTR)	B-11.4 (SBL)	A-8.1 (NBLT)
		Queuing	53' NBR Queue	58' NBR Queue	75' NBLT Queue	94' NBLT Queue
132nd St E (CSAH 42) & Lock Blvd	SSSC	Worst LOS	A-2.9 (SBLR)			A-3.5 (SBLR)
		Queuing	Minimal Queues			Minimal Queues
Nininger Rd (CSAH 42) & Monroe St	SSSC	Worst LOS	A-4.7 (NBLR)			A-4.5 (NBLR)
		Queuing	Minimal Queues			Minimal Queues
Nininger Rd (CSAH 42) & Madison St	SSSC	Worst LOS	A-3.8 (NBLR)			A-4.4 (NBLR)
		Queuing	Minimal Queues			Minimal Queues
Nininger Rd (CSAH 42) & Pleasant Dr	SSSC	Worst LOS	A-6.2 (NBL)			A-4.3 (NBL)
		Queuing	Minimal Queues			Minimal Queues
Pleasant Dr & Jefferson St	SSSC	Worst LOS	A-3.4 (EBLR)			A-4.2 (EBLR)
		Queuing	Minimal Queues			Minimal Queues

- Primary access(es) are shaded light blue. Unacceptable operations are highlighted in red and discussed below.

* AM Peak results show the general AM peak and 15 min school peak operations.

All study area intersections operate acceptably for 2040 Full Build - Three Access Conditions, with overall intersection LOS of C or better and lane group LOS of D or better. Existing intersection and proposed access geometry adequately accommodate vehicle queues at all intersections. During the school 15 minute AM peak and the school PM peak, delay and queuing increase but not to unacceptable levels and queuing quickly dissipates after the peak.

For site access, it is recommended that the General Sieben Dr/Featherstone Rd intersection be designed as noted in the 2030 Build recommendation (side-street stop-controlled, maintaining the existing geometry for the eastbound, westbound, and northbound approaches). The proposed southbound approach should also be stop-controlled and include two exit lanes: a dedicated southbound left-turn lane and a shared southbound through/right-turn lane. No additional measures are recommended to mitigate traffic operations.

6 SUMMARY & RECOMMENDATIONS

6.1 Summary

This traffic study evaluates the traffic impacts on the operations and safety of the adjacent roadway network and proposed access locations for the 158-acre Pleasant Valley Farms of Hastings development. Necessary transportation system improvements to support the project are identified. The study covers seven study intersections and includes analysis of existing, No-Build (background), and Build traffic conditions.

Site development was considered for two timeframes:

- **Year 2030 Development:** Phase 1 development of the southern portion of the site with 119 single-family homes with one access at the General Sieben Dr/Featherstone Rd intersection.
- **Year 2040 Development:** Full site development (401 units: 337 single-family homes and 64 townhomes) with two access scenarios are evaluated:
 - ▶ **Full Access Scenario:** Includes all four access points shown on the site plan.
 - ▶ **Three Access Scenario:** Excludes the northern General Sieben Dr connection to CSAH 42.

No-Build (background) conditions include a 0.5% annual growth rate for background non site related traffic and geometric modifications from the Nininger Rd (CSAH 42) Trail Improvement project.

Build conditions include No-Build conditions with the addition of development site-generated traffic and proposed access configuration.

Existing conditions analysis indicates acceptable traffic and safety operations throughout the study area, with no recommended traffic operational improvements.

No-Build conditions analysis indicates acceptable traffic and safety operations throughout the study area for years 2030 and 2040, with no recommended traffic operational improvements.

Build conditions analysis indicates acceptable traffic and safety operations throughout the study area and access points for the 2030 and 2040 development scenarios with the recommended access control and configurations. Results from the 2040 Full Build - Three Access Scenario show the study area can accommodate site-generated traffic shifted south to the southern access. There are no additional recommended mitigation measures.

6.2 Recommendations

Access recommendations are consistent across all development scenarios and include:

- **General Sieben Dr/Featherstone Rd Intersection:**
 - ▶ Operate as a side-street stop-controlled intersection with General Sieben Dr stopped.
 - ▶ Maintaining existing geometry for the eastbound/westbound approaches (single lane) and northbound approach (two lanes: shared left/through and a right turn lane).
 - ▶ Construct a stop-controlled southbound approach with one dedicated southbound left-turn lane and one shared southbound through/right-turn lane.
 - ▶ Install ADA-compliant pedestrian curb ramps on the north leg of the intersection.
- **132nd St E (CSAH 42)/General Sieben Dr/Lock Blvd Intersection:**
 - ▶ Operate as a side-street stop-controlled intersection with General Sieben Dr/Lock Blvd stopped.

- ▶ Provide single lane (shared left/through/right) northbound and southbound approaches.
- ▶ Provide two-lane eastbound/westbound approaches with a shared left/through lane and a dedicated right turn lane designed per Dakota County standards.
- ▶ Work with the County and City on the intersection realignment design in conjunction with the multi-use trail crossing design. ADA compliant pedestrian curb ramps are recommended for all corners as well as appropriate trail crossing signing and pavement markings.

Pedestrian and bicycle network recommendations include:

- Construct a multi-use trail along the east side of General Sieben Dr as part of the development.
- Work with the City and County for the Lock Blvd realignment plans for the northern site access in conjunction with the planned 2027 Nininger Rd (CSAH 42) Trail Improvement project to ensure trail continuity and safety for all users.

General study area recommendations include:

- The City should require traffic impact studies for development of parcels west of the site. As these areas develop, Jacob Ave will likely be upgraded, which may slightly shift study area traffic volumes.

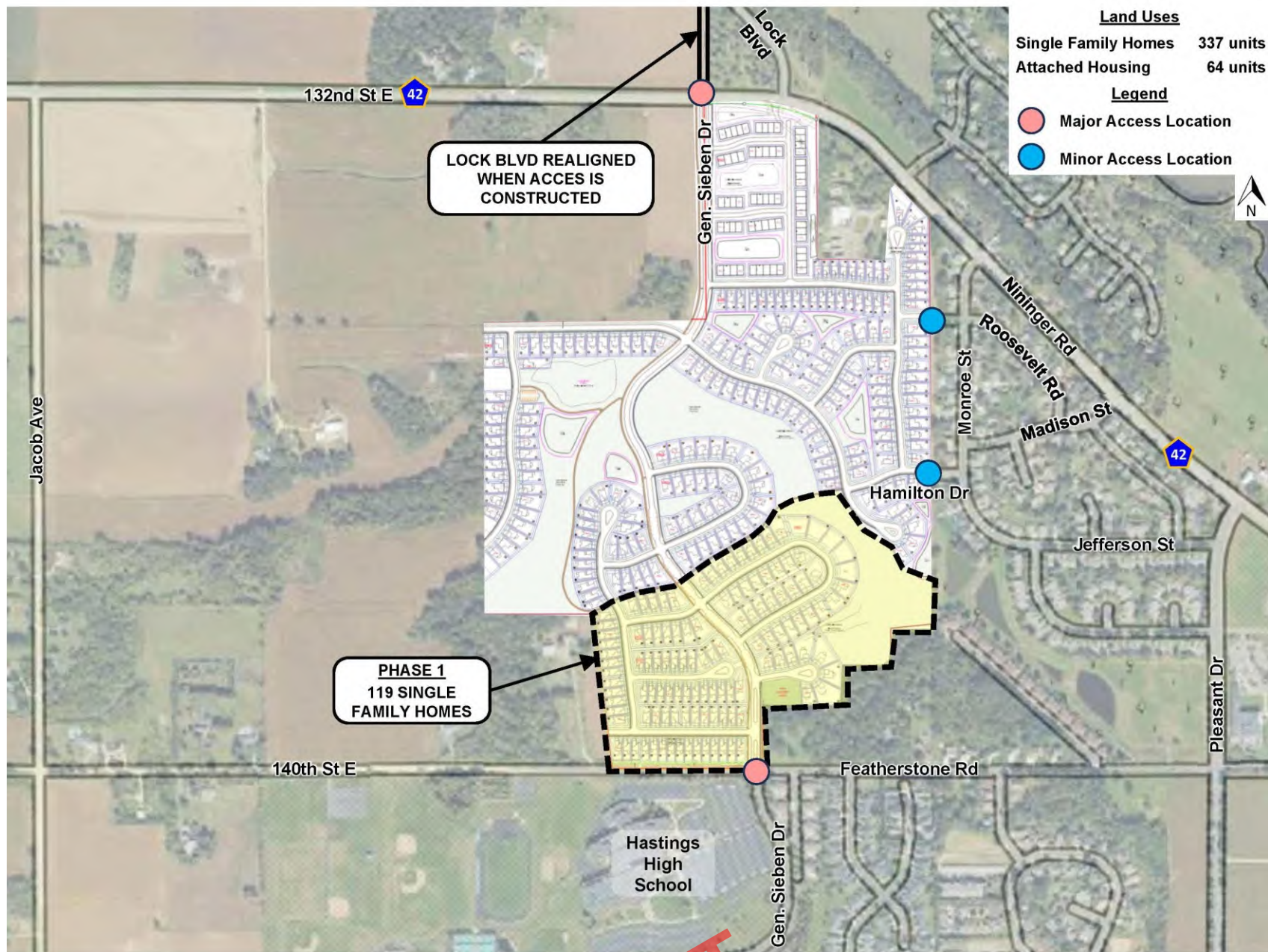


Figure 1. Conceptual Site Plan

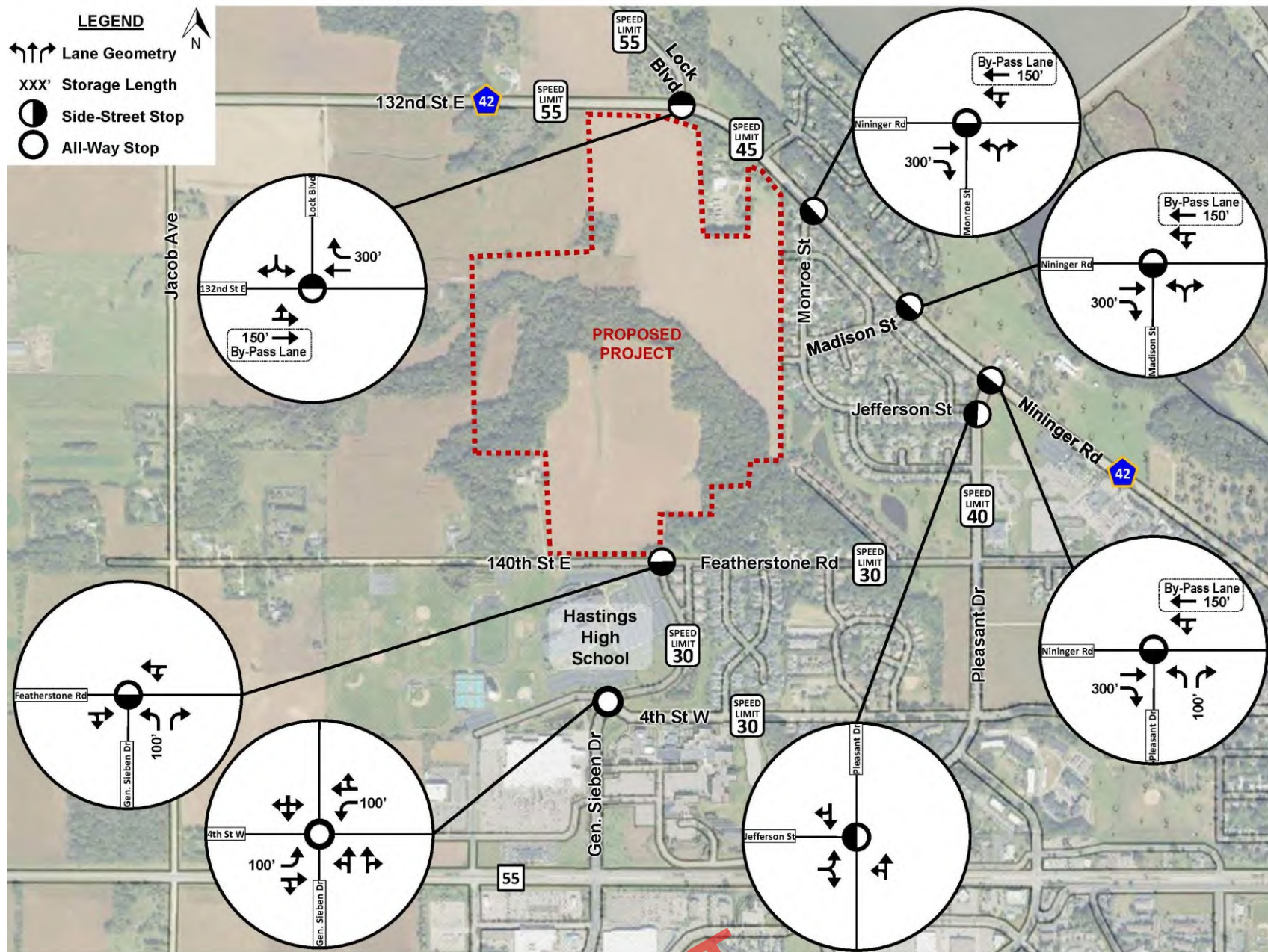


Figure 2. Study Area Characteristics

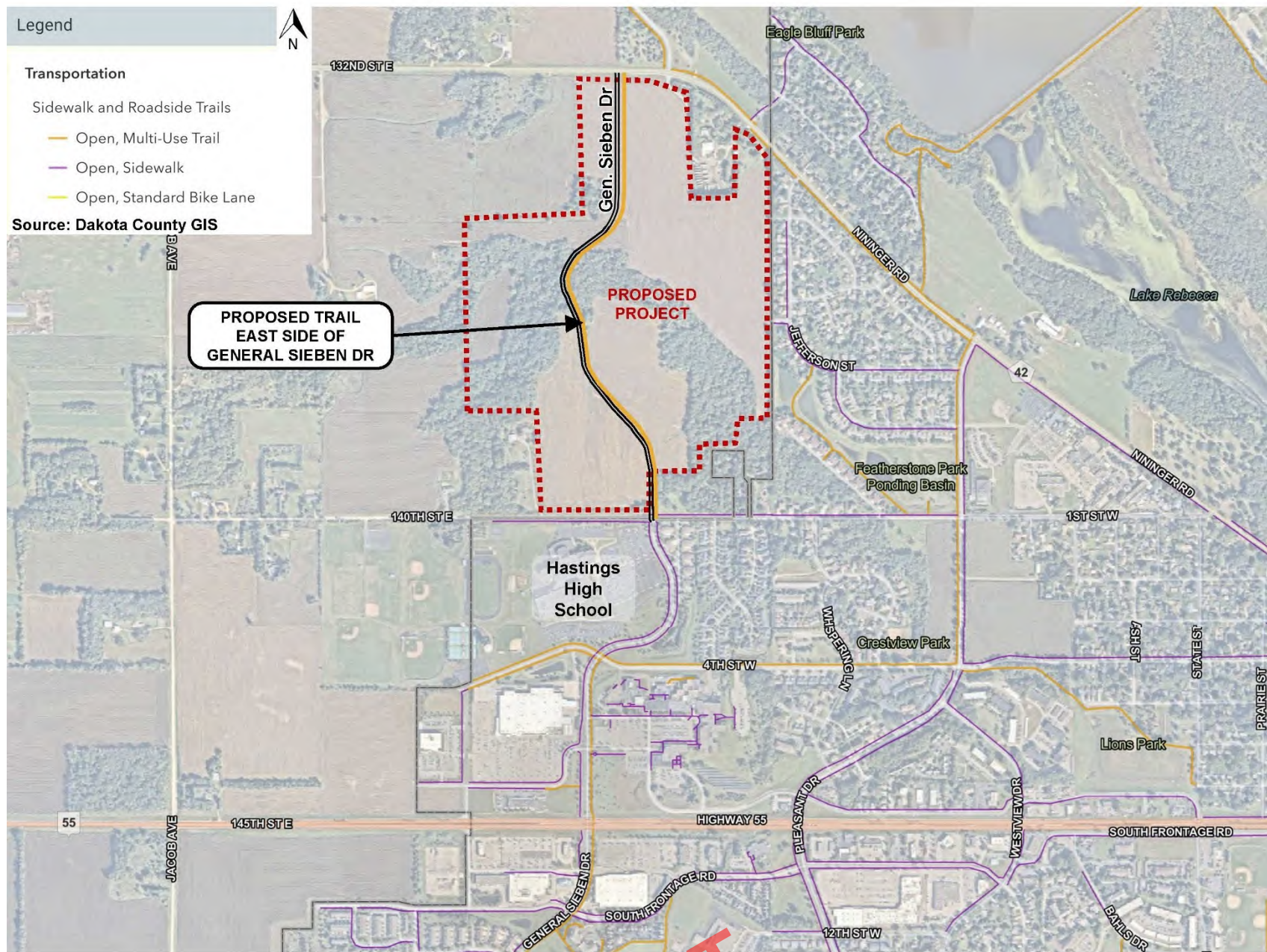


Figure 3. Pedestrian and Bicycle Network

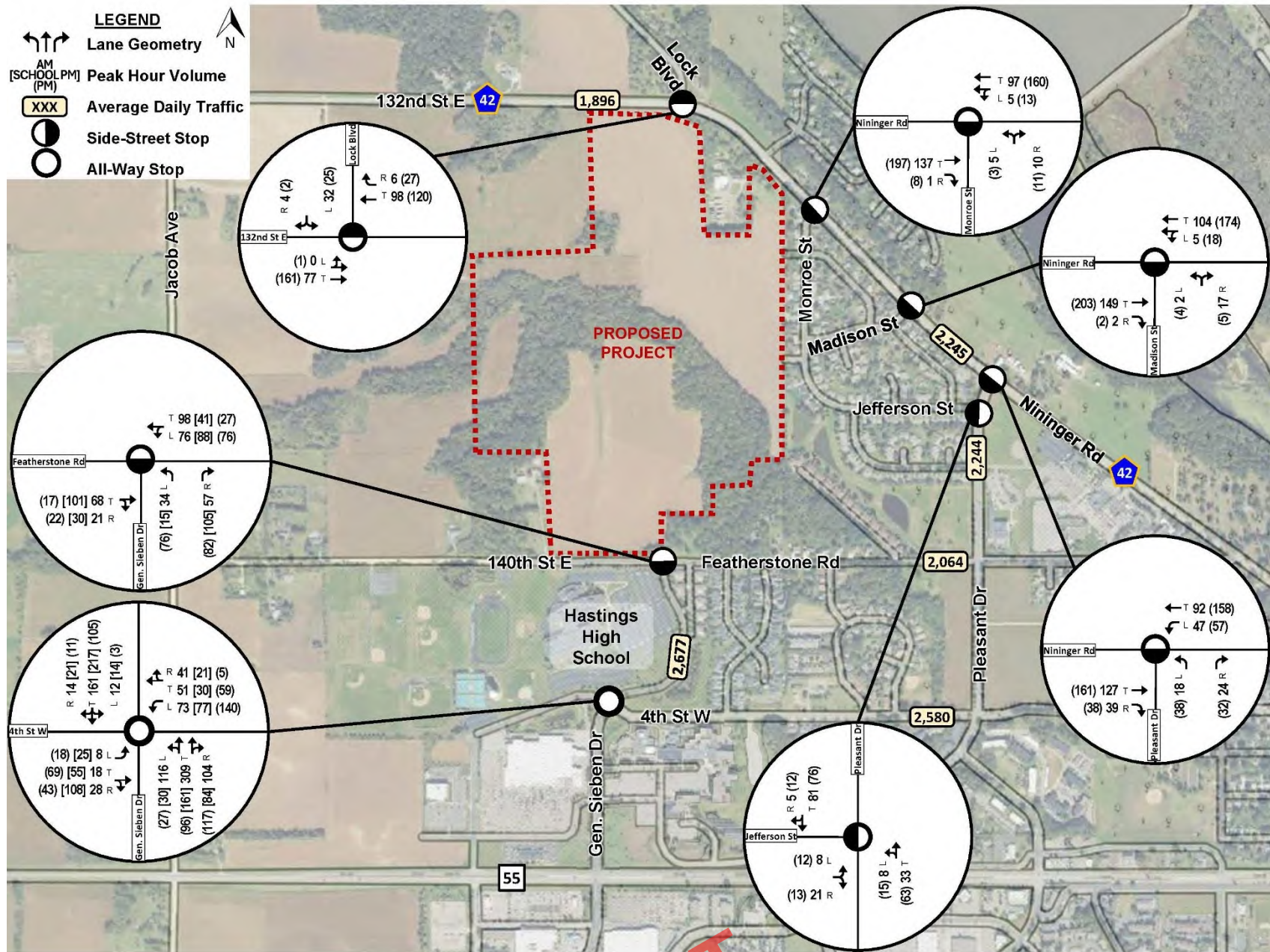


Figure 4. Existing Traffic Volumes

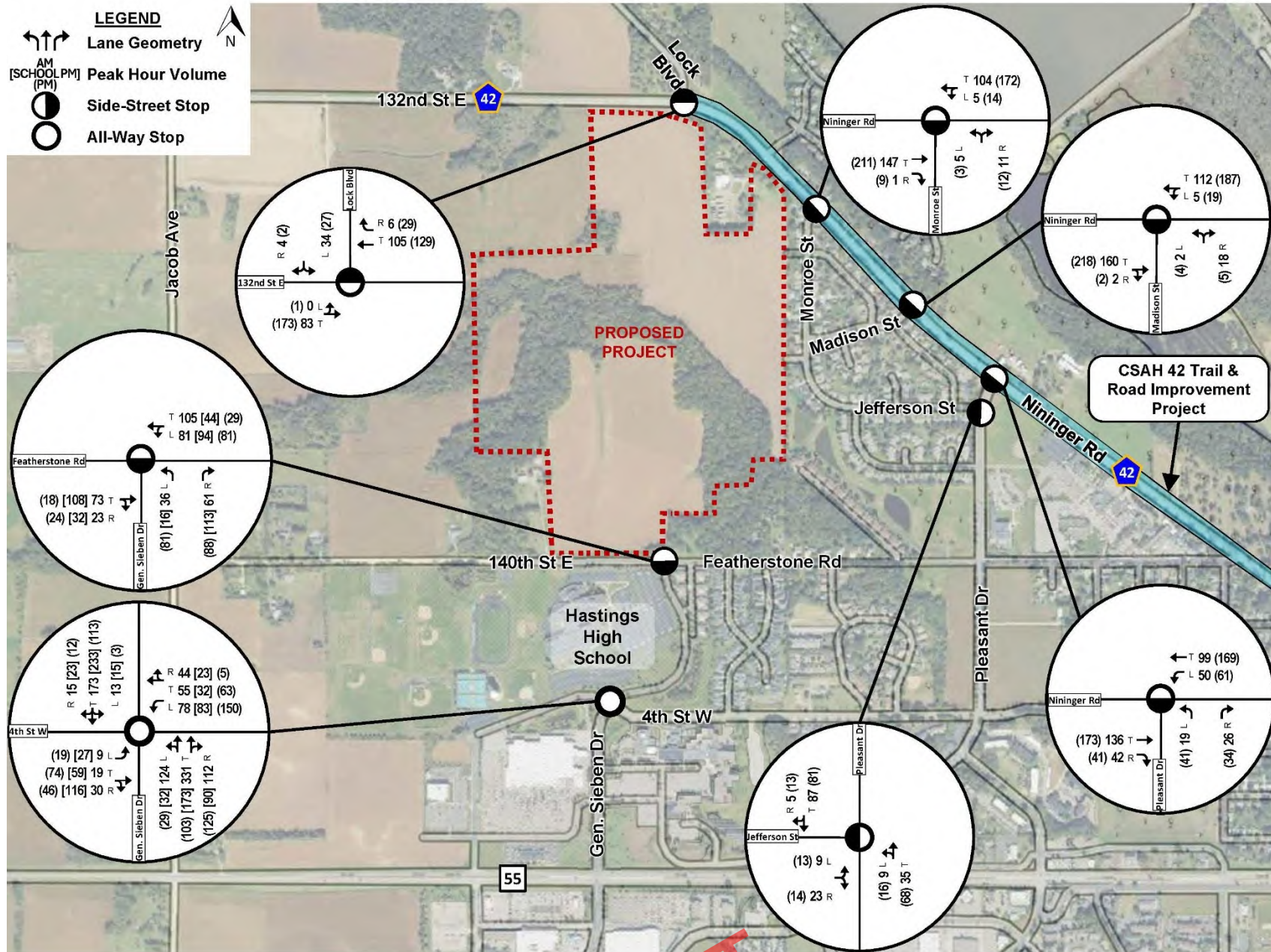


Figure 6. 2040 No-Build Traffic Volumes

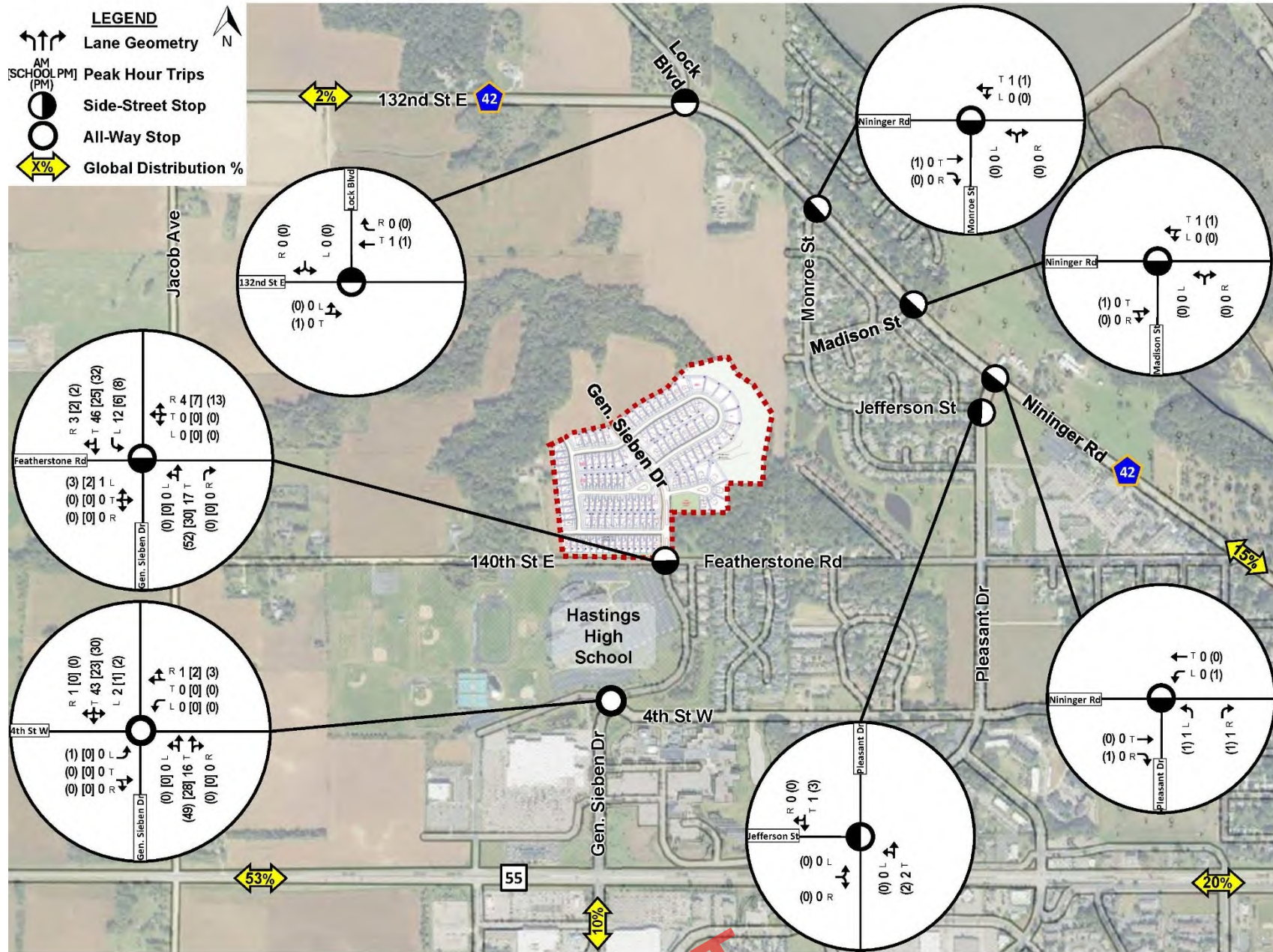


Figure 7. 2030 Phase 1 Trip Distribution & Assignment

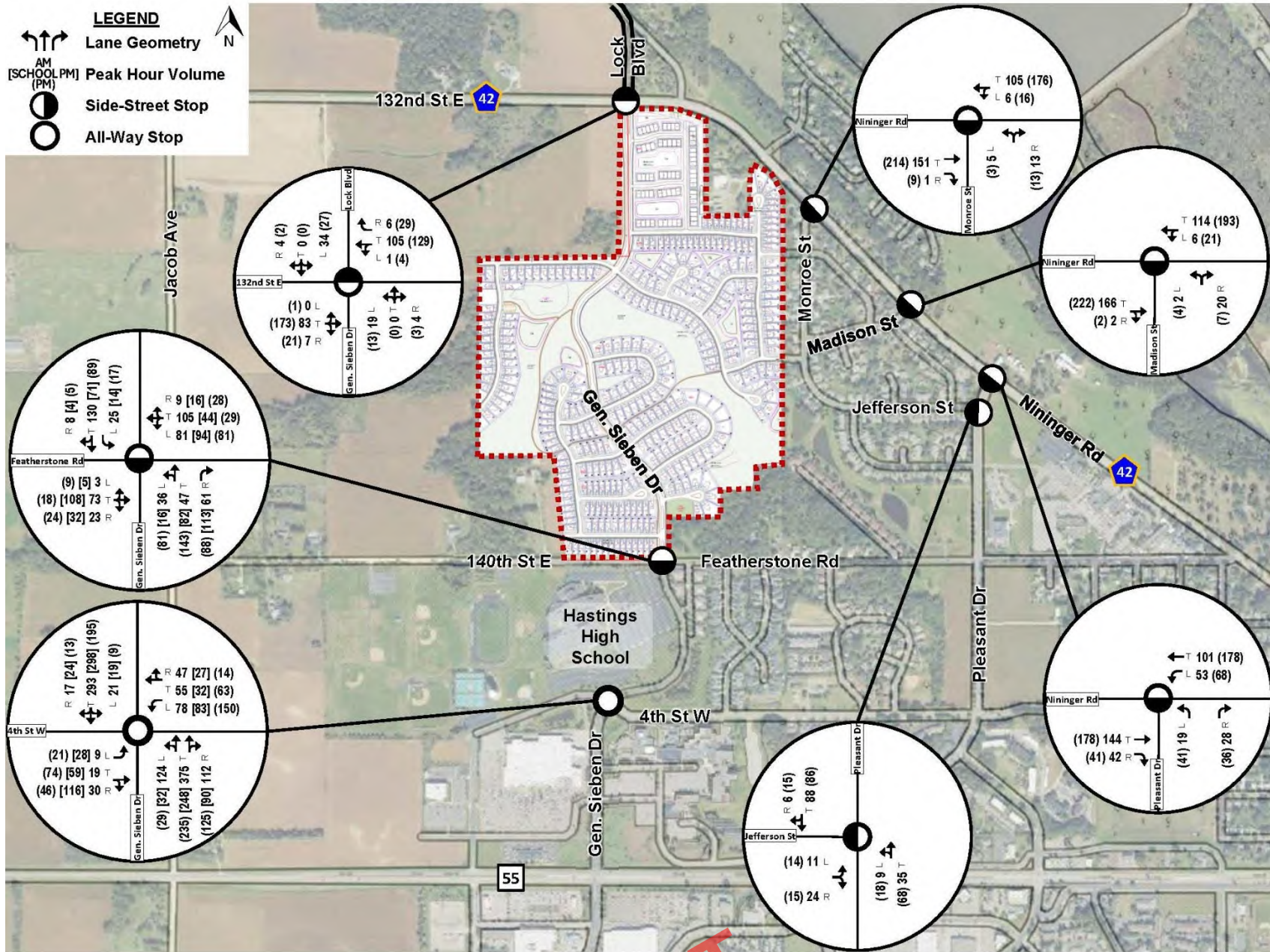


Figure 10. 2040 Full Build - Full Access Traffic Volumes

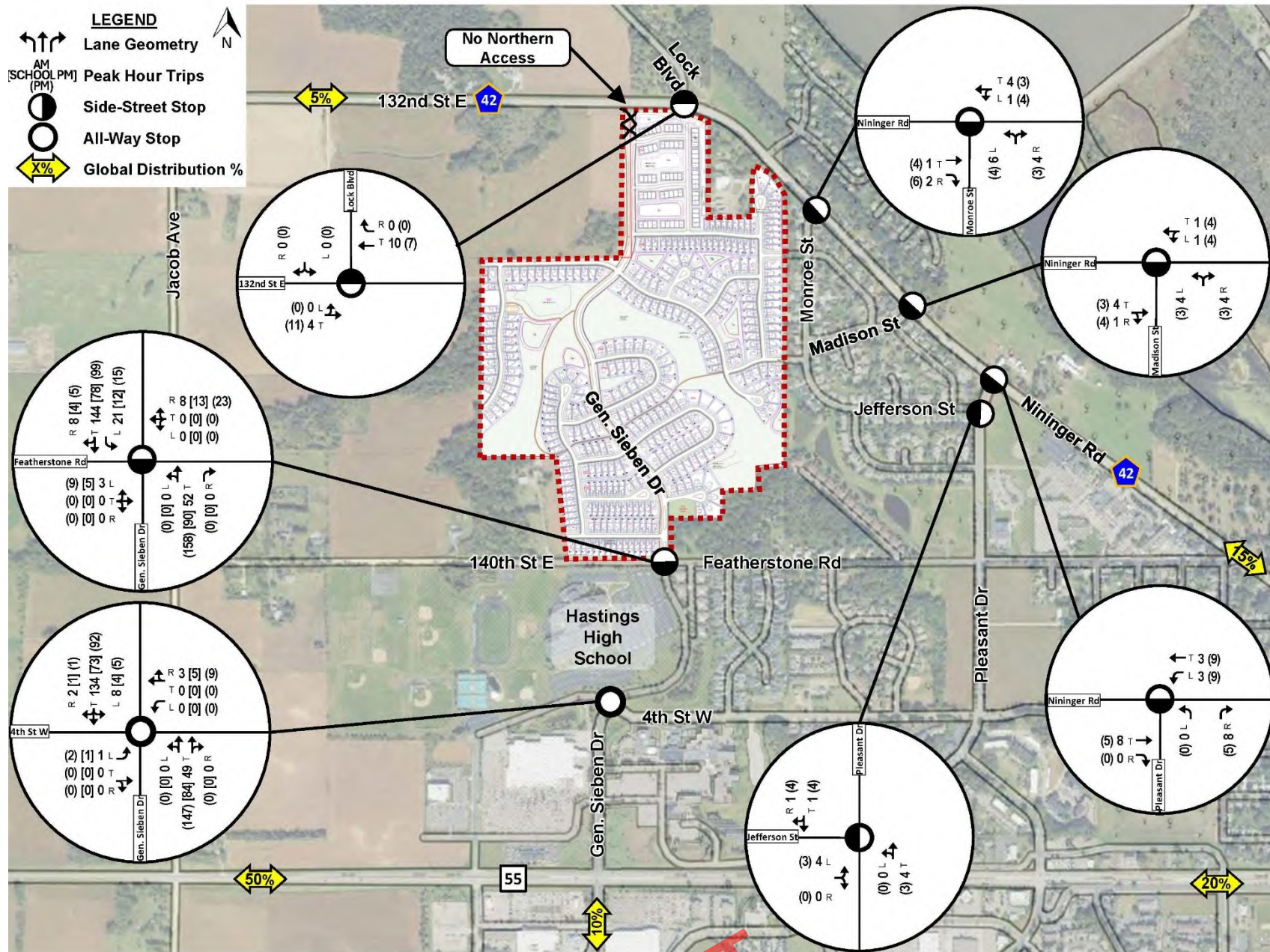


Figure 11. 2040 Full Build - Three Access Trip Distribution & Assignment

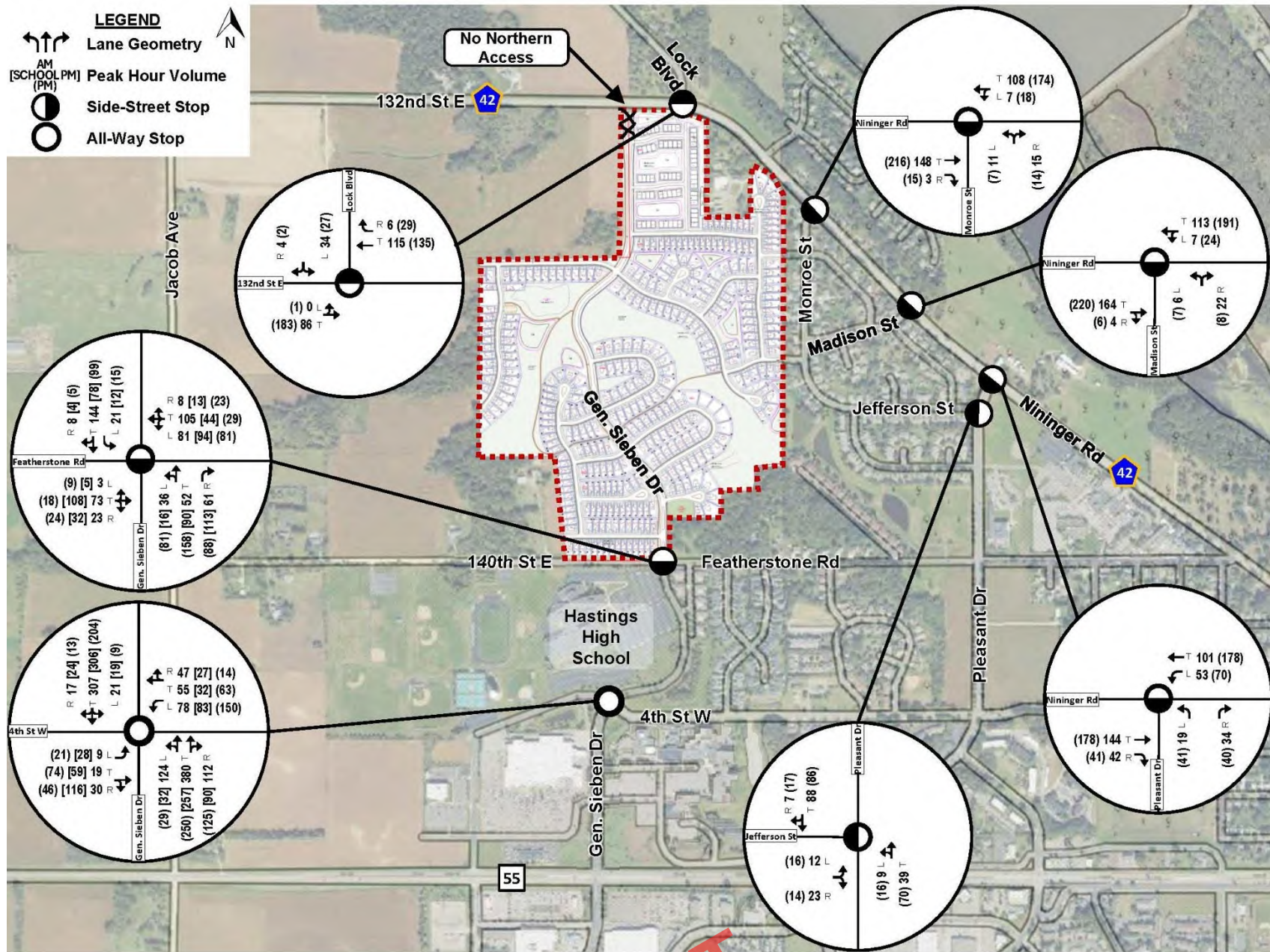


Figure 12. 2040 Full Build - Three Access Traffic Volumes

Appendix A - Detailed Operational Analysis Tables

Table A - 1. Existing Peak Hour Operations

Intersection (Control)	Lane Group	Bay	GENERAL AM PEAK			15 MIN AM PEAK			SCHOOL PM PEAK			PM PEAK		
			LOS	Delay	Q	LOS	Delay	Q	LOS	Delay	Q	LOS	Delay	Q
General Sieben Dr & 4th St W (All-Way Stop)*	EBL	100'	A	5.7	17	A	7.2	26	A	5.6	39	A	4.4	28
	EBTR		A	5.1	43	A	6.7	56	A	9.2	95	A	6.1	56
	WBL	100'	A	4.7	50	A	7.0	56	A	7.3	65	A	5.2	65
	WBTR		A	7.6	56	A	7.3	71	A	9.2	60	B	10.6	53
	NBLT		A	6.6	56	B	12.2	138	A	8.3	67	A	6.6	47
	NBTR		A	3.4	49	A	7.5	108	A	4.9	53	A	3.5	49
	SBLTR		A	6.0	60	B	10.5	125	B	12.0	140	A	6.6	58
	Overall		A	5.5		A	9.9		A	9.0		A	6.0	
General Sieben Dr & Featherstone Rd (Side-Street Stop)*	EBTR		A	0.2	0	A	0.0	0	A	1.0	8	A	0.3	3
	WBLT		A	1.8	8	A	2.3	59	A	3.3	68	A	1.9	26
	NBL		A	4.5	29	A	7.2	50	A	7.6	42	A	4.8	51
	NBR	150'	A	1.3	43	A	0.8	43	A	3.1	66	A	3.3	49
	Worst Mvmnt.		A	4.5		A	7.2		A	7.6		A	4.8	
132nd St E (CSAH 42) & Lock Blvd (Side-Street Stop)	EBLT		A	0.0	0							A	1.3	4
	EBT		A	0.0	0							A	0.8	0
	WBR	300'	A	0.0	0							A	0.6	0
	WBT		A	0.0	0							A	0.0	0
	SBLR		A	2.9	29							A	3.1	28
	Worst Mvmnt.		A	2.9								A	3.1	
Nininger Rd (CSAH 42) & Monroe St (Side-Street Stop)	EBT		A	0.0	0							A	0.5	0
	EBR	300'	A	0.0	0							A	0.0	3
	WBLT		A	1.1	9							A	1.2	16
	WBT		A	0.0	0							A	0.4	0
	NBLR		A	4.1	30							A	3.9	25
	Worst Mvmnt.		A	4.1								A	3.9	
Nininger Rd (CSAH 42) & Madison St (Side-Street Stop)	EBT		A	0.0	0							A	0.5	0
	EBR	300'	A	0.0	0							A	0.0	0
	WBLT		A	1.0	10							A	0.9	14
	WBT		A	0.0	0							A	0.5	0
	NBLR		A	2.9	30							A	4.1	23
	Worst Mvmnt.		A	2.9								A	4.1	
Nininger Rd (CSAH 42) & Pleasant Dr (Side-Street Stop)	EBT		A	0.0	0							A	0.6	0
	EBR	300'	A	0.0	0							A	0.1	0
	WBLT		A	1.2	31							A	1.3	3
	WBT		A	0.0	0							A	1.1	0
	NBL		A	5.4	36							A	5.0	32
	NBR	100'	A	2.4	43							A	2.2	44
	Worst Mvmnt.		A	5.4								A	5.0	
Pleasant Dr & Jefferson St (Side-Street Stop)	EBLR		A	3.5	41							A	3.7	41
	NBLT		A	0.4	7							A	0.5	7
	SBTR		A	0.0	0							A	0.3	0
	Worst Mvmnt.		A	3.5								A	3.7	

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Table A - 2. 2030 No-Build Peak Hour Operations

Intersection (Control)	Lane Group	Bay	GENERAL AM PEAK			15 MIN AM PEAK			SCHOOL PM PEAK			PM PEAK		
			LOS	Delay	Q	LOS	Delay	Q	LOS	Delay	Q	LOS	Delay	Q
General Sieben Dr & 4th St W (All-Way Stop)*	EBL	100'	A	5.3	16	A	6.1	27	A	5.7	39	A	4.5	30
	EBTR		A	5.0	41	A	6.0	57	A	9.6	102	A	6.0	54
	WBL	100'	A	4.8	49	A	7.1	58	A	7.8	65	A	5.2	66
	WBTR		A	7.7	56	A	7.6	72	A	9.5	60	B	10.9	54
	NBLT		A	6.5	55	B	12.7	177	A	8.5	70	A	6.6	47
	NBTR		A	3.5	52	A	8.3	139	A	5.2	62	A	3.5	48
	SBLTR		A	6.3	59	B	11.1	124	B	12.7	145	A	6.6	57
	Overall		A	5.6		B	10.4		A	9.4		A	6.1	
General Sieben Dr & Featherstone Rd (Side-Street Stop)*	EBTR		A	0.2	0	A	0.0	0	A	1.0	5	A	0.3	26
	WBLT		A	1.7	8	A	2.5	67	A	3.2	66	A	1.9	50
	NBL		A	4.9	26	A	9.6	51	A	7.8	44	A	5.0	49
	NBR	150'	A	1.3	44	A	0.8	47	A	3.2	70	A	3.2	0
	Worst Mvmnt.		A	4.9		A	9.6		A	7.8		A	5.0	
132nd St E (CSAH 42) & Lock Blvd (Side-Street Stop)	EBLT		A	0.0	0							A	0.8	3
	WBR	300'	A	0.0	0							A	0.6	0
	WBT		A	0.0	0							A	0.0	0
	SBLR		A	2.8	28							A	3.2	29
	Worst Mvmnt.		A	2.8								A	3.2	
Nininger Rd (CSAH 42) & Monroe St (Side-Street Stop)	EBT		A	0.0	0							A	0.0	0
	EBR	300'	A	0.0	0							A	0.0	0
	WBLT		A	0.3	9							A	0.6	15
	NBLR		A	3.7	27							A	3.7	25
	Worst Mvmnt.		A	3.7								A	3.7	
Nininger Rd (CSAH 42) & Madison St (Side-Street Stop)	EBTR		A	0.4	0							A	0.5	0
	WBLT		A	0.4	9							A	0.7	15
	NBLR		A	3.2	43							A	3.8	31
	Worst Mvmnt.		A	3.2								A	3.8	
Nininger Rd (CSAH 42) & Pleasant Dr (Side-Street Stop)	EBT		A	0.0	0							A	0.7	0
	EBR	300'	A	0.0	2							A	0.1	2
	WBL	200'	A	1.4	34							A	1.3	33
	WBT		A	0.0	0							A	1.0	0
	NBL		A	5.6	37							A	5.3	46
	NBR	100'	A	2.1	44							A	2.3	46
	Worst Mvmnt.		A	5.6								A	5.3	
Pleasant Dr & Jefferson St (Side-Street Stop)	EBLR		A	3.1	42							A	3.7	40
	NBLT		A	0.5	9							A	0.5	11
	SBTR		A	0.0	0							A	0.2	0
	Worst Mvmnt.		A	3.1								A	3.7	

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Table A - 3. 2040 No-Build Peak Hour Operations

Intersection (Control)	Lane Group	Bay	GENERAL AM PEAK			15 MIN AM PEAK			SCHOOL PM PEAK			PM PEAK		
			LOS	Delay	Q	LOS	Delay	Q	LOS	Delay	Q	LOS	Delay	Q
General Sieben Dr & 4th St W (All-Way Stop)*	EBL	100'	A	4.8	16	A	6.8	25	A	5.9	36	A	4.5	30
	EBTR		A	4.8	41	A	6.9	60	B	10.7	109	A	6.9	61
	WBL	100'	A	4.8	49	A	7.5	54	A	8.6	74	A	5.7	73
	WBTR		A	8.2	60	A	8.2	78	B	10.5	58	B	11.8	54
	NBLT		A	7.2	77	C	15.1	210	A	8.8	71	A	6.9	49
	NBTR		A	3.8	63	A	9.3	170	A	5.3	58	A	3.4	49
	SBLTR		A	6.4	61	B	11.9	147	B	13.5	153	A	7.0	60
	Overall		A	5.8		B	11.7		B	10.1		A	6.4	
General Sieben Dr & Featherstone Rd (Side-Street Stop)*	EBTR		A	0.2	0	A	0.0	0	A	1.0	7	A	0.3	21
	WBLT		A	1.9	21	A	2.4	4	A	3.4	69	A	2.0	51
	NBL		A	4.6	37	A	7.7	59	A	7.7	41	A	5.2	49
	NBR	150'	A	1.5	49	A	0.8	52	A	3.2	69	A	3.2	0
	Worst Mvmnt.		A	4.6		A	7.7		A	7.7		A	5.2	
132nd St E (CSAH 42) & Lock Blvd (Side-Street Stop)	EBLT		A	0.0	0							A	0.8	2
	WBR	300'	A	0.0	0							A	0.7	0
	WBT		A	0.0	0							A	0.0	0
	SBLR		A	2.7	31							A	3.0	28
	Worst Mvmnt.		A	2.7								A	3.0	
Nininger Rd (CSAH 42) & Monroe St (Side-Street Stop)	EBT		A	0.0	0							A	0.0	0
	EBR	300'	A	0.0	0							A	0.0	0
	WBLT		A	0.3	9							A	0.7	21
	NBLR		A	4.6	29							A	4.5	29
	Worst Mvmnt.		A	4.6								A	4.5	
Nininger Rd (CSAH 42) & Madison St (Side-Street Stop)	EBTR		A	0.5	0							A	0.5	0
	WBLT		A	0.4	7							A	0.7	21
	NBLR		A	3.4	44							A	4.5	28
	Worst Mvmnt.		A	3.4								A	4.5	
Nininger Rd (CSAH 42) & Pleasant Dr (Side-Street Stop)	EBT		A	0.0	0							A	0.7	0
	EBR	300'	A	0.0	2							A	0.1	2
	WBL	200'	A	1.3	30							A	1.4	33
	WBT		A	0.0	0							A	1.0	0
	NBL		A	5.6	40							A	5.1	44
	NBR	100'	A	2.3	44							A	2.3	43
	Worst Mvmnt.		A	5.6								A	5.1	
Pleasant Dr & Jefferson St (Side-Street Stop)	EBLR		A	3.4	46							A	3.8	41
	NBLT		A	0.5	10							A	0.6	10
	SBTR		A	0.0	0							A	0.3	0
	Worst Mvmnt.		A	3.4								A	3.8	

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Table A - 4. 2030 Phase 1 Build Peak Hour Operations

Intersection (Control)	Lane Group	Bay	GENERAL AM PEAK			15 MIN AM PEAK			SCHOOL PM PEAK			PM PEAK		
			LOS	Delay	Q	LOS	Delay	Q	LOS	Delay	Q	LOS	Delay	Q
General Sieben Dr & 4th St W (All-Way Stop)*	EBL	100'	A	3.0	11	A	8.3	28	A	5.8	38	A	4.8	32
	EBTR		A	4.7	44	A	7.1	60	A	9.8	98	A	8.2	72
	WBL	100'	A	4.9	51	A	6.9	53	A	7.9	65	A	6.8	83
	WBTR		A	7.8	54	A	7.9	72	A	9.5	60	B	13.1	62
	NBLT		A	6.7	60	B	14.5	181	A	8.8	72	B	11.4	129
	NBTR		A	3.7	59	A	9.0	145	A	5.5	59	A	7.8	123
	SBLTR		A	6.6	66	B	13.9	173	B	14.4	161	A	7.9	72
	Overall		A	5.8		B	11.9		B	10.1		A	8.8	
General Sieben Dr & Featherstone Rd (Side-Street Stop)*	EBLTR		A	0.3	0	A	0.6	0	A	1.1	10	A	0.5	11
	WBLTR		A	1.7	19	A	2.4	57	A	3.3	62	A	2.0	27
	NBLT		A	5.2	41	A	8.1	51	A	9.7	59	A	6.4	67
	NBR	150'	A	1.4	40	A	0.9	40	A	3.8	67	A	3.9	45
	SBL		A	5.0	19	B	10.4	35	A	9.3	33	A	6.2	30
	SBTR		A	5.9	38	A	8.3	53	A	8.2	52	A	6.3	49
	Worst Mvmnt.		A	5.9		B	10.4		A	9.7		A	6.4	
132nd St E (CSAH 42) & Lock Blvd (Side-Street Stop)	EBLT		A	0.0	0							A	0.9	27
	WBR	300'	A	0.0	0							A	0.6	0
	WBT		A	0.0	0							A	0.1	0
	SBLR		A	2.7	30							A	3.3	0
	Worst Mvmnt.		A	2.7								A	3.3	
Nininger Rd (CSAH 42) & Monroe St (Side-Street Stop)	EBT		A	0.0	0							A	0.0	0
	EBR	300'	A	0.0	0							A	0.0	0
	WBLT		A	0.4	13							A	0.6	26
	NBLR		A	4.4	28							A	4.0	0
	Worst Mvmnt.		A	4.4								A	4.0	
Nininger Rd (CSAH 42) & Madison St (Side-Street Stop)	EBTR		A	0.4	0							A	0.5	0
	WBLT		A	0.4	8							A	0.6	18
	NBLR		A	3.3	43							A	4.0	29
	Worst Mvmnt.		A	3.3								A	4.0	
Nininger Rd (CSAH 42) & Pleasant Dr (Side-Street Stop)	EBT		A	0.0	0							A	0.7	0
	EBR	300'	A	0.0	2							A	0.1	30
	WBL	200'	A	1.4	36							A	1.3	45
	WBT		A	0.0	0							A	1.0	0
	NBL		A	5.8	39							A	4.2	43
	NBR	100'	A	2.2	44							A	2.2	0
	Worst Mvmnt.		A	5.8								A	4.2	
Pleasant Dr & Jefferson St (Side-Street Stop)	EBLR		A	3.0	41							A	3.9	42
	NBLT		A	0.4	10							A	0.6	15
	SBTR		A	0.0	0							A	0.3	0
	Worst Mvmnt.		A	3.0								A	3.9	

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Table A - 5. 2040 Full Build – Full Access Layout Peak Hour Operations

Intersection (Control)	Lane Group	Bay	GENERAL AM PEAK			15 MIN AM PEAK			SCHOOL PM PEAK			PM PEAK		
			LOS	Delay	Q	LOS	Delay	Q	LOS	Delay	Q	LOS	Delay	Q
General Sieben Dr & 4th St W (All-Way Stop)*	EBL	100'	A	3.5	12	A	6.6	31	A	7.1	49	A	5.8	37
	EBTR		A	5.0	44	A	8.1	64	B	12.3	115	A	9.2	77
	WBL	100'	A	5.4	47	A	7.9	53	A	9.3	69	A	8.4	92
	WBTR		A	8.2	58	A	9.0	79	B	10.3	63	B	13.6	65
	NBLT		A	7.1	65	C	18.0	208	A	10.0	84	A	9.3	80
	NBTR		A	4.1	51	B	10.5	171	A	6.6	68	A	6.2	76
	SBLTR		A	8.1	100	C	18.9	231	D	27.5	291	B	10.5	100
	Overall		A	6.6		B	15.0		C	15.3		A	9.1	
General Sieben Dr & Featherstone Rd (Side-Street Stop)*	EBLTR		A	0.2	0	A	0.8	0	A	1.2	15	A	0.5	7
	WBLTR		A	1.7	18	A	2.8	14	A	3.7	67	A	2.0	30
	NBLT		A	5.9	47	B	10.4	59	B	10.8	76	A	7.7	90
	NBR	150'	A	1.6	48	A	1.0	64	A	3.8	71	A	5.7	48
	SBL		A	5.4	43	A	9.1	42	A	9.9	10	A	6.5	40
	SBTR		A	6.6	61	B	11.8	46	A	9.7	14	A	7.1	56
	Worst Mvmnt.		A	6.6		B	11.8		B	10.8		A	7.7	
132nd St E (CSAH 42) & Lock Blvd (Side-Street Stop)	EBLTR		A	0.6	0							A	1.1	4
	WBR	300'	A	0.7	0							A	1.1	0
	WBLT		A	0.0	0							A	0.1	11
	NBLTR		A	4.4	42							A	5.5	11
	SBLTR		A	2.9	30							A	4.0	32
	Worst Mvmnt.		A	4.4								A	5.5	
Nininger Rd (CSAH 42) & Monroe St (Side-Street Stop)	EBT		A	0.0	0							A	0.0	0
	EBR	300'	A	0.0	0							A	0.0	0
	WBLT		A	0.5	14							A	0.8	21
	NBLR		A	3.8	33							A	4.2	31
	Worst Mvmnt.		A	3.8								A	4.2	
Nininger Rd (CSAH 42) & Madison St (Side-Street Stop)	EBTR		A	0.5	0							A	0.6	0
	WBLT		A	0.4	8							A	0.8	19
	NBLR		A	3.6	45							A	3.9	30
	Worst Mvmnt.		A	3.6								A	3.9	
Nininger Rd (CSAH 42) & Pleasant Dr (Side-Street Stop)	EBT		A	0.0	0							A	0.8	0
	EBR	300'	A	0.0	3							A	0.1	38
	WBL	200'	A	1.4	35							A	1.6	46
	WBT		A	0.0	0							A	1.2	0
	NBL		A	6.3	39							A	4.5	45
	NBR	100'	A	2.3	44							A	2.5	0
	Worst Mvmnt.		A	6.3								A	4.5	
Pleasant Dr & Jefferson St (Side-Street Stop)	EBLR		A	3.4	45							A	3.7	43
	NBLT		A	0.4	6							A	0.7	14
	SBTR		A	0.0	0							A	0.4	0
	Worst Mvmnt.		A	3.4								A	3.7	

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Table A - 6. 2040 Full Build – Three Access Layout Peak Hour Operations

Intersection (Control)	Lane Group	Bay	GENERAL AM PEAK			15 MIN AM PEAK			SCHOOL PM PEAK			PM PEAK		
			LOS	Delay	Q	LOS	Delay	Q	LOS	Delay	Q	LOS	Delay	Q
General Sieben Dr & 4th St W (All-Way Stop)*	EBL	100'	A	3.9	12	A	6.4	27	A	6.8	52	A	5.7	32
	EBTR		A	4.5	43	A	7.8	61	B	12.4	115	A	9.7	78
	WBL	100'	A	5.7	47	A	8.3	57	A	9.3	70	A	8.5	88
	WBTR		A	8.1	56	A	9.3	86	A	10.0	62	B	13.6	66
	NBLT		A	7.2	68	C	19.8	224	B	12.7	145	B	10.1	89
	NBTR		A	4.1	53	B	10.7	205	A	9.6	128	A	6.4	73
	SBLTR		A	8.1	101	C	23.3	265	D	27.8	286	B	10.9	106
	Overall		A	6.6		C	16.8		C	16.4		A	9.5	
General Sieben Dr & Featherstone Rd (Side-Street Stop)*	EBLTR		A	0.6	0	A	0.8	0	A	1.1	17	A	0.8	14
	WBLTR		A	1.8	8	A	2.7	18	A	3.5	63	A	2.0	28
	NBLT		A	6.4	37	B	10.4	49	B	11.2	75	A	8.1	94
	NBR	150'	A	1.6	53	A	1.0	58	A	4.0	74	A	6.2	49
	SBL		A	5.4	46	A	8.9	44	B	11.4	9	A	7.2	39
	SBTR		A	6.7	53	B	12.2	8	A	9.5	10	A	7.2	63
	Worst Mvmnt.		A	6.7		B	12.2		B	11.4		A	8.1	
132nd St E (CSAH 42) & Lock Blvd (Side-Street Stop)	EBLT		A	0.0	0							A	0.9	3
	WBR	300'	A	0.0	0							A	0.8	0
	WBT		A	0.0	0							A	0.1	0
	SBLR		A	2.9	32							A	3.5	28
	Worst Mvmnt.		A	2.9								A	3.5	
Nininger Rd (CSAH 42) & Monroe St (Side-Street Stop)	EBT		A	0.0	0							A	0.0	0
	EBR	300'	A	0.0	0							A	0.0	0
	WBLT		A	0.5	14							A	0.9	32
	NBLR		A	4.7	34							A	4.5	0
	Worst Mvmnt.		A	4.7								A	4.5	
Nininger Rd (CSAH 42) & Madison St (Side-Street Stop)	EBTR		A	0.5	0							A	0.6	0
	WBLT		A	0.5	10							A	0.8	23
	NBLR		A	3.8	48							A	4.4	34
	Worst Mvmnt.		A	3.8								A	4.4	
Nininger Rd (CSAH 42) & Pleasant Dr (Side-Street Stop)	EBT		A	0.0	0							A	0.8	0
	EBR	300'	A	0.0	5							A	0.1	38
	WBL	200'	A	1.5	33							A	1.5	45
	WBT		A	0.0	0							A	1.2	0
	NBL		A	6.2	39							A	4.3	47
	NBR	100'	A	2.5	44							A	2.5	0
	Worst Mvmnt.		A	6.2								A	4.3	
Pleasant Dr & Jefferson St (Side-Street Stop)	EBLR		A	3.4	46							A	4.2	43
	NBLT		A	0.5	11							A	0.7	16
	SBTR		A	0.0	0							A	0.4	0
	Worst Mvmnt.		A	3.4								A	4.2	

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