DAYTON 94

DRAFT ENVIRONMENTAL ASSESSMENT WORKSHEET (EAW)

CITY: DAYTON

COUNTY: HENNEPIN

Responsible Government Unit (RGU)

City of Dayton
12260 South Diamond Lake Road
Dayton, MN 55327
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Prepared by:

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ENVIRONMENTAL ASSESSMENT WORKSHEET

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

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

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

1. Project Title: Dayton 94

2. Proposer: Inland Development

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3. RGU: City of Dayton

Contact Person:	Tina Goodroad
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City, State, ZIP:	Dayton, MN 55327
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4. Reason for EAW Preparation: (Check One)

Required	Discretionary
☐EIS Scoping	☐Citizen petition
☒Mandatory EAW	☐RGU discretion
	☐Proposer initiated

If EAW or EIS is mandatory give EQB rule category subpart number(s) and name(s):
4410.4300 Subp 14.A.(2). Industrial, Commercial, and Industrial Facilities, third or fourth class city.

5. Project Location

County:	Hennepin
City/Township:	Dayton
PLS Location (¼, ¼, Section, Township, Range):	SW ¼ of SE ¼ of Section 30, Township 120N, Range 22W and NW ¼ of NE ¼ of Section 31, Township 120N, Range 22W
Watershed (81 major watershed scale):	Mississippi River – Twin Cities
GPS Coordinates:	Approximately 45°10'01.61"N, -93°30'38.20"W
Tax Parcel Number:	3012022430003 and 3112022120005

See Appendix A for the Project Location figure.

6. Project Description

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

The Dayton 94 project is a proposed warehouse on an existing 25 acre agricultural area in the City of Dayton, Hennepin County, Minnesota. The project includes the construction of a 333,750 square foot warehouse/office building located off County Road 81 (CSAH 81) near the intersection of Troy Lane. The project includes a warehouse facility, new driveway, paved parking areas, stormwater features, and installation of municipal sewer and water systems. In addition, the extension of Troy Lane roadway will occur immediately north of the Dayton 94 warehouse facility.

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

Inland Development (the project proposer) proposes to construct a 333,750 square foot warehouse on an approximately 25-acre site that predominately consists of agricultural land in the southwestern part of the City of Dayton, Hennepin County, Minnesota. The project is located along CSAH 81, approximately ½ mile east of Brockton Lane (CSAH 13), near Troy Lane (Appendix A, Figure 1). The development will consist of the warehouse, parking spaces, stormwater ponds, municipal sewer and water systems, and electric utilities (Appendix A, Figure 2). In addition, the extension of Troy Lane roadway will occur immediately north of the Dayton 94 warehouse facility.

The site currently consists of agricultural lands, including crop fields, woodland, and a farmstead. The project site is comprised of two parcels which are summarized below (Table 1).

Table 1. Parcels within the Project Site for Industrial Development

Parcel ID	Parcel Size (Acres)	Current Use	Project Details
3012022430003	11.06	Agriculture	No existing infrastructure
3112022120005	13.94	Agriculture	Existing farmstead to be removed

The development will require clearing trees and mass grading over the agriculture areas to properly prepare the site for construction of roads, utilities, industrial building pad, and stormwater features. There is an existing farmstead located in the project site on parcel 3112022120005. This farmstead will be demolished and removed prior to beginning construction of the project.

The industrial development will be served by two accesses. The primary entrance off CSAH 81 will have limited access for right in/right out only to CSAH 81. The secondary entrance will be an extension of Troy Lane to the north and west for project.

Stormwater will be managed on site through the construction of a stormwater pond located in the northeast corner of the property and storm sewer infrastructure. Wastewater from the industrial development will be routed to the Metropolitan Council Wastewater Treatment Facility. Water will be supplied through a new connection to the City of Dayton's water supply.

It is anticipated that the construction of the project will start in spring 2022 based on permit and approval and be completed by June 2023.

c. Project magnitude:

Table 2. Project Magnitude Data

Total Project Acreage	25 acres
Linear project length	1,944*
Number and type of residential units	N/A
Commercial building area (in square feet)	N/A
Industrial building area (in square feet)	333,750 SQFT
Institutional building area (in square feet)	N/A
Other uses – specify (in square feet)	Stormwater ponds: 146,710 SQFT Outside Storage and Parking: 310,000 SQFT
Structure height(s)	40 FT

*Troy Lane extension roadway bordering Dayton 94 project

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 proposed project is to develop an industrial site in the City of Dayton. Based on the City of Dayton's Draft 2040 Comprehensive Plan, the City has designated this area of the community for future industrial related businesses.

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.

There are no future stages of this development that are planned or likely to occur.

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

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

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

7. Cover Types

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

Table 3. Land Cover of the Project Site Before and After the Proposed Development

Land Cover Type	Before (acres)	After (acres)
Cropland	18	0
Wetland	0.6	0.4
Residential	0.4	0
Warehouse	0	7.4

Land Cover Type	Before (acres)	After (acres)
Forest	4	0
Open Grassland	2	0
Impervious Surface	0	8.1
Stormwater basin	0	3.6
Lawn/Landscaping	0	5.5
TOTAL	25	25

See Appendix A, Figures 3 and 4 for a graphic representation of this data.

8. Permits and Approvals Required

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

The permits listed below in Table 4 are the permits required for the proposed project.

Table 4. Required Permits and Approvals for the Proposed Project

Unit of Government	Types of Application	Status
Federal		
U.S. Army Corps of Engineers	Clean Water Act Section 404 Permit	Submitted, pending approval
U.S. Fish and Wildlife Service	ESA Section 7 Consultation	To be submitted, if needed
State		
Minnesota Department of Health (MDH)	Watermain Extension Permit	To be submitted
Minnesota Department of Natural Resources (MN DNR)	Water Appropriation Permit	To be submitted, if needed
	MN DNR NHIS Concurrence Letter	Approved
Minnesota Pollution Control Agency (MPCA)	National Pollution Discharge Elimination System (NPDES)/State Disposal System (SDS) General Permit	To be submitted
	Construction Stormwater Pollution Prevention Plan (SWPPP)	To be submitted
	Sanitary Sewer Extension Approval	To be submitted
	Section 401 Water Quality Certification or Waiver	To be applied for, if needed
Local		
Elm Creek Watershed Management Commission	Stormwater, Erosion Control, and Site Plan Approval	To be submitted
Hennepin County	Access Permit(s)	To be submitted
	Right-of-Way Permit	To be submitted
City of Dayton	Land Disturbance Permit	To be submitted
	Municipal Water Connection Permit	To be submitted

Unit of Government	Types of Application	Status
City of Dayton	Sanitary Sewer Connection Permit	To be submitted
	Grading Permit	To be submitted
	Building Permit	To be submitted
	Stormwater Management Plan	To be submitted
	Rezoning and Preliminary Plat	To be submitted
	Final Plat Approval	To be submitted
	Wetland Conservation Act Delineation Boundary Concurrence	Approved
	Wetland Replacement Plan Approval	Submitted, pending approval

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

9. Land Use

a. Describe:

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

The existing land use of the property is agriculture (Appendix A, Figure 5). The immediate surrounding land use, as described in the City's Existing Land Use plan, include the following:

- Land use *north* and *east* from the project site: Agriculture land use exists to the north and east of the project site and rural residential to the east.
- Land use *west* and *south* from the project site: Industrial land use that includes industrial properties along Troy Lane N and industrial properties south across CSAH 81.

In addition to the land use plan, the following features are located near the project site. These include:

- Grace Full Gospel Christian Church bordering the project site to the west. The church is located off of Troy Lane N.
- Manufactured home community to the west of the project located off of Brockton Lane N
- French Lake – approximately ¼ mile north of the project site

There are no parks or trails within the immediate vicinity of the project site. See Appendix A, Figure 7.

The entire project site is considered prime farmland or prime farmland if drained based on the USDA NRCS Web Soil Survey. Further discussion about soils within the project site is provided in Item 10.

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 located in southwest Dayton which is designated as a high priority for redevelopment. A small area plan for Southwest Dayton is being prepared by the City and is described briefly in the 2040 Comprehensive Plan.

The planned future land use for the area, per the City of Dayton's Draft 2040 Comprehensive Plan, is industrial (Appendix A, Figure 6; City of Dayton, 2020). This includes the project site and the immediate area surrounding the entire site. This category includes manufacturing, warehousing, light-industrial, and office-warehouse development.

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

According to the 2020 City of Dayton Zoning Map, the property is currently shown as A-1 Agricultural District. The properties immediately to the north and east of the project are zoned as A-1 Agricultural District and the properties immediately to the south and west are B-3 General Business District (City of Dayton, 2020).

The proposed project site will be re-zoned to I-1 Light Industrial District as part of the re-zoning permit application.

There are no special districts or overlays for this project site.

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

The project's proposed industrial land use is compatible with adjacent land uses, zoning, and plans. The adjacent properties to the west are currently light industrial. The future land uses for the area to the east is industrial and business park. The proposed development will incorporate mitigation measures to minimize environmental effects as discussed in the following sections of this EAW.

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

The project proposes to incorporate a road stub extension to the adjacent properties. In the future, the surrounding area has the potential to become a larger industrial district and is compatible with surrounding future development in Dayton.

10. Geology, Soils and Topography/Land Forms

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

A review of the Geologic Atlas of Hennepin County indicated that the bedrock geology of the project site primarily consists dolomitic siltstone of the St. Lawrence Formation in the southwest corner of the property, then quartzone sandstone of the Mazomanie Formation, and feldspathic sandstone of the Lone Rock Formation to the northeast (Retzler, 2018). Depth to bedrock slopes increases towards the east from approximately 220' in the southwest corner to 250' in the northeast (Retzler, 2018). The surficial geology of the project consists of loamy glacial outwash tills (Berthold, 2018).

Based on the Minnesota Department of Natural Resources (MN DNR) karst database, the project site does not occur within active karst and thus the risk for sinkholes on the property is low. Additionally, there are no unconfined/shallow aquifers present on site.

Well records from the Minnesota Well index indicates that there is an active domestic well associated with the existing homestead on the property. The well was installed in 1986 to a depth of 96'. Prior to construction, the well will be properly sealed and abandoned by following Minnesota Department of Health's (MDH) regulations.

b. *Soils and topography - Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 11.b.ii.*

The USDA NRCS Web Soil Survey indicates that the project site includes 3 soil mapping units that consist mostly of poorly drained loams that are non-hydric soils and partially hydric (Appendix A, Figure 8; Table 5.). The soils have varying levels of limitations for building site development and local roads that include factors such as slow water movement, high groundwater, a high degree of frost action, and low to moderate corrosiveness to concrete, and high corrosiveness to steel. The Web Soil Survey indicates that the soils in the area are generally considered moderately susceptible to sheet and rill erosion by water, as indicated by K factors that range between 0.32 to 0.43. The hydrologic soil group is rated C/D; therefore, infiltration of stormwater is not recommended.

The grading operations during construction is expected to affect approximately 25 acres and require an estimated 85,500 cubic yards of grading. The grading will involve the movement of soil to construct the building foundation, pavements, and stormwater features.

Table 5. Soil Classifications on the Project Site

Symbol	Soil Name	% of Project Site	% Hydric	Hydric Category	Farmland Category
L35A	Lerdal loam, 1 to 3 percent slopes	31.5%	15	Predominantly Non-hydric	All areas are prime farmland
L44A	Nessel loam, 1 to 3 percent slopes	2.8%	10	Predominantly Non-hydric	All areas are prime farmland
L45A	Dundas-Cordova complex, 0 to 3 percent slopes	65.8%	30	Partially hydric	Prime farmland if drained

The existing topography in the project site ranges from 932 to 950 feet above sea level. The lowest elevation occurs in the northeast corner of the property and generally increases towards the southwest corner of the property. Review of the two-foot contour mapping shows that the stormwater pond is proposed in the lowest areas.

The development of the area will disturb more than one acre of land. Therefore, the project will require an MPCA Construction SWPPP prior to initiation of earthwork. In compliance with the General NPDES Permit for construction activities, the project proponent and construction contractor will implement Best Management Practices (BMPs) to reduce erosion and sedimentation and stabilize exposed soils after construction. Erosion and sediment control BMPs related to stormwater runoff are discussed in greater detail within Item 11.b.ii.

NOTE: For silica sand projects, the EAW must include a hydrogeologic investigation assessing the potential groundwater and surface water effects and geologic conditions that could create an increased risk of potentially significant effects on groundwater and surface water. Descriptions of water resources and potential effects from the project in EAW Item 11 must be consistent with the geology, soils and topography/land forms and potential effects described in EAW Item 10.

11. Water Resources

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

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

Alliant Engineering completed a wetland delineation of the Dayton 94 site in May 2021. The City of Dayton approved the delineation and issued the Notice of Decision in June 2021. The project identified three wetlands on site that total 0.55 acres. See Table 6 below. The wetland delineation report and Notice of Decision are included in Appendix B.

Table 6. Wetlands Located Within the Project Site

Wetland ID	Size (ac)[1]	Wetland Type			Latitude	Longitude
		Circular 39	Cowardin	Eggers and Reed		
Wetland 1	0.38	1/2	PEMAf/PFOA	Farmed seasonally flooded basin	45.168675	-93.511131
Wetland 2	0.03	2	PEMB	Wet meadow	45.166196	-93.508863
Wetland 3	0.14	1	PEMAf	Farmed seasonally flooded basin	45.168088	-93.509867

[1]Approximate size of wetlands. Size includes the wetland size within the project site only.

According to the MN DNR Public Waters Inventory, there are no public water wetlands, basins, or waterways present on the project site. However, there is a public water basin located within 0.5 mile of the project site. This public water basin is French Lake, DNR ID (27-127P) and it is an approximately 350 acre lake located directly north of the project site (Appendix A, Figure 9).

According to the MPCA impaired waters inventory, French Lake is not listed as an impaired water and does not have any special designation. French Lake connects to an impaired MN DNR public waterway, Diamond Creek (MPCA ID 07010206-525), at the northern end of the lake. Diamond Creek is impaired due to aquatic life and aquatic recreation specifically dissolved oxygen, fish and benthic macroinvertebrates bioassessments, and E.coli. However, Diamond Creek is located just over a mile away from the project site.

The National Hydrography Map (NHD) did not identify any water resources present on the project site.

The National Wetland Inventory (NWI) map identified three PEM1A wetlands on site. Based on the wetland delineation, two of the NWI wetlands were located on site and correspond to Wetland 1 and Wetland 2. Wetland 3 is a farmed wetland located in the northern part of the project site (Appendix A, Figure 10).

Additionally, the project site does not overlap with any trout stream/lake, wildlife lake, migratory waterfowl feeding/resting lake, or outstanding resource value water.

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

The groundwater on site varies by location. In the wetland areas, the water table was not evident within 15-22 inches of the soil surface; however, there was saturation within 10 inches of the soil surface in areas indicating the water table was nearby.

A geotechnical investigation was conducted by Braun Intertec in 2021. Their soil boring data revealed that there was no groundwater present within 20.5 to 24.5 feet of the ground surface.

The project site is located on the quaternary buried aquifer. Based on the MN DNR's Minnesota Spring Inventory, there are no springs or seeps located within the project site.

The project site is not located within a MDH wellhead protection area and not within a Drinking Water Supply Management Area (DWSMA). The project site is 1.5 miles southeast of the Rogers South DWSMA and approximately 3.8 miles northwest of the Maple Grove DWSMA.

MDH Well Index indicates that there is one private well, ID 410668, located on site near the existing residence. See Table 7 below for more information on the well and (Appendix A, Figure 11; Appendix C).

Table 7. Domestic Water Wells Located Within and Near the Project Site

Well No.	Surface Elevation (ft)	Use	Depth (ft)	Cased Depth (ft)	Depth to Static Water Level (ft)	Aquifer	Within Project Site?
410668	944	Domestic	96	96	70	Quaternary buried	Yes
565068	943	Domestic	86	81	60	Quaternary buried	No
743427	947	Industrial	163	155	65	Quaternary buried	No
523944	943	Domestic, Industry/ Commercial	113	108	24	Quaternary buried	No
470624	943	Commercial	350	262	65	Tunnel City	No
492238	943	Domestic	255	234	60	Tunnel	No
555243	945	Domestic	78	73	50	Quaternary buried	No
500596	938	Domestic	78	73	60	Quaternary buried	No
179023	935	Domestic	94	94	89	Quaternary buried	No
183911	936	Domestic	122	118	65	Quaternary buried	No
745303	919	Domestic	84	80	30	Quaternary buried	No

* Data was taken from the MDH's Well Index (https://mnwellindex.web.health.state.mn.us/)

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

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

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

The project is expected to produce domestic wastewater that is typical of light industrial and office-warehouse developments. The project will not include any heavy industrial wastewater production. There will be no onsite sanitary wastewater treatment as part of this project. The City of Dayton's Comprehensive Sewer Plan designates this property within the sanitary sewer flow projections that is based on the future land use plan. The future land use plan for the City of Dayton shows this property as mixed use.

The project will connect to an existing sanitary sewer line located off of CSAH 81. Wastewater on site will flow through an 8" pipe installed on site by way of gravity. The sanitary sewer will connect to the Dayton Connection sanitary sewer that goes to the Metropolitan Council Environmental Services (MCES) Elm Creek Interceptor located off of Holy Lane near the Dayton/Maple Grove border.

The Elm Creek Interceptor ultimately flows to the Metropolitan Wastewater Treatment Plant (MWWTP) in St. Paul. This wastewater plant is located approximately three miles south of downtown St. Paul near Pig's Eye Lake on the Mississippi River. The MWWTP has a capacity to treat 251 million gallons of wastewater per day (MGD). Metropolitan Council's 2040 Water Resources Policy Plan includes a specific plan to serve the region's projected growth through 2040 and beyond 2040.

Sanitary wastewater production was estimated based on methods outlined in the Sewer Availability Charge (SAC) Procedure Manual (Metropolitan Council, 2022). Metropolitan Council has established 274 gallons per day (GPD) as the average daily wastewater production from a typical residential unit. For this proposed development, wastewater generation is estimated based on SAC unit equivalents for the warehouse space. The project is expected to generate about 16,607 gallons of wastewater per day based on the SAC guidance (Table 8).

The following analysis for municipal/domestic waste is based upon the information from the Metropolitan Council's SAC procedure and the site concept plan.

Table 8. Estimated Wastewater Generation

Land Use	Floor Space (SQFT)	SQFT/SAC Unit	SAC Units	Wastewater Gallons/Day
Office	33,375	2,650	12.59	3,450
Warehouse	300,375	6,950	43.22	13,157
Total	333,750		55.81	16,607

2) *If the wastewater discharge is to a subsurface sewage treatment systems (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system.*

Wastewater will not be discharged to subsurface sewage treatment systems.

3) *If the wastewater discharge is to surface water, identify the wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges.*

Wastewater will be treated at the MWWTP facility in St. Paul and discharged into the Mississippi River. The MWWTP plant uses primary and secondary wastewater treatment methods before it is discharged into the Mississippi River.

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

Pre-Construction Site Runoff

The existing runoff from the project site likely contains sediments, pesticides, fertilizers, and other nutrients typical of an existing agriculture area. The majority of the runoff on site drains northeast towards a wetland complex on the adjacent property to the east.

Construction Site Runoff

During construction, there will likely be an increase in runoff from suspended solids, heavy metals, and oil/grease. Stormwater and erosion control BMPs will be installed on the property prior to construction to reduce erosion and sediment loading into stormwater runoff. See details on these BMPs that will be used on site below.

Stormwater and Erosion Control BMPs

Prior to construction, the project proponent will be required to submit an application to the MPCA for coverage under the NPDES/SDS General Permit since the project will involve the disturbance of more than one acre of land. In addition, the City of Dayton will review and accept these plans prior to the start of construction. Best management practices (BMPs) will be installed during construction to reduce erosion and sediment loading into stormwater runoff. This will ensure that potential adverse effects from construction-related sediment and erosion will be reduced in the surrounding area. To confirm that the BMPs are effectively reducing erosion and sediment loading, the BMPs will be inspected once a week or within 24 hours after each rainfall event that exceeds 0.5 inches. Some of the main BMPs that will be implemented on the construction site include:

- Installation of silt fence and other perimeter controls prior to initiation of earthwork and maintenance of these controls until ground cover has been established on exposed areas.
- Construction of temporary sediment basins in areas proposed for stormwater ponds. The development of these basins for permanent use will follow construction.
- Periodic street cleaning and installation of a rock construction entrance to reduce tracking of dirt onto public streets.
- Stabilization of exposed soils within the time limits specified in the General NPDES permit
- Inlet protection around any stormwater inlets on site
- Energy dissipation, such as riprap, installed at storm sewer outfalls
- Use of cover crops, native seed mixes, sod, and landscaping to stabilize exposed surface soils after final grading.

A complete list of BMPs will be described in the MPCA's Storm Water Pollution Prevention Plan (SWPPP) prepared for this project.

Post-Construction Site Runoff

The land use on the project site will change from agricultural to light industrial use. After construction, the runoff from the light industrial use will be typical of a warehouse/office space with the increase in impervious surfaces and maintained lawn/landscape areas. The project will increase the impervious surface on site by approximately 14.5 acres. The runoff from the site will include pollutants from roadways, roofs, driveways, maintained lawns, and vehicular traffic. It is anticipated that the proposed constructed stormwater management system will help treat the associated pollutants and aide in limiting the increase in runoff volume and associated pollutant transport. The stormwater ponds and basins will be constructed at logical discharge points of the site to provide temporary treatment, prior to construction stormwater leaving the site. Thus, the water quality of stormwater leaving the site will be better than pre-construction site runoff that was not pre-treated before leaving the site.

Stormwater runoff quality and quantity will be designed to meet the requirements of the City of Dayton, Elm Creek Watershed Management Commission (ECWMC), and the MPCA National Pollutant Discharge and State Disposal System (NPDES/SDS).

iii. *Water appropriation - Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.*

Water Appropriation

The City of Dayton anticipates that the municipal water supply system will be able to meet the projected demand without expanding its current MN DNR water appropriation permit. The increased demand will impact the aquifer. As water demand and growth increase in the region, modifications to the groundwater appropriation permits in the region will occur.

Temporary groundwater appropriation may be necessary during construction to install utilities. If this is deemed necessary, a permit from the MN DNR will be obtained.

Well Abandonment

As mentioned in Section 11.a.ii., the Minnesota County Well Index indicated that there is one well located near the existing residence. The well will be sealed and abandoned using the MDH regulations prior to development in the area in order to mitigate for potential groundwater contamination. Well sealing will be conducted by a MDH licensed well contractor.

Connection to Existing Municipal Water Supply

The City of Dayton serves southwest area of Dayton, where the proposed project is located, with an existing connection to the Maple Grove water system. Maple Grove has agreed to provide Dayton with water in sufficient quantity to meet an average day demand not to exceed 2.8 MGD and a maximum day demand of 5.0 MGD. Currently, this water supply is sufficient to serve the project site and Maple Grove is willing to increase these limits in the future depending on water demand.

The City of Maple Grove provides drinking water to residents from two underground groundwater aquifers. Primarily, the City has 10 wells developed in the surficial Glacial Drift aquifer and another 2 wells developed in the Mt. Simon-Hinckley bedrock aquifer for emergency supply only.

The project will connect to an existing 12" watermain located along CSAH 81 bordering the southern part of the project site. The City of Maple Grove's Drinking Water Supply Management Area (DWSMA) is located approximately 3.7 miles southeast of the project boundary.

Based on the proposed land use and the assumption that municipal water use is approximately the same as wastewater production, the estimated water use will be about 16,607 gallons of municipal water per day.

Measures to avoid, minimize, or mitigate environmental effects of groundwater consumption include many approaches that will result in a reduction of overall water demand. The project will consider the utilization of smart irrigation technology, water conservation, water use efficiency improvements, limitations on irrigation, low water use landscaping, and use of low flow fixtures.

Temporary groundwater appropriation may be necessary during construction to install utilities. If this is deemed necessary, a permit from the DNR will be obtained.

iv. Surface Waters

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

Wetlands within the project site area are regulated at the state level by the Wetland Conservation Act (WCA) which is administered by the Minnesota Board of Water and Soil Resources (BWSR). The City of Dayton aides in the administration of WCA where the project site is located. At the federal level, wetlands are regulated under Section 404 of the Federal Clean Water Act (CWA) that is administered by the U.S. Army Corps of Engineers. There are no MN DNR public waters, public water wetlands, or public watercourses within the project. Thus, an MN DNR public waters permit will not be necessary for this project site.

Impacts to Wetlands on Site

A preliminary site development plan and application for the site has been submitted to the City of Dayton. The Dayton 94 and the Troy Lane Extension project occur on two separate properties and were delineated by separate entities. Based on the plan for Dayton 94, it is anticipated that the construction of the development will impact two wetlands on site, resulting in 0.2184 acres of permanent wetland fill. For the Troy Lane extension roadway, approximately 0.4671 acres of permanent wetland fill is anticipated from impacting two wetlands. No temporary wetland impacts are anticipated.

Components of Wetland Replacement Plan

The project proponent has submitted a wetland replacement plan for the Dayton 94 project to the City of Dayton, the Local Government Unit (LGU), and the Army Corps of Engineers. The wetland replacement plan for Troy Lane extension has been submitted as a separate wetland replacement plan under a different project proponent. Both replacement plans are currently under review by the regulators. In the replacement plan, the project proponents demonstrate compliance with the WCA sequencing process by evaluating site design alternatives and avoiding and minimizing impacts on wetlands. In addition, the project proponents will implement BMPs or other management practices that help reduce and eliminate wetland impacts over time. Wetland impacts will be avoided, minimized, and mitigated by:

- Aligning the access roads to avoid and/or wetlands wherever practicable
- Setting the warehouse facility back from wetlands
- Implementing sedimentation and water quality protection BMPs to reduce and eliminate secondary indirect wetland impacts over time
- Treating stormwater from impervious surfaces to remove sediment and nutrients prior to discharging into wetlands
- Defining upland buffers adjacent to wetlands, seeding disturbed buffers with native vegetation, and making wetland buffers with monuments to protect wetlands in compliance with the City of Dayton's Ordinance.
- Provide compensatory wetland mitigation to offset unavoidable wetland impacts and replace wetland functions

Compensatory Wetland Mitigation

Compensatory wetland mitigation for unavoidable wetland impacts will occur by purchasing available wetland credits from an approved wetland bank(s). The WCA priority citing outlined in Minnesota Administrative rule 8420.0522 Subpart 7 as amended in the Minnesota Statues Section 103G.222 Subdivision will be followed to identify the appropriate wetland mitigation bank to purchase bank credits from. The wetland credits are expected to come from wetland banks located in the same minor, major, and/or bank service area as wetland impacts.

A wetland bank located within the major watershed, Mississippi River (metro), has been identified to purchase wetland bank credits from. The wetlands will be mitigated at a 2:1 ratio. The regulators will review and confirm this bank as part of the wetland replacement plan review process. This process has been initiated with the wetland replacement plan submittal and is currently under review.

Wetland Buffers

Wetlands that will be preserved on site will need to comply with the City of Dayton wetland buffer requirements. Based on the City of Dayton's Wetland Ordinance 1001.27, Subd 5., the upland buffer has to have an average width of 25 feet and a minimum width of 10 feet. Principal structures need to be setback at least 15 feet from buffer edges. These requirements are adopted from the Elm Creek Watershed Management Commission requirements. The upland buffers must be seeded in native seed mix and delineated by markers spaced approximately 250 feet apart.

Physical Effect

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

No lakes, streams, ponds, intermittent channels, or county/judicial ditches were identified on the project site from the wetland delineation (Appendix B).

12. Contamination/Hazardous Materials/Wastes

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

The MPCA's "What's in my Neighborhood" (WIMN) search indicated that there are no known or documented existing contamination hazards on the project site. The search found 28 sites active sites within 0.5 miles of the proposed project site boundary (Table 9; Appendix A, Figure 12). There are also eight inactive sites that are not discussed below. Information on the MPCA's website indicates that these sites have been properly investigated and managed. Therefore, these sites are not expected to adversely impact the project site.

Table 9. What's in My Neighborhood Sites within 0.5 Miles of the Project Site

Number	Type	Name	Status	Within Project Site?
2978	Investigation and Cleanup; Stormwater; Water Quality	Dayton Park Properties	Active	No, within 0.5 miles
18541	Hazardous Waste; Investigation and Cleanup	Brumm Transport	Active	No, within 0.5 miles
20710	Hazardous Waste	Sundman Paving & Sealcoating	Active	No, within 0.5 miles
23047	Hazardous Waste	Prokart Indoors	Active	No, within 0.5 miles

Number	Type	Name	Status	Within Project Site?
23427	Aboveground Tanks; Hazardous Waste	JE Dunn Construction	Active	No, within 0.5 miles
24972	Hazardous Waste	Formula Propeller & Marine	Active	No, within 0.5 miles
27382	Hazardous Waste	Weidema S R	Active	No, within 0.5 miles
31373	Aboveground Tanks; Hazardous Waste	Atlas Foundation Co LLC	Active	No, within 0.5 miles
31973	Hazardous Waste	Codema LLC	Active	No, within 0.5 miles
33818	Hazardous Waste, Industrial Stormwater	Crystal Welding Inc	Active	No, within 0.5 miles
34622	Hazardous Waste	Jerry's Blacktop	Active	No, within 0.5 miles
36046	Hazardous Waste	Dundee Nursey & Landscaping	Active	No, within 0.5 miles
48839	Hazardous Waste	WWD Truck Service Inc	Active	No, within 0.5 milw
63921	Hazardous Waste	Adesa Minneapolis	Active	No, within 0.5 miles
105049	Aboveground Tanks, Petroleum Remediation, Leak Site, Underground Tanks	Waconia Farm Supply	Active	No, within 0.5 miles
112490	Aboveground Tanks, Industrial Stormwater, Petroleum Remediation, Leak Site, Underground Tanks	WFS Maple Grove Facility	Active	No, within 0.5 miles
118324	Petroleum Remediation, Leak Site, Underground Tanks	Daytona Market	Active	No, within 0.5 miles
133545	Hazardous Waste	Heating & Cooling Two	Active	No, within 0.5 miles
134957	Construction stormwater	West French Lake Utility	Active	No, within 0.5 miles
158116	Hazardous Waste	McDonough Truck Line Inc	Active	No, within 0.5 miles
186781	Site Assessment	Dayton Park Dump	Active	No, within 0.5 miles
189969	Petroleum Remediation, Leak Site	Former Gas Station	Active	No, within 0.5 miles
216587	Hazardous Waste	Elevation Coating Warehouse	Active	No, within 0.5 miles
223113	Aboveground Tanks, Construction Stormwater, Hazardous Waste	RDO Equipment Co. – Dayton	Active	No, within 0.5 miles
231561	Construction Stormwater	Spears Manufacturing	Active	No, within 0.5 miles
232659	Hazardous Waste	Northwest Landscape	Active	No, within 0.5 miles
232681	Construction Stormwater	Dayton Parkway Interchange	Active	No, within 0.5 miles
233961	Construction Stormwater	PCI Roads Maple Grove Batch Plant	Active	No, within 0.5 miles

Source: MPCA's "What's in My Neighborhood" Database
https://mpca.maps.arcgis.com/apps/webappviewer/index.html
* 19991 Hazardous Waste and Industrial Stormwater are Active, RCRA Remediation is Inactive

The Minnesota Department of Agriculture's (MDA) What's in My Neighborhood database indicates that two sites are located within 0.5 miles of the project site. The two sites include

- CF-5341 - Hennepin Coop Seed Exchange: Site associated with an emergency investigation for identified contaminant anhydrous ammonia. The investigation status is closed.
- CF-93-0088 – Unknown case file name: Site is associated with an unknown contaminant and the investigation status is closed.

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.*

The existing farmstead on site will demolished prior to the construction of the site. Before demolition, regulated materials such as asbestos-containing materials and lead paint will be identified within the farmstead. If regulated materials are identified, they will be properly disposed of in accordance with MPCA and MDH regulatory requirements.

The proposed project is an industrial warehouse. Waste material and debris associated with construction will be contained on site and disposed of in a manner consistent with City and State requirements. Construction debris will likely be stored in dumpsters on site that will be hauled to a permitted MPCA solid waste facility. Where practical, construction debris will be recycled in order to avoid and minimize adverse effects from the generation/storage of solid waste. Trees and brush cut down prior to construction will likely be chipped or recycled. Any regulated construction materials will be properly disposed of in accordance with MPCA and MDH regulatory requirements. It is anticipated that the site grading will balance cut/fill of soil on site and avoid the need for excess soil disposal.

Once constructed, the project will generate municipal solid waste and very small quantities of hazardous waste. Most solid waste is expected to include organics, paper, other waste, and plastic. Municipal solid waste generation through a routine disposal plan using solid waste haulers licensed by the City of Dayton. The warehouse operator will contract individually for solid waste management and recycling services through one of the city's licensed haulers.

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

During construction, the project will follow the NPDES permit requirements and city ordinances to avoid and minimize effects from the use or storage of construction related hazardous materials/chemicals. Refueling of construction equipment will be in contained areas with drip pans. The contractor will be required to clean up spills and report them immediately as required by the NPDES permit. The contractor will also contain any washout operations (including concrete, paint, etc.) The containment area will be posted with signs and inspected so that it does not generate any contaminated runoff.

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

Normal construction and light industrial hazardous wastes are anticipated for this project. Hazardous waste that is normally generated during construction of light industrial sites such as fuel for construction equipment and materials used for construction and maintenance will likely be used. During construction of the warehouse, the project will follow the NPDES permit requirements and city ordinances to avoid and minimize effects from the storage of hazardous waste. If substantial spills occur on site, the contractor will be responsible for properly managing the spill and disposing of any hazardous waste after.

The warehouse tenants will be responsible for the management and disposal of hazardous waste once construction is finishing at the site. It is anticipated that the generation of small quantities of hazardous waste will occur during operations after construction is complete

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

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

The habitats and vegetation present on site primarily consist of agriculture. The project site also consists of landscaped lawn and mature deciduous trees around the existing residential property.

The wetland delineation survey confirmed that there are three wetlands, seasonally flooded emergent, that are present on site.

Due to the disturbed nature of the project site, common wildlife species adapted to agriculture and suburban environments, such as white-tailed deer, songbirds, and small mammals (squirrels, rabbits, raccoons), are likely to occur within the project site.

The MN DNR biological survey sites of biodiversity significance, MN DNR native plant communities, MN DNR regionally significant ecological areas, and the Hennepin County natural resource corridor databases were reviewed, and no sensitive ecological resources are present within the project site. Within 0.25 miles of the site, French Lake is mapped as a natural resource corridor and MN DNR ecologically significant area. However, the proposed project will not have direct impacts on French Lake.

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

State

The MN DNR NHIS database was queried (License agreement # 181676) to determine whether known locations of rare plant, animal species, or other significant natural features are known to occur within an approximate one-mile radius of the project site. The MN DNR issued a concurrence letter agreeing with the NHIS database review letter (Appendix D).

Based on the query, there are no rare plant, animal, or native plant communities, or other rare features within the project site or within adjacent parcels. The common gallinule (*Gallinula galaeta)*, a species of special concern in Minnesota, is located within one mile of the project site. The common gallinule prefers habitats that contain freshwater marshes with dense stands of emergent vegetation and open water areas. This includes quiet rivers, lakes, ponds, and small marshes along the edge of lakes or rivers (MN DNR, 2022).

Federal

The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) online tool was used to obtain information on federally listed threatened and endangered species in the project site (USFWS, 2022) (Appendix E). One federally listed species is expected to occur on or near the project site. This includes the threatened northern long-eared bat (*Myotis septentrionalis).* The monarch butterfly (*Danaus plexippus)*, a candidate for the Endangered Species Act (ESA), is listed to occur on or near the project site. Additionally, no critical habitats are listed to occur throughout the project site.

Northern long-eared bat: The northern long-eared bat hibernates in caves and mines during the winter and spends the summer roosting in cavities and crevices of both live trees and snags (dead trees). At dusk, the bats usually fly through the understory of forested areas and feed on a variety of insect species (USFWS, 2020). As of June 2021, MN DNR does not show documented maternity roost trees or hibernacula entrances of northern long-eared bats occurring within the project or within the immediate project vicinity (MN DNR & USFWS, 2021).

Monarch butterfly: The monarch butterfly prefers field and park habitat where milkweed and native plants are common. This is a common insect in Minnesota that is seen throughout the summer (MN DNR, 2022).

Although this species did not show up in the IPaC results, the rusty patched bumble bee (*Bombus affinis)* is an endangered bee that has been identified to exist throughout the Twin Cities metro. The Rusty patched bumble bee occupies grasslands and tallgrass prairie areas and feeds on a variety of flowering plants throughout the spring to fall until it goes into hibernation in the winter (USFWS, 2019b). The USFWS range map for the bumble bee shows that the project site occurs within a low potential zone for bumble bee dispersion and that the northern property boundary is clipped by the high potential zone. The low potential zones are those where the bumble bee will not likely be present and the high potential zones are the areas the bumble bee will likely be present (USFWS, 2019; USFWS, 2021)

The common gallinule, a species of special concern in Minnesota, is located within one mile of the project site. The common gallinule prefers habitats that contain freshwater marshes with dense stands of emergent vegetation and open water areas. This includes quiet rivers, lakes, ponds, and small marshes along the edge of lakes or rivers (MN DNR, 2022).

Table 10. Rare Federal and State Wildlife and Plant Species Listed for the Project Site

Common Name	Scientific Name	Status		Key Habitats	Potential Suitable Habitat[2]
		Federal[1]	State		
Mammals					
Northern long-eared bat	*Myotis septentrionalis*	LT	Special Concern	Forests during spring and summer, caves and mines during winter	P (roost trees)
Insects					
Monarch butterfly	*Danaus plexippus*	C	Watchlist	Fields and parks where milkweed and native plants are common	N
Rusty patched bumble bee	*Bombus affinis*	E	Special Concern	Grasslands and tallgrass prairie, flowering plants	N
Birds					
Common gallinule	*Gallinula galaeta*	N/A	Special Concern	Rivers, lakes, ponds, marshes	N

[1] Federal Status Codes: LT = Listed Threatened; C = Candidate f

[2]Habitat Codes: N = No, no records of species within project site and no suitable habitat is present

Migratory Birds

The IPaC tool also generates a list of migratory birds within the project site that are protected under the Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act. For this site, ten species are listed that include:

- Bird of Conservation Concern (BCC)
  - Black-billed cuckoo (*Coccyzus erythropthalmus)*
  - Bobolink (*Dolichonyx oryzivorus)*
  - Canada warbler (*Cardellina canadensis)*
  - Cerulean warbler (*Dendroica cerulea)*
  - Henslow's sparrow (*Ammodramus henslowii)*
  - Lesser yellowlegs (*Ammodramus henslowii)*
  - Red-headed woodpecker (*Melanerpes erythrocephalus)*
  - Rusty blackbird (*Euphagus carolinus)*
  - Wood thrush (*Hylocichla mustelina)*
- Eagle Act
  - Bald eagle (*Haliaeetus leucocephalus)*

The preferred habitat of these birds includes deciduous and mixed forest with shrub understory and wetland habitat.

c. *Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.*

The project is expected to convert approximately 25 acres of agriculture, including existing residential property and wetlands, into a light industrial use. The development will include a warehouse facility, stormwater ponds, preserved wetland, and maintained lawn/landscaping.

During construction of the site, mobile wildlife present on the project site will likely disperse to adjacent and/or similar habitats. However, less mobile species may likely experience more adverse impacts from construction. Once construction is completed, the project will likely displace those wildlife species dependent on agricultural cropland for food.

Development of the project site is not expected to have substantial impacts on state-listed rare species such as the common gallinule because the site consists of predominately agriculture land with wetlands that are seasonally flooded emergent wetlands. There are no open water habitats that the common gallinule commonly prefers. French Lake, a nearby open water habitat, would be a suitable habitat area that the common gallinule would likely prefer.

The project will likely not adversely impact the northern long-eared bat (NLEB) because there are no known maternity roosts or hibernacula of this species in the project vicinity (MN DNR & USFWS, 2021). Construction of the project will result in the removal of 3.91 acres of wooded habitat that may be used by bats and migratory birds. The loss of tree habitat will result in migratory birds, bald/golden eagles, and any potential bat species to locate nearby adjacent habitat. Tree clearing is not expected to substantially impact NLEB behavioral patterns such as breeding, feeding, or sheltering. Depending on construction conditions, winter tree clearing will occur during the USFWS/MN DNR recommended timeframe of November 1st to March 31st if possible when bats and migratory songbirds are not nesting or reproducing. If winter tree clearing is not possible, the USFWS/MN DNR recommends avoiding tree clearing during bat pupping season which occurs from June 1st to August 15th.

BMPs consisting of erosion control measures, listed under Item 11.b.ii., will be installed on the project site during construction to control invasive species and weeds to the extent practicable. After construction and grading is complete, the exposed soil will be planted with approved, non-invasive seed mixes designed to establish desirable vegetation in order to mitigate the risk of invasive species.

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

As part of the development, the creation of stormwater basins, lawn/landscaping, and trees will occur. Since some of the trees surrounding the existing residential home are to be removed as part of the development site, the site will be evaluated for potential bat roost suitability and the trees will be removed in accordance with established USFWS guidelines. This guidance requires tree removal to occur only from November to March when migratory songbirds and bats are not nesting or reproducing. Although some of the trees will be removed as a result of the project, there will be a number of trees that are planted that will provide habitat to migratory songbird or bat species that may have originally been displaced during construction.

Any slopes requiring semi-permanent reinforced netting will use non-plastic biodegradable fabric or rectangular shapes to mitigate impacts to wildlife.

14. Historic Properties

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

A data request was submitted to the Minnesota State Historic Preservation Office (SHPO) to determine if there were any historical or archaeological sites identified on site. The SHPO responded with records of historic and archaeological sites near the project site; however, none of them occur within the project site. See Appendix F for the SHPO correspondence.

15. Visual

a. *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 existing views from the site include agriculture, wetlands, wooded hedge rows, and industrial/commercial buildings. Thus, there are no prominent scenic vistas on or near the property.

This project will not create any unusual visual impacts and is consistent with the planned industrial setting of the Draft City's 2040 Comprehensive Plan. The visual effect will transition views from predominately open agriculture land to an industrial setting with a warehouse, parking stalls, and stormwater features. The project will not include intense lighting that would cause glare and the warehouse will not produce vapor plumes. The outdoor lighting installed on site will be strategically placed to benefit the warehouse operations and will not direct light onto any sensitive areas.

Landscape plantings are expected to occur along the perimeter of the entire site to help mitigate effects from nearby properties and CSAH 81. Along the southern boundary and intermittently along the western boundary of the site near the truck court, a berm with landscape plantings will help soften the visual transition between the industrial areas along Troy Lane and this property. Other mitigation measures include a perimeter fence along the loading truck court trailer parking area and the truck access aisles to provide additional security for the truck court.

16. Air

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

The proposed project will involve some stationary source air emissions from the building's heating and cooling systems operated by natural gas and electricity, which will result in direct or indirect sources of stationary greenhouse gas (GHG) emissions. Emissions from heating and cooling units are expected to be similar to those of other light industrial buildings in the surrounding area.

The Minnesota Environmental Quality Board (EQB) is currently working on a pilot program to understand how to integrate GHG quantification and assessment into the Environmental Review documents. However, the requirements and methods are not required for the document yet. Thus, the GHG for this document will be qualitative.

The primary GHG's are carbon dioxide (CO_2), nitrous oxide (N_20), methane (CH_4), sulfur hexafluoride (SF_6), and two classes of compounds called hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs). Carbon dioxide is the most abundant GHG and has the largest effect on the climate. Emissions are reported as carbon dioxide equivalent (CO2-e) tons and are stated in terms that reflect their global warming potential (GWP) (MPCA, 2021).

GHGs emissions for the project are expected to come from

- Fossil fuels and natural gas used to generate electricity used during construction and operation of the project site and to heat water and the building
- Vehicle and air transportation related to project construction and operation
- Refrigeration and air conditioning
- Transport and treatment of solid waste and wastewater

GMG emissions from the project are not expected to cause potential significant environmental effects. The project requires this mandatory EAW due to the surpassing the square footage requirement for light industrial space. There are no GHG emission estimates that show a comparably sized Minnesota project with potential to exceed the mandatory EAW threshold of 100,000 tons of CO2-e per year (Minnesota Statue 4410.4300, Subp 15.B).

GHG mitigation measures may be incorporated into the project design and may include:

- Smart irrigation to reduce outdoor water use
- Energy efficient light and building materials to reduce electricity use
- Plant turf or no-mow fescue mixed or native prairie/pollinator gardens to decreased mowing and increase carbon sequestration.

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

The proposed project will generate increased truck traffic, which will result in a relatively small corresponding increase in carbon monoxide, carbon dioxide and other vehicle-related air emissions. However, CSAH 81 already experiences a large volume of truck traffic due to the surrounding industrial uses near the project site. Project development should not cause significant environmental effects on local or regional air quality. No baseline air quality monitoring or modeling is proposed and no measures to mitigate for the increase in vehicle related emissions are being considered.

c. *Dust and odors - Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under item 16a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.*

Dust and odors from construction equipment exhaust will be generated during the construction phase of the site. Mitigation of the short-term dust and odors impacts will be managed through proper coordination and construction planning. The contractor will be required to control dust by using accepted practices such as applying water to exposed soils. The nearest receptors of the dust are the adjacent residential parcels to the northeast of the project.

17. Noise

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

Noise levels will temporarily increase during construction of the site then return to existing levels during operation consistent with the zoned industrial nature of the property. Noise levels on site will vary depending on where construction is occurring on site, time of operation, and distance between receptors and construction equipment.

The nearest noise receptors are single family homes on French Lake Road located approximately 600 feet from the eastern edge of the property. Homes along French Lake Road will experience noise levels during construction that are elevated in comparison to existing noise levels. Grading and excavation activities on site will require heavy construction equipment.

Construction noise can be mitigated by restricting construction work to daytime hours. Contractors will be required to minimize noise impacts by maintaining equipment properly, including use of mufflers and other noise controls as specified by manufactures. The project will adhere to the City of Dayton's noise rules and standards that indicates noise should occur within specified levels depending on land use and time of day.

After construction, noise levels are expected to be at or near existing levels. Noise associated with the project will be related to truck traffic and light industrial operations. Similar to construction noise, the light industrial use of the property will adhere to the City's noise rules and standards that indicates noise should occur within specified levels depending on land use and time of day.

The following noise mitigation measures will be included to minimize noise impacts

- Vegetated landscape buffer, berm, and potential fence along the southern and western property boundary
- Loading trucks inside the building
- Scheduling deliveries between 7:00 AM to 9:00 PM.

18. Transportation

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

Stantec completed a Traffic Impact Study for Troy Lane Industrial Development in 2021 that includes two proposed developments: this project and the project site to the north, MTL Trucking Development (see Appendix G). The Traffic Study analyzed the traffic impacts of the two proposed developments by estimating the trips generated by the proposed projects and evaluating the potential need for transportation or roadway improvements near these developments.

The traffic generation presented in this EAW is consistent with what was analyzed in the traffic study.

1) The proposed development site is currently undeveloped agricultural land with one residence that has a driveway onto CSAH 81. The proposed development will consist of a 333,700 square foot warehouse that has 360 parking stalls: 150 for truck-trailers and 210 for personal vehicles.

2) The proposed development is expected to generate approximately 147 daily vehicle trips when fully constructed and occupied. These are mostly trucks entering or exiting the warehouse.

3) The proposed development is expected to generate approximately 76 vehicle trips during the daily peak hour when fully constructed and occupied. The daily peak hour is the p.m. peak hour, which is expected to occur at some point within the 4:00-6:00 p.m. timeframe. Trucks would mostly be exiting from the development onto CSAH 81 at this time.

4) The Institute of Transportation Engineers Trip Generation Manual, 10th Edition, was used to estimate the trip generation potential for the proposed development.

5) While transit services and other alternative transportation modes may be available to the workers at the proposed warehouse and office, these services are not expected to have a significant impact on vehicular ingress and egress at the development site.

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

The anticipated vehicular trip generation for the proposed development does not exceed 250 peak hour trips and 2,500 daily trips but a traffic impact study was prepared for the proposed development.

The Dayton 94 development is proposed to be constructed on the north side of CSAH 81 in Dayton, MN. CSAH 81 is a two-lane rural section highway with a right turn lane on westbound and a bypass lane on eastbound. The traffic impacts of proposed development trips on surrounding study intersections were analyzed for year 2021 and year 2023 conditions. The following conclusions are offered for consideration:

- Results of the existing traffic operations analysis for the 2021 and 2023 No-Build scenarios at the CSAH 81/Troy Lane intersection indicate that all study intersections currently operate at overall acceptable levels during the a.m. and p.m. peak hours, except the southbound left turn during p.m. peak hours which operates at LOS F.
- Under the 2023 Build scenario at the CSAH 81/Troy Lane intersection, vehicles existing the proposed developments will have difficulty entering onto CSAH 81 during the a.m. and p.m. peak hours. Delays will result in significant vehicle queues for the southbound left turn and right turn movements.
- Under the 2023 Build scenario at the CSAH 81/right turn in/out intersection, the overall intersection and all movements operate at acceptable levels of service.
- The addition of an eastbound left turn and traffic signal control with no additional through lanes on CSAH 81 results in improved operations for the southbound movements during the a.m. and p.m. peak hours. However, the additional delay caused by traffic signal control results in LOS F for the westbound through movements, resulting in vehicle queues extending east on CSAH 81 to Holly Lane.
- The addition of an eastbound left turn lane, widening CSAH 81 to four lanes, and traffic signal control results in acceptable levels of service for all movements.
- Generally, the proposed development is expected to have minimal impact on the study area traffic operations or the regional transportation system but future growth along CSAH 81 will result in impacts. Therefore, traffic control improvements are recommended from a general operations perspective.

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

While roadway improvements to CSAH 81 are not directly required for the proposed development from a traffic operations or regional transportation system perspective, the following recommendations should be considered:

- Widen eastbound and westbound CSAH 81 to four lanes for a minimum length 800 feet east and 800 feet west of Troy Lane.
- Improve Troy Lane/CSAH 81 intersection
- Construct an eastbound left turn lane at 300 feet in length with 180 foot taper.
- Construct westbound right turn lane at 300 feet in length with 180 foot taper.
- Construct 300 foot left and right turn southbound lanes on the Troy Lane at CSAH 81.
- Install traffic signal control.

None of these roadway improvements will occur as part of this project. These may occur as future City or County projects near the CSAH 81 and Troy Lane intersection.

19. Cumulative Potential Effects

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

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

The proposed project covers 25 acres and the light industrial space proposed will include 333,750 square feet of light industrial building space. Construction on this is expected to occur over the next 1 to 2 years depending on market conditions.

There are several properties adjacent to or near the property that have been approved for construction or are proposed developments. Some of these projects, especially the projects abutting the property, will be likely under construction at the same time as the proposed project. Therefore, the timeframe of these projects could overlap to result in combined cumulative potential effects.

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

There are several properties adjacent and within one mile of the proposed project site that are expected to be developed soon. This future development includes future light industrial use that is consistent with the City of Dayton's Draft 2040 Comprehensive Plan. There are three properties to the north and one property to the east of this project site that are in the planning stages of development or are set to start construction in the next year. These projects include:

Table 11. Future Proposed Developments Near the Project Site

Property	Description	Acres	Status	Distance from Project
Cubes at French Lake	Future light industrial development	65	Construction to begin 2022	Adjacent property to the east
MTL Trucking Development	Future light industrial development	45	Proposed	Adjacent property to the north
ALRO Steel	Future light industrial development	18	Approved	0.5 miles north of property
Park Place Storage	Future light industrial development	18	Proposed	0.5 miles north of property (east of ALRO Steel)
TOTAL		146		

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.*

The foreseeable future projects discussed above in Item 19.a. may combine with the proposed project to result in a cumulative effect on municipal infrastructure and natural resources. The potential for cumulative effects varies with the type of resource and geographic area impacted. For this project, the future projects within the area are adjacent to the property and are all proposed light industrial.

The potential cumulative effects on public infrastructure would include municipal water supply systems, sanitary sewer conveyance and treatment systems, stormwater management systems, and traffic and transportation systems. According to the Draft 2040 Comprehensive Plan, the City of Dayton has planned for continued growth and expanded infrastructure system capacity within the city to address the increase in demand and serve future projects. For future development projects, the City of Dayton will consider the timing and staging within the context of the Draft 2040 Comprehensive Plan. The Comprehensive Plan proposes that this area of the City will develop into light industrial use. Due to the predicted increase in public infrastructure and infrastructure in place to accommodate growth in the City of Dayton, cumulative effects on public infrastructure are not expected to be significant.

For natural resources, the potential cumulative effects resulting from future projects depends on several factors including type, density, and location of future developments. The potential effects on natural resources will vary depending on project location and the extent of habitat diversity. The effects the proposed project has on natural resources such as wetland, vegetation communities, and wildlife resources may combine with nearby projects to result in local cumulative effects. The cumulative effects of suburban development on these natural resources can result in the loss of agricultural land, wetlands, and fragmentation of wildlife habitat.

Stormwater runoff from projects within the City of Dayton will ultimately drain into Elm Creek and then the Mississippi River. The federal, state, and local stormwater regulations for development projects combined with the implementation of BMPs to control erosion and sedimentation during construction are anticipated to minimize cumulative effects of pre and post-development runoff into downstream surface waters.

20. Other Potential Environmental Effects

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

The project will not cause any additional environmental effects. All environmental effects are addressed by items 1 to 19.

RGU CERTIFICATION

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

I hereby certify that:

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

Signature Lena Godread Date 4/18/22

Title City Administrator

References

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Appendix A

FIGURES

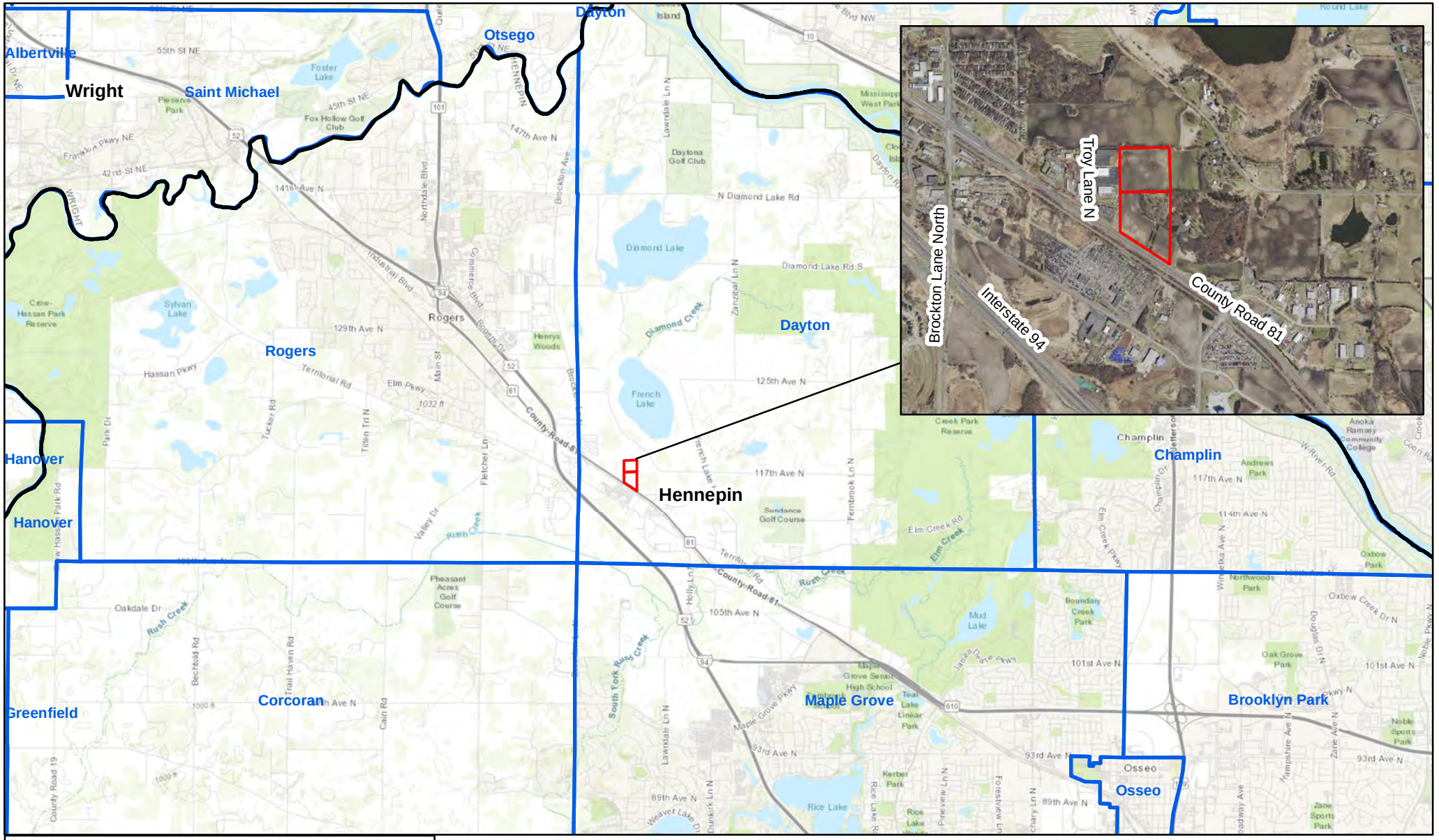

Figure 1.
Project Location

Dayton 94
Dayton, MN

Source: MnGeo WMS, Twin Cities metro, 2020 color 7-county

Legend

- Study Area
- County Boundary
- City-Township Boundary

0 1.25 2.5 Miles

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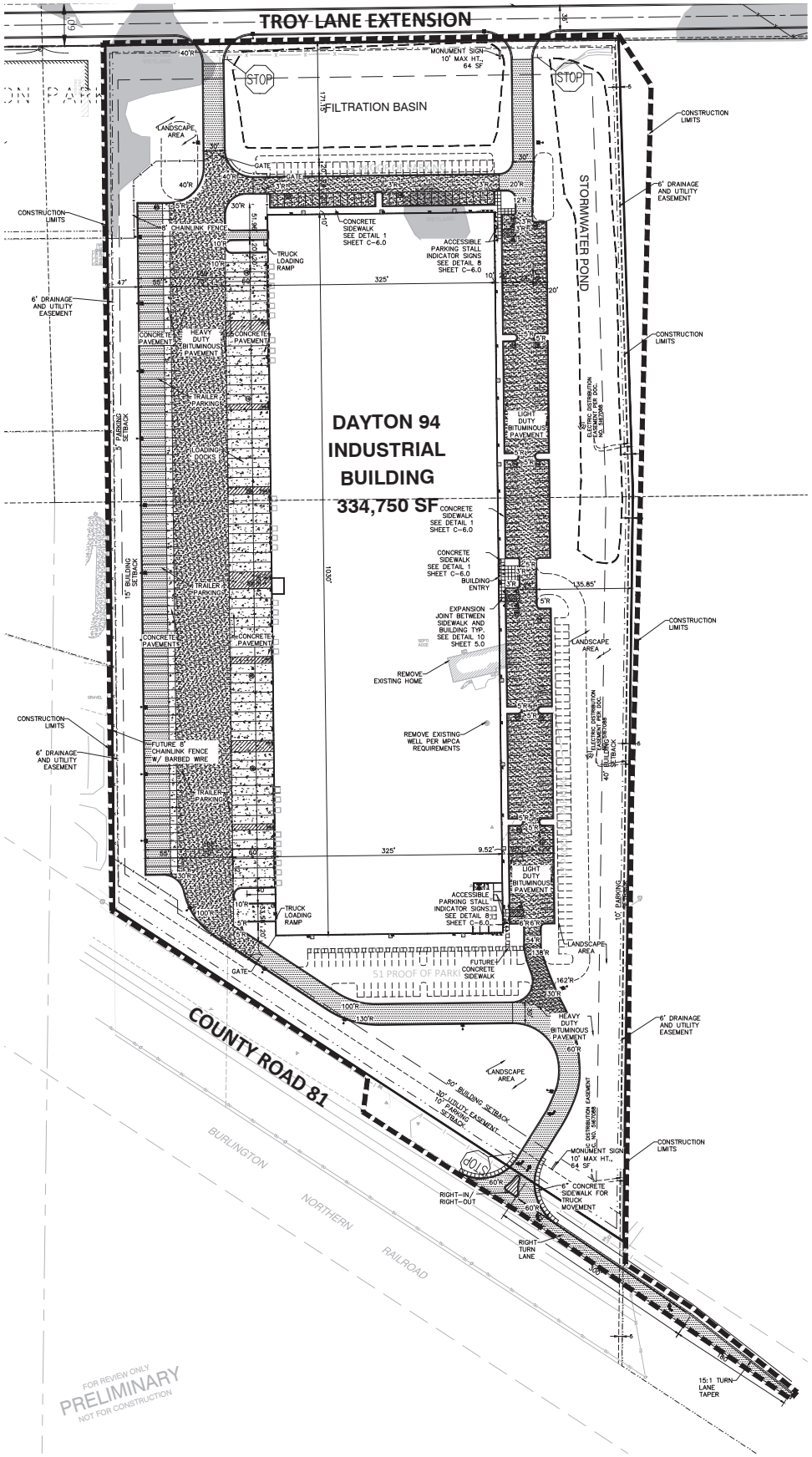

SITE NOTES:

1. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
2. CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES AND TOPOGRAPHIC FEATURES, SUCH AS EXISTING GUTTER GRADES AT THE PROPOSED DRIVEWAYS, PRIOR TO THE START OF SITE GRADING. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR VARIATIONS FROM THE PLANS.
3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE REQUIREMENTS AND STANDARDS OF THE LOCAL GOVERNING AUTHORITY.
4. CONTRACTOR IS RESPONSIBLE FOR DEMOLITION & REMOVAL OF ALL EXISTING STRUCTURES WHICH INTERFERE WITH NEW WORK AS SHOWN.
5. CONCRETE SIDEWALK AND CURB & GUTTER SHALL BE REMOVED TO NEAREST CONSTRUCTION JOINT OUTSIDE THE REMOVAL LIMITS.
6. ALL DIMENSIONS, GRADES, EXISTING AND PROPOSED INFORMATION SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO INFORMATION SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.
7. DIMENSIONS SHOWN ARE TO FACE OF CURB, CENTER OF STRUCTURE, EDGE OF SIDEWALK OR EXTERIOR OF BUILDING.
8. ALL CONCRETE SIDEWALK ADJACENT TO BUILDING SHALL BE SEPARATED BY A 1/2" EXPANSION JOINT.
9. PROTECT EXISTING CONCRETE SIDEWALKS DURING ALL PHASES OF CONSTRUCTION. CONTRACTOR TO REPLACE ANY CRACKED OR BROKEN PANELS CAUSED BY SITE CONSTRUCTION.
10. CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL & DISPOSAL OF THE EXISTING BITUMINOUS. BITUMINOUS SHALL BE SAW CUT OR JACK HAMMERED FOR STRAIGHT EDGES. TACK SHALL BE USED ON BITUMINOUS EDGE PRIOR TO PATCHING. MATCH EXISTING GRADES.
11. CONTRACTOR SHALL PROTECT ADJOINING PROPERTIES & STRUCTURES FROM HAZARDS ASSOCIATED WITH HIS CONSTRUCTION ACTIVITIES & SHALL BE RESPONSIBLE FOR ALL DAMAGES TO PROPERTIES & STRUCTURES THAT OCCUR AS A RESULT OF THESE ACTIVITIES.
12. CONTRACTOR SHALL NOT IMPEDE EXISTING TRAFFIC CIRCULATION TO ADJACENT BUSINESSES. PROVIDE TRAFFIC CONTROL DURING CONSTRUCTION PER MNDOT STANDARDS.
13. CONTRACTOR SHALL PERFORM SWEEPING ON PRIVATE PARKING AREAS AND PUBLIC STREETS AT LEAST ONCE A WEEK, ONCE A DAY IF NEEDED.
14. CONTRACTOR SHALL BE HELD FULLY RESPONSIBLE TO PREVENT AND ELIMINATE ANY DUST NUISANCE OCCASIONED BY AND DURING CONSTRUCTION, UNTIL THE PROJECT HAS BEEN COMPLETED AND HANDED OVER.
15. REFER TO ARCHITECTURAL DRAWINGS FOR CONCRETE STOOPS ADJACENT TO PROPOSED BUILDING.
16. CONTINUOUS CONCRETE CURB & GUTTER WHICH CHANGES TYPE SHALL HAVE A FIVE FOOT TRANSITION.
17. ALL CONCRETE CURB AND GUTTER ADJACENT TO CONCRETE WALK SHALL BE SEPARATED BY A 1/2 INCH EXPANSION JOINT.
18. PARKING LOT STRIPING SHALL BE 4 INCH WHITE.
19. ALL WORK WITHIN THE R.O.W. STALL COMPLY WITH THE CITY ENGINEERING DESIGN STANDARDS.
20. ALL CURB AND GUTTER TO BE CONCRETE B612 CURB UNLESS NOTED OTHERWISE.
21. CONCRETE APRONS TO BE INSTALLED FOR ALL ACCESS DRIVES ONTO PUBLIC STREETS PER CITY OF DAYTON STANDARDS.

SITE DATA:

SITE AREA: 1,090,701 SF (25.04 AC)

BUILDING AREA: 334,750 SF (7.68 AC)

IMPERVIOUS AREA: 627,472 SF (14.40 AC) 57.53%

PERVIOUS AREA: 463,229 (10.63 AC) 42.47%

REQUIRED PERVIOUS AREA: 25% OF SITE

PARKING

WAREHOUSE – 95%
316,950 SF / 2,000 = 159 STALLS REQUIRED

OFFICE – 5%
16,800 SF / 200 = 81 STALLS REQUIRED

TOTAL PARKING REQUIRED: 240 STALLS
TOTAL PARKING PROVIDED: 210 STALLS + 131 PROOF OF PARKING

LEGEND:

- EASEMENT LINE
- BUILDING SETBACK
- PARKING SETBACK
- PROPERTY LINE
- B612 CURB & GUTTER
- B618 CURB & GUTTER (TROY LANE EXTENSION)
- LIGHT DUTY BITUMINOUS PAVEMENT
- HEAVY DUTY BITUMINOUS PAVEMENT
- CONCRETE PAVEMENT
- GREEN SPACE

N

0 30 60 120
SCALE IN FEET

Drawing name: X:\2021\21007\plan sheets\21007site.dwg Feb 22, 2022 - 11:36am

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DAYTON 94

HIGHWAY 81 & TROY LANE
DAYTON, MN

PRELIMINARY PLAT & REZONING SUBMITTAL

SITE PLAN

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

Date License No.

DATE	ISSUE
1-25-22	CLIENT MEETING
2-16-22	BID SET
2-22-22	PRE PLAT & REZONING

QUALITY ASSURANCE/CONTROL

PROJECT TEAM DATA
DESIGNED: MK
DRAWN: SD/CS/ST
PROJECT NO: 221-0007

C-2.0

Figure 3.

Pre-Development Land Cover

Dayton, Hennepin County, MN

Source: MnGeo WMS, Twin Cities metro, 2020 color 7-county

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Legend

Study Area

Cover Type

- Cropland
- Wetland
- Forest
- Open Grassland
- Residential

N W E S

0 350 700 Feet

Site Location

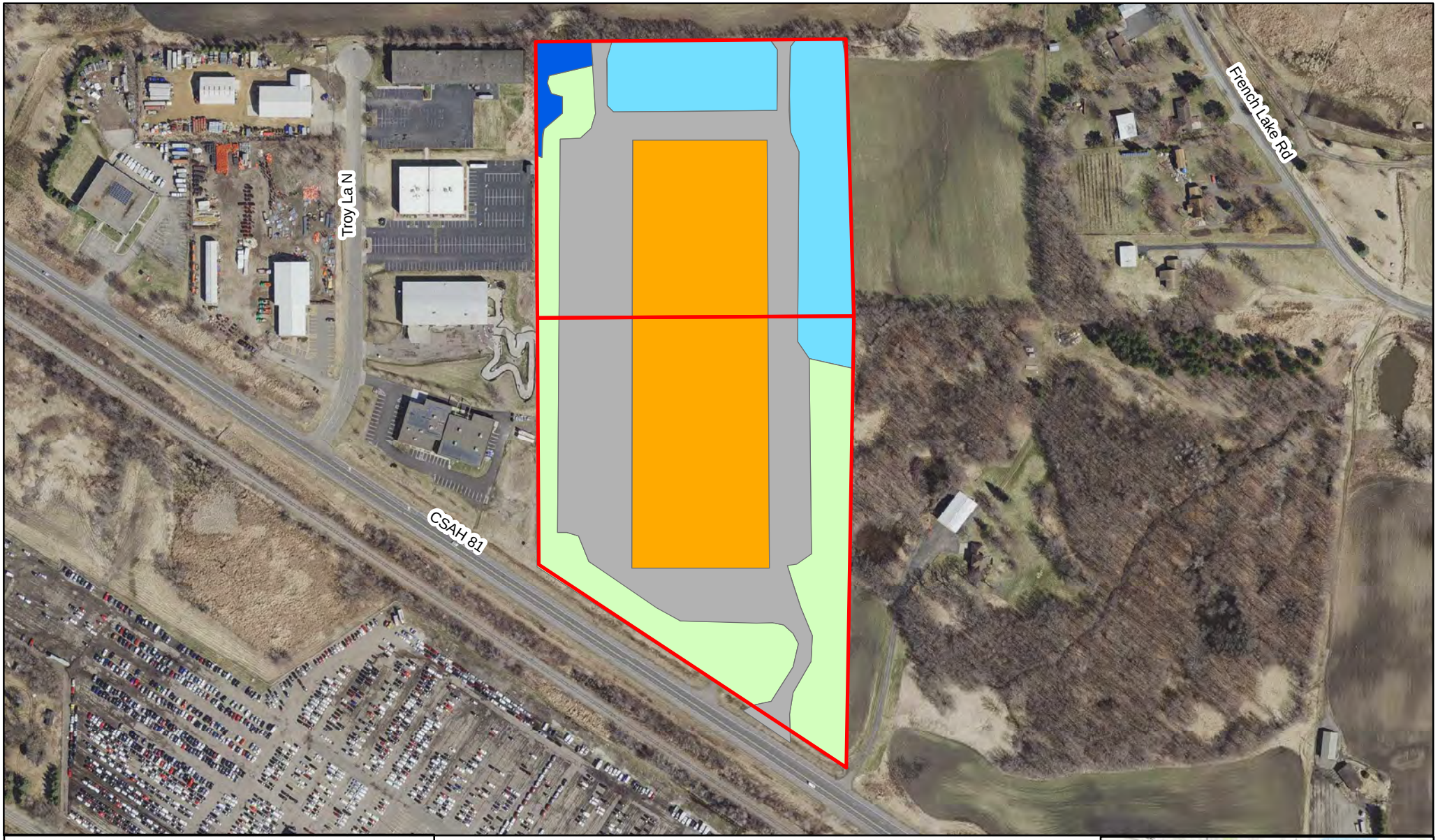

Figure 4.
Post-Development Land Cover

Dayton, Hennepin County, MN

Source: MnGeo WMS, Twin Cities metro, 2020 color 7-county

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Legend

Study Area

Cover Type

- Warehouse
- Impervious Surface
- Lawn/Landscaping
- Stormwater basin
- Wetland

N W E S

0 300 600 Feet

Site Location

Figure 5.

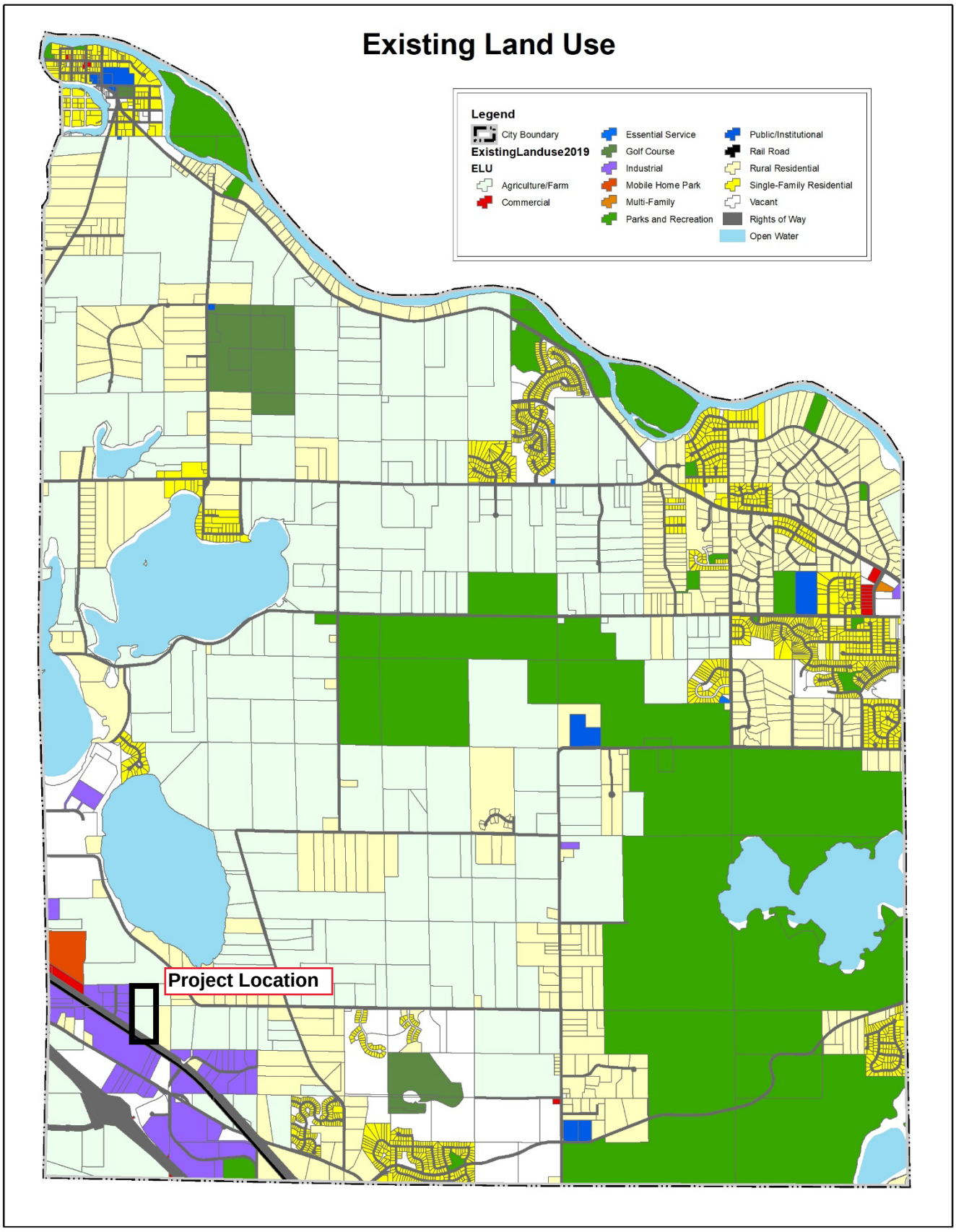
Existing Land Use
Legend
City Boundary
ExistingLanduse2019
ELU
Agriculture/Farm
Commercial
Essential Service
Golf Course
Industrial
Mobile Home Park
Multi-Family
Parks and Recreation
Public/Institutional
Rail Road
Rural Residential
Single-Family Residential
Vacant
Rights of Way
Open Water
Project Location

Figure 6.

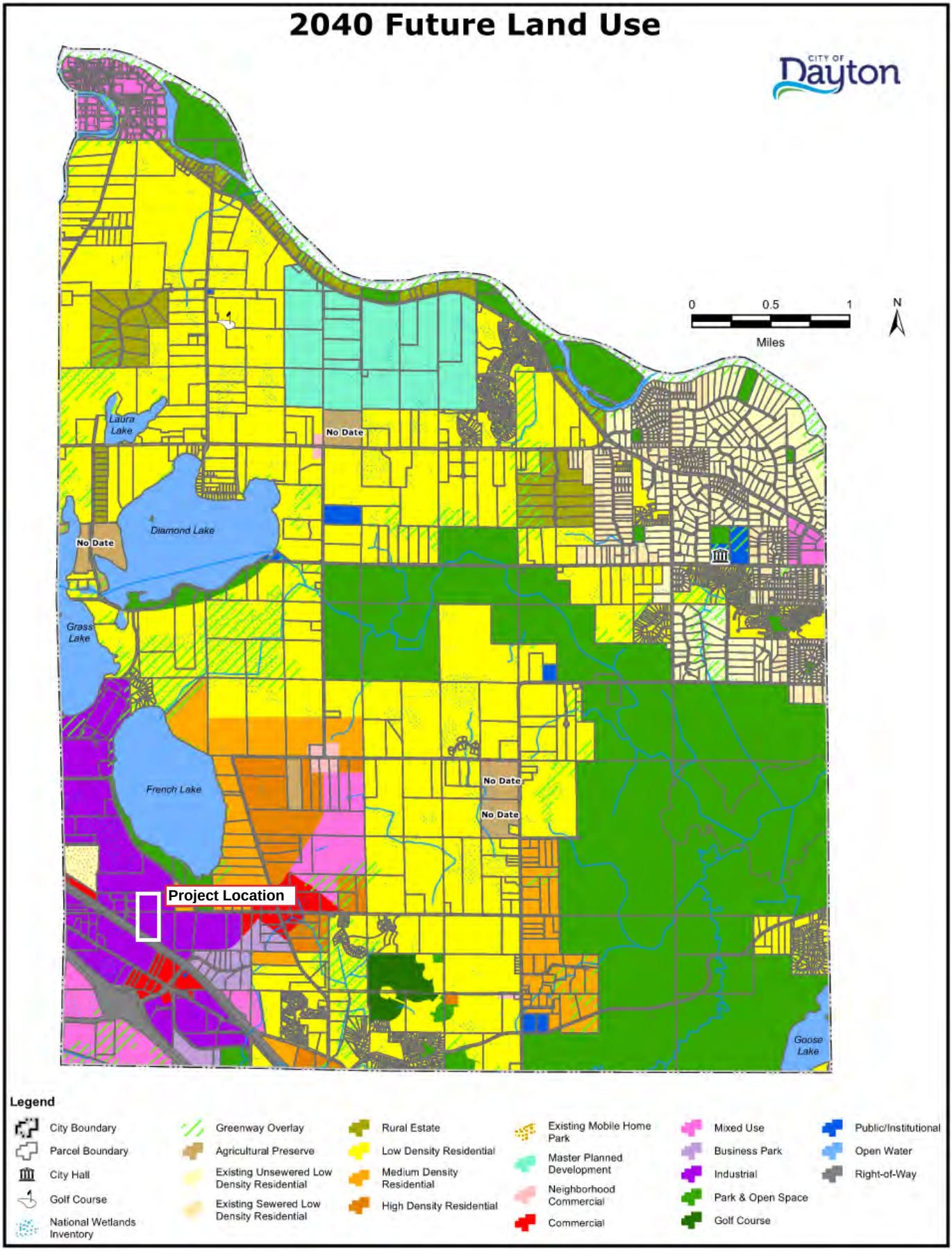
2040 Future Land Use
CITY OF Dayton
0
0.5
1
Miles
N
Laura Lake
No Date
Diamond Lake
No Date
Grass Lake
French Lake
No Date
No Date
Project Location
Goose Lake
Legend
City Boundary
Parcel Boundary
City Hall
Golf Course
National Wetlands Inventory
Greenway Overlay
Agricultural Preserve
Existing Unsewered Low Density Residential
Existing Sewered Low Density Residential
Rural Estate
Low Density Residential
Medium Density Residential
High Density Residential
Existing Mobile Home Park
Master Planned Development
Neighborhood Commercial
Commercial
Mixed Use
Business Park
Industrial
Park & Open Space
Golf Course
Public/Institutional
Open Water
Right-of-Way

Table 3: Land Use Categories

Land Use Category	Description
Commercial	This category is intended to accommodate general commercial and highway-oriented businesses such as fast food restaurants, convenience stores, gas stations, big box retail, and other auto-oriented businesses. Limited office and service uses are also appropriate, depending on scale and location.
Business Park	This category is intended to accommodate larger office buildings and corporate campus development, as well as light-industrial and office-warehouse development that require larger sites.
Industrial	This category is intended to provide areas for industrial related businesses including manufacturing, warehousing, automotive, trucking, office, and other related industrial uses.
Public Institutional	This category is primarily intended to provide religious, governmental, and/or education facilities.
Mixed Use	This category is intended to provide a mix of residential, commercial, office, service (hotel, restaurants, etc.) and light industrial land uses depending on the location of each mixed use area. The Mixed Use area southwest of the interchange will allow for the greatest variety of users to respond to the market and new acces to I-94. Typically, mixed-use development will include townhomes, low- and high-rise apartments, retail buildings, and offices. Development is often stacked (but not required), consisting of main floor retail space with office or housing units located above. Residential density shall occur at an average of 12 units/acre. Each mixed-use area will have a corresponding ordinance that address the specific goals and uses for each unique mixed use area.
Existing Sewered Low Density Residential	This category accounts for existing residential development in the City of Dayton at lower densities in the northeast quadrant of the City that is served by sewer. The average density for this area is approximately 1.18 units/acre
Existing Unsewered Low Density Residential	This category accounts for existing residential development at very low densities in the northeast quadrant of the City. Before providing wastewater to any of these parcels, the City will need to submit a Comprehensive Plan Amendment.
Low Density Residential	This category identifies areas for single-family residential development at a minimum density of 2 units/acre up to 5 units/acre. The city encourages developments with a variety of lot sizes and housing styles to meet lif-cycle housing demands.
Medium Density Residential	This category is intended to provide for townhome development, multiplex development, and row-homes at minimum density of 5 units/acre up to 12 units/acre
High Density Residential	This category is intended to accommodate the development of multiplex and low- to high-rise apartment buildings or condominiums. Development will occur at a density of 12 units/acre or greater. Architecture and landscaping is important in high density residential areas to ensure that development is appropriate and consistent with the community's character.
Master Planned Development	This unique land use will allow the city to work with a developer to create master planned community of approx. 500 acres. The master plan is expected to include a mix of residential density and types coupled with neighborhood commercial uses. The City will be expecting the development to provide unique community amenities and dedicated park land. A specific zoning district will be created for the master plan development and the minimum residential density will be at least 3 units/acre.
Rural Estate	This designation is applied to existing neighborhoods that have developed as larger estate lots on private septic. These platted developments were approved with the intention of providing for a rural style unsewered lot and neighborhood. The development pattern is not well suited to expand sewer and water infrastructure efficiently due to the lot size, presence of wetlands, woodlands, location of principle building and in some areas proximity of existing sewer. As these lots are on private septic they will not being included in overall density calculations.
Agricultural Preserve	These parcels are enrolled in the Agricultural Preserve program. Density in this district is limited to 1 unit per 40 acres.
Manufacture Home Park	This category identifies an existing manufactured home park with approximately 246 units at 7.68 net units/acre. It is anticipated that if the park were to ever change use that the future use would be industrial consistent with surrounding future land uses. This change would be accomplished through a comprehensive plan amendment.
Park and Open Space	This category is intended to provide areas of public or private ownership that will remain undeveloped or with limited development serving a recreational purpose that will be permanently preserved for the important recreational or ecological benefits provided to the region. This area includes the Elm Creek Park Reserve.
Golf Course	This category area is intended to identify existing and/or planned golf course facilities.
Open Water	This category provides permanently flooded open water, rivers and streams, not including wetlands or periodically flooded areas.

Figure 7.

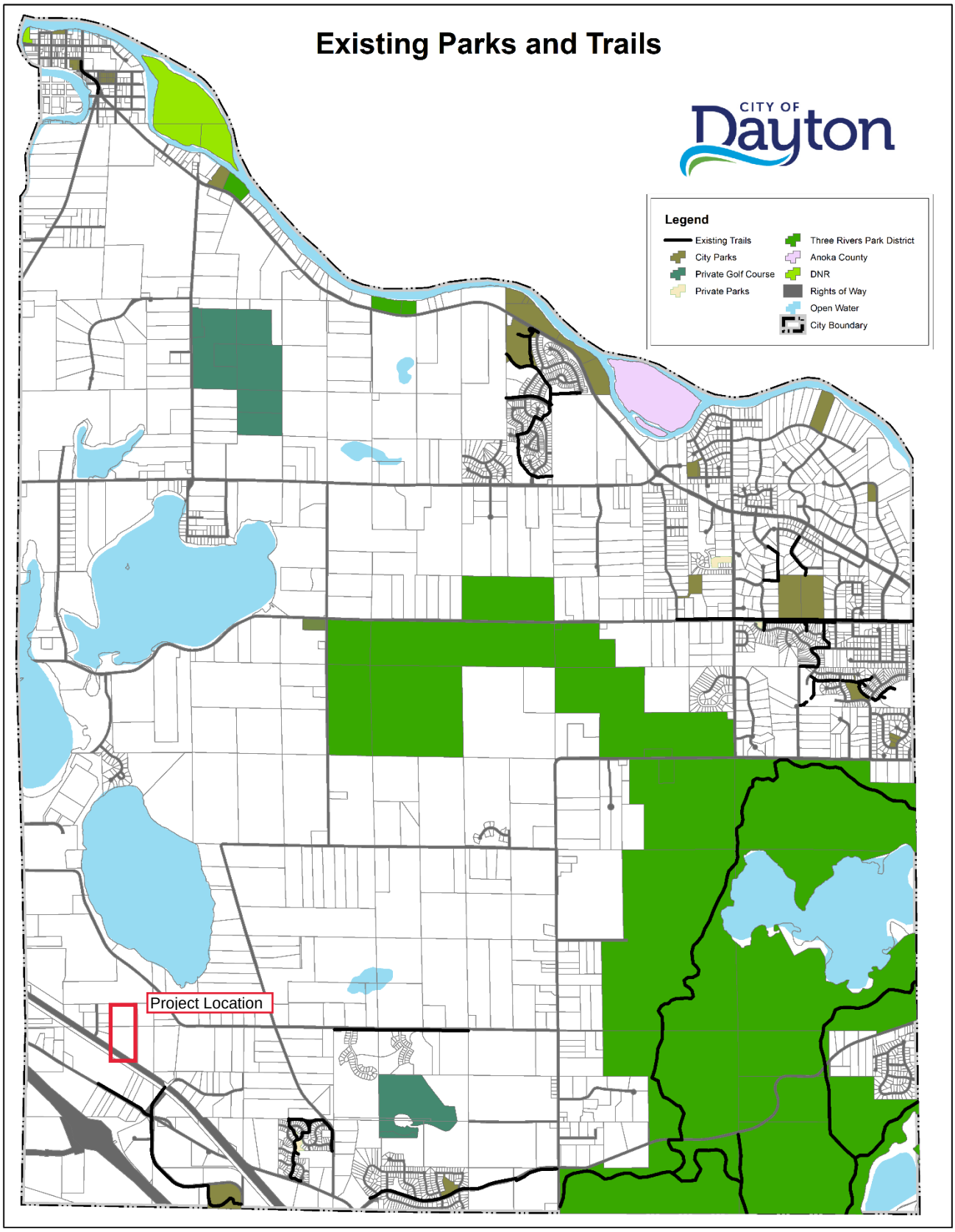
Existing Parks and Trails
CITY OF Dayton
Legend
Existing Trails
City Parks
Private Golf Course
Private Parks
Three Rivers Park District
Anoka County
DNR
Rights of Way
Open Water
City Boundary
Project Location

Figure 8.
Hennepin County Soil Survey

Dayton Industrial
Dayton, MN

Source: MnGeo WMS, Twin Cities metro, 2020 color 7-county

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Legend

Study Area

Hydric Rating

Non-hydric

Partially hydric

N
W E
S

0 300 600 Feet

Site Location

Figure 9.
Public Waters Inventory

Dayton Industrial
Dayton, MN

Source: MnGeo WMS, Twin Cities metro, 2020 color 7-county

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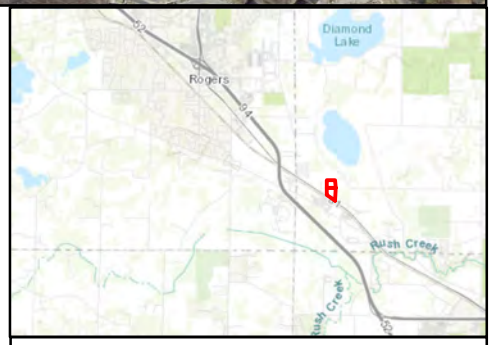
Legend

- Study Area
- Public Waters Inventory - Basins

N
W E
S

0 800 1,600 Feet



Site Location

Figure 10.
National Wetland Inventory

Dayton, MN

Source: MnGeo WMS, Twin Cities metro, 2020 color 7-county

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Legend

- Study Area
- National Wetland Inventory

N
W E
S

0 250 500 Feet

Site Location

Figure 11.

Minnesota Well Index

Dayton, Hennepin County, MN

Source: MnGeo WMS, Twin Cities metro, 2020 color 7-county

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Legend

Wells

Study Area

N W E S

0 250 500 Feet

Site Location

Figure 12.

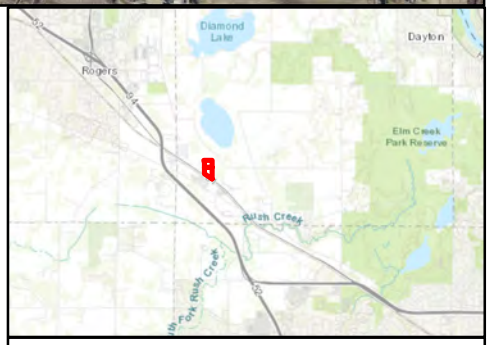
Contaminated Sites/Environmental Permits and Registrations (Active and Inactive)

Dayton, Hennepin County, MN

Source: MnGeo WMS, Twin Cities metro, 2020 color 7-county
MPCA What's In My Neighbhorhood

Legend

- Site Location
- Study Area
- Study Area (0.5 mile buffer)



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N W E S

0 0.25 0.5 Miles

Appendix B

WETLAND DELINEATION REPORT AND NOTICE OF DECISION

Transmittal Information	
To:	Tony Kaster, Senior Natural Resources/Wetland Scientist Stantec 1800 Pioneer Creek Center, Maple Plain, MN 55359
From:	Keara Pringle (WDC), Environmental Specialist
Date:	June 7, 2021
Subject:	Addendum to Wetland Delineation Report – Dayton Industrial

This memo is an addendum to the Dayton Industrial Wetland Delineation Report based on the TEP on site review that occurred on Tuesday, June 1st, 2021.

Below is a summary of the changes that were incorporated to the delineation report based on the TEP on site review.

- Wetland 1
  - The southern boundaries of the wetland was adjusted slightly based on the emergence of a smartweed patch. See incorporated changes below in the updated wetland delineation Figure 6.
- Wetland 3
  - This wetland was added to the delineation report. This area was called out as suspect Area 3 during the historic aerial review. It was determined to be a wetland based on Historic Aerial Review Offsite Determination; however, further field investigation was used to determine if this area was a farmed wetland. A soil pit was dug with the TEP in the suspect area and the soil was determined to be hydric. Area 3 was added to the wetland delineation as Wetland 3.
  - The soil saturation area in recent aerial photos was used to determine the boundary of Wetland 3.
  - See Figure 6 below for the updated wetland delineation figure.
- Table 3-3 Wetlands Located Within the Project Site has been updated to incorporate the changes described above.

Table 3-3. Wetlands Located Within the Project Site

Wetland ID	Size (ac)[1]	Wetland Type			Latitude	Longitude
		Circular 39	**Cowardin**	**Eggers and Reed**		
Wetland 1	0.38	1/2	PEMAf/PFOA	Farmed seasonally flooded basin	45.168675	-93.511131
Wetland 2	0.03	2	PEMB	Wet meadow	45.166196	-93.508863
Wetland 3	0.14	1	PEMAf	Farmed seasonally flooded basin	45.168088	-93.509867

[1]Approximate size of wetlands. Size includes the wetland size within the project site only.

Figure 6.
Wetland Delineation

*Updated from TEP meeting on June 1, 2021
Wetland 1 - boundary in the southern portion of the wetland was adjusted
Wetland 3 - added based on aerial photo and field investigation

Dayton Industrial
Dayton, MN

Source: MnGeo WMS, Twin Cities metro, 2020 color 7-county

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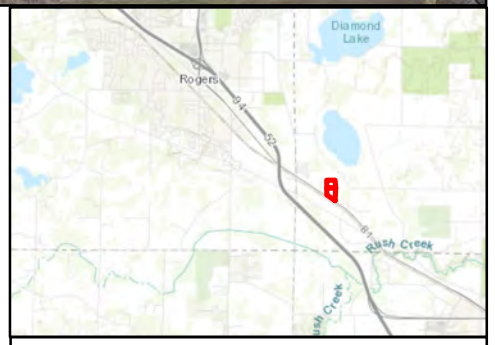
Legend

- Sample Point
- Wetland Boundary
- Study Area

N W E S

0 300 600 Feet



Site Location

Wetland Delineation Report

DAYTON INDUSTRIAL DEVELOPMENT

Dayton, Hennepin County, Minnesota

Prepared for:

IDP Inland Development Partners

Inland Development Partners
100 Lake Street West, Suite 200
Wayzata, MN 55391

Prepared by:

ALLIANT

May 2021

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ATTACHMENTS

Attachment A. Joint Application Form
Attachment B. Figures
Attachment C. Wetland Determination Forms
Attachment D. Photo Log
Attachment E. Historic Aerial Review

1. Introduction

A wetland and waterbody survey was conducted on May 4, 2020, in Dayton, Hennepin County, MN on a 25 acre property off of County Road 81.

The site is located in the City of Dayton within Hennepin County, Minnesota. The City of Dayton is the Local Government Unit (LGU) that administers the Minnesota Wetland Conservation Act (WCA). This delineation report provides the required documentation for the wetland boundary determinations in conformance with the United States Army Corps of Engineers (USACE) Wetland Delineation Manual (Environmental Laboratory, 1987) and the Regional Supplement to the USACE Wetland Delineation Manual: Midwest Region (USACE, 2010). The Joint Application Form for Activities Affecting Water Resources in Minnesota is included in **Attachment A**.

The survey was conducted to address requirements under the current regulatory framework concerning wetlands and waterbodies. A wetland delineation is the identification of the jurisdictional boundary of a wetland. There are three major wetland regulatory programs of statewide importance in Minnesota. Under the Minnesota Wetland Conservation Act and the Corps of Engineers Section 404 Program, delineations are conducted using the USACE Wetlands Delineation Manual, Technical Report Y-87-1 (Environmental Laboratory, 1987). Under the Minnesota Department of Natural Resources (DNR) Public Waters Permit Program, the jurisdictional boundary of a wetland is the Ordinary High Water Level (OHWL), which is determined using the DNR Guidelines for Ordinary High Water Level (OHWL) Determinations (Scherek & Yakel, 1993). The information collected by these surveys will be used to assess the design of the industrial space so that impacts to wetlands and waterbodies can be avoided or minimized.

1.1 SITE LOCATION AND PROJECT NEED/DESCRIPTION

1.1.1 Site Location

The site is located at 18150 State County Road 81 between 113th Ave North and Brockton Lane North in Dayton, MN (**Attachment B**).

The project area borders an agriculture field to the north, an agriculture field, forested land, and a farmstead to the east, County Road 81 to the south, and an industrial/commercial park to the west.

The majority of the project site is located in Section 30 and 31, Township 120 N, Range 22 W.

1.1.2 Project Need and Description

The client is proposing to develop this property into an industrial warehouse and needs to understand what jurisdictional water features are currently present on the project site.

2. Methodology

2.1 DESKTOP EVALUATION

Prior to the wetland delineation survey in the field, desktop data was reviewed that included:

- National Wetlands Inventory (NWI)
- Minnesota Department of Natural Resources (MN DNR) National Wetlands Inventory
- National Hydrography Dataset (NHD)
- Minnesota Department of Natural Resources (MN DNR) Public Waters and Wetland Inventory (PWI)
- Natural Resource Conservation Service (NRCS) Soil Survey Geographic database (SSURGO2).
- LiDAR Data
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps
- Historic Aerial Photo Review

2.2 FIELD REVIEW

On May 4, 2021 a wetland delineation was conducted by Keara Pringle, WDC, in accordance with the criteria and methods outlined in:

- USACE Wetland Delineation Manual, Technical Report Y-87-1 (Environmental Laboratory 1987);
- Midwest Supplement to the USACE Wetland Delineation Manual
- Subsequent guidance documents (USACE 1991, 1992)

The delineation was conducted using the three criteria technical approach (i.e., vegetation, soil, and hydrology) as defined in the 1987 Wetlands Delineation Manual and the Midwest Regional Supplement. According to procedures described in the 1987 Manual and Midwest Supplement, an area was determined to be a wetland if under normal circumstances it reflects a predominance of:

- Hydrophytic vegetation;
- Hydric soils; and
- Wetland hydrology (e.g. inundated or saturated soils)

Wetland points and associated upland points were taken in each wetland feature. Data was recorded on the USACE Midwest Regional Supplement wetland determination forms for the sample points. These datasheets are provided in **Attachment C**. Additionally, photos were collected and are provided in **Attachment D**.

3. Results and Discussion

3.1 WATER RESOURCE MAPPING RESULTS

The NWI indicated that there are 3 wetlands present within the project site. This includes 3 PEM1A seasonally flooded basins. Two of the PEM1A wetlands are located to the east of the existing residential property and one wetland is located in the northwest corner of the property.

The MN DNR PWI indicated that there are no basins, waterways, or wetlands mapped within the project area.

The USGS NHD does not show any waterways on the property.

The NRCS SSURGO2 for Dakota County indicates that the soils listed in Table 3-1 are mapped within the site. Based on the NRCS Web Soil Survey Hydric Rating, three soils are mapped that include one partially hydric soil, Dundas-Cordova complex, 0-3% slopes, and two non-hydric soils with a small percentage of hydric soil inclusion. The percent hydric soil in Table 3-1 indicates what percent of the soils major and minor components are hydric.

See **Attachment B** for figures.

Table 3-1. Soils Summary Table

Map Unit Name[1]	Rating[2]	Percent Hydric Soil[3]
Dundas-Cordova complex, 0 to 3 percent slopes	Partially hydric	30
Lerdal loam, 1 to 3 percent slopes	Non-hydric	15
Nessel loam, 1 to 3 percent slopes	Non-hydric	10

1 – Soils determined using GIS geospatial query clipping the NRCS Soil Survey Geographic (SSURGO2) spatial data by Project boundaries.
2 – As indicated in the SSURGO2 database
3 – As indicated in the SSURGO2 database. Where percentages are small (e.g. < 15 %) the hydric soil is likely an inclusion that is not recognized in the map unit name.

3.2 WEATHER CONDITIONS

The weather during the time of the survey was approximately 59 F and sunny. The antecedent precipitation for the three month period before the wetland delineation was conducted was normal. The precipitation worksheet from the Minnesota State Climatology Office is shown below in Table 3-2.

Aerial photograph or site visit date:
Tuesday, May 4, 2021

Score using 1981-2010 normal period

Table 3-2. Antecedent Precipitation Data

values are in inches **A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.**	first prior month: month: **April 2021**	second prior month: **March 2021**	third prior month: **February 2021**
estimated precipitation total for this location:	**2.24R**	**2.84R**	**0.59R**
there is a 30% chance this location will have less than:	1.84	1.12	0.40
there is a 30% chance this location will have more than:	2.93	1.86	0.86
type of month: dry normal wet	**normal**	**wet**	**normal**
monthly score	**3*2 = 6**	**2*3 = 6**	**1*2 = 2**
multi-month score: **6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)**		**14 (Normal)**	

*Precipitation total, type of month, monthly score, and multi-month score was calculated based on the monthly precipitation estimates. This has not been automatically calculated on the Minnesota State Climatology Office website.

3.3 FIELD SURVEY RESULTS

3.3.1 Historical Aerial Review: Offsite Hydrology/Wetland Determination

A historical aerial review was conducted to look at three suspect areas throughout the project area that were consistently seen in aerial photographs. These suspect areas were reviewed using historical aerial photographs (see **Attachment E** for figure depicting these areas).

The Army Corps of Engineers St. Paul and the Board of Water and Soil Resources Guidance for Offsite Hydrology/Wetland Determinations was used to analyze the historical aerial images and their corresponding antecedent precipitation conditions. A total of 10 images were reviewed ranging from 2010-2020 and were taken from Google Earth and MnGeo. Out of the 10 images, there were 7 aerial photos that were taken during normal antecedent precipitation years. See **Attachment E** for the summary table of the historical aerials reviewed and the corresponding antecedent precipitation table.

Below is a summary of the Wetland Determination Analysis:

- Area 1
  - Area 1 is located in the northwest corner of the property.

- This area has greater than 50% wet signatures, occurs in partially hydric soil, and does not occur within a mapped NWI area. However, the area abuts a mapped NWI area.
- Area 1 corresponds with delineated Wetland 1 from the field delineation. The limits of Wetland 1 are based on the present condition of the wetland during the field survey.

- Area 2
  - Area 2 is located along the north central boundary of the property.
  - This area has less than 30% wet signatures, occurs in partially hydric soil, and does not occur within a mapped NWI area. No further investigation was necessary based on the desktop analysis but field reconnaissance of the area revealed this area did not have any wetland characteristics.
- Area 3
  - Area 3 is located in the central part of the northern parcel.
  - This area has greater than 50% wet signatures, occurs in partially hydric soil, and does not occur within a mapped NWI area.
  - Field reconnaissance revealed that this area was actively disturbed due to agriculture use, there was no vegetation present during the field visit, and there were no hydrology indicators present.

3.3.2 Wetlands

Two wetlands were delineated within the project site. One wetland is located to the east of the existing residential property and one wetland is located in the northwest corner of the property. Both of the delineated wetland features overlap with mapped NWI wetland features. A summary of the delineated wetlands is provided in Table 3-3 below.

Table 3-3. Wetlands Located Within the Project Site

Wetland ID	Size (ac)[1]	Wetland Type			Latitude	Longitude
		Circular 39	**Cowardin**	**Eggers and Reed**		
Wetland 1	0.34	1/2	PEMAf/PFOA	Farmed seasonally flooded basin	45.168675	-93.511131
Wetland 2	0.03	2	PEMB	Wet meadow	45.166196	-93.508863

[1]Approximate size of wetlands. Size includes the wetland size within the project site only.

Wetland 1: Wetland 1 is a 0.34 acre seasonally flooded PEMA/PFOA basin located in the northwestern corner of the property. The wetland is forested along the northern boundary of the site and then becomes farmed with some wet meadow pockets south of the forested area.

The wetland is dominated by *Ulmus americana (*American Elm) and *Phalaris arundinacea (*reed canary grass). A portion of the wetland is disturbed by agriculture production and consisted of sparse vegetation. The soil consists of loam and silt loam in the upper 12 inches and met the hydric soil indicator of Redox Dark Surface (F6). Hydrology consisted of the primary indicator of saturation (A3) and three secondary indicators of saturation visible on aerial imagery (C9), geomorphic position (D2), and the FAC-Neutral Test (D5).

The northern portion of the wetland was identified on NWI and is mapped as partially hydric soil. The wetland extends off the project corridor to the north and west. A previous delineation conducted on the northern property from 2020 shows the boundaries of the northern portion of the wetland. The wetland collects runoff from the surrounding landscape and appears isolated from other water resources.

Wetland 2: Wetland 2 is a 0.03 acre wet meadow PEMB wetland located east of the existing residence. The wetland extends further to the east off-site on the adjacent property.

The wetland is dominated by reed canary grass. The soil consisted of silt loam and clay loam in the upper 12 inches of the soil and met the Redox Dark Surface (F6) hydric soil indicator. The hydrology met the three secondary indicators of saturation visible on aerial imagery (C9), geomorphic position (D2), and the FAC-Neutral test (D5).

The wetland extends off the project corridor boundary to the east. The delineated wetland was identified as an NWI wetland and is mapped as partially hydric soil. The wetland collects runoff from the surrounding landscape and appears isolated from other water resources.

4. Conclusions

The field delineation conducted by Alliant Engineering identified 2 wetlands within the project study area. On behalf of the client, Alliant Engineering requests the City of Dayton as the WCA LGU, and the USACE to review and process this report and the enclosed Joint Application Form (**Attachment A**) for the project site located in the City of Dayton, Hennepin County, Minnesota. Please consider this report a formal Wetland Boundary and Type Determination request pursuant to Minn. Rules 8420.0405. With this application, we are also requesting a Preliminary Jurisdictional Determination for the site.

The final regulatory authority of these wetlands is determined by the USACE and the WCA LGU based on their understanding of the wetland determinations made in this report.

5. References

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U.S. Geological Survey (USGS). 2018b. Topographic map. Available online at

https://viewer.nationalmap.gov/basic/?basemap=b1&category=histtopo,ustopo&title=Map%20View

Attachment A

JOINT APPLICATION FORM

ALLIANT

PART ONE: Applicant Information

If applicant is an entity (company, government entity, partnership, etc.), an authorized contact person must be identified. If the applicant is using an agent (consultant, lawyer, or other third party) and has authorized them to act on their behalf, the agent's contact information must also be provided.

Applicant/Landowner Name: Thurber and Mary Spaanem
Mailing Address: 18150 State County Road No 81, Osseo, MN 55369
Phone: 763-443-0318
E-mail Address: Mspaane1@embarqmail.com

Authorized Contact (do not complete if same as above): Tom Shaver, Inland Development Partners
Mailing Address: 100 Lake Street West, Suite 200, Wayzata, MN 55391
Phone: 952-495-6242
E-mail Address: tshaver@inlanddp.com

Agent Name: Keara Pringle, Alliant Engineering
Mailing Address: 733 Marquette Ave, Suite 700, Minneapolis, MN 55402
Phone: 612-718-6880
E-mail Address: kpringle@alliant-inc.com

PART TWO: Site Location Information

County: Hennepin **City/Township: Dayton**
Parcel ID and/or Address: 3112022120005, 3012022430003
Legal Description (Section, Township, Range): Section 30 and 31, Township 120N, Range 22W
Lat/Long (decimal degrees): 45.166523, -93.510750
Attach a map showing the location of the site in relation to local streets, roads, highways.
Approximate size of site (acres) or if a linear project, length (feet): 25 acres

If you know that your proposal will require an individual Permit from the U.S. Army Corps of Engineers, you must provide the names and addresses of all property owners adjacent to the project site. This information may be provided by attaching a list to your application or by using block 25 of the Application for Department of the Army permit which can be obtained at:

http://www.mvp.usace.army.mil/Portals/57/docs/regulatory/RegulatoryDocs/engform_4345_2012oct.pdf

PART FIVE: Applicant Signature

☐ Check here if you are requesting a pre-application consultation with the Corps and LGU based on the information you have provided. Regulatory entities will not initiate a formal application review if this box is checked.

By signature below, I attest that the information in this application is complete and accurate. I further attest that I possess the authority to undertake the work described herein.

Signature: mary Spaanem Date: 05/20/2021

I hereby authorize Alliant Engineering to act on my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this application.

Attachment A
Request for Delineation Review, Wetland Type Determination, or Jurisdictional Determination

By submission of the enclosed wetland delineation report, I am requesting that the U.S. Army Corps of Engineers, St. Paul District (Corps) and/or the Wetland Conservation Act Local Government Unit (LGU) provide me with the following (check all that apply):

☒ **Wetland Type Confirmation**

☒ **Delineation Concurrence**. Concurrence with a delineation is a written notification from the Corps and a decision from the LGU concurring, not concurring, or commenting on the boundaries of the aquatic resources delineated on the property. Delineation concurrences are generally valid for five years unless site conditions change. Under this request alone, the Corps will not address the jurisdictional status of the aquatic resources on the property, only the boundaries of the resources within the review area (including wetlands, tributaries, lakes, etc.).

☐ **Preliminary Jurisdictional Determination**. A preliminary jurisdictional determination (PJD) is a non-binding written indication from the Corps that waters, including wetlands, identified on a parcel may be waters of the United States. For purposes of computation of impacts and compensatory mitigation requirements, a permit decision made on the basis of a PJD will treat all waters and wetlands in the review area as if they are jurisdictional waters of the U.S. PJDs are advisory in nature and may not be appealed.

☒ **Approved Jurisdictional Determination**. An approved jurisdictional determination (AJD) is an official Corps determination that jurisdictional waters of the United States are either present or absent on the property. AJDs can generally be relied upon by the affected party for five years. An AJD may be appealed through the Corps administrative appeal process.

In order for the Corps and LGU to process your request, the wetland delineation must be prepared in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, any approved Regional Supplements to the 1987 Manual, and the *Guidelines for Submitting Wetland Delineations in Minnesota* (2013).
http://www.mvp.usace.army.mil/Missions/Regulatory/DelineationJDGuidance.aspx

Attachment B

FIGURES

ALLIANT

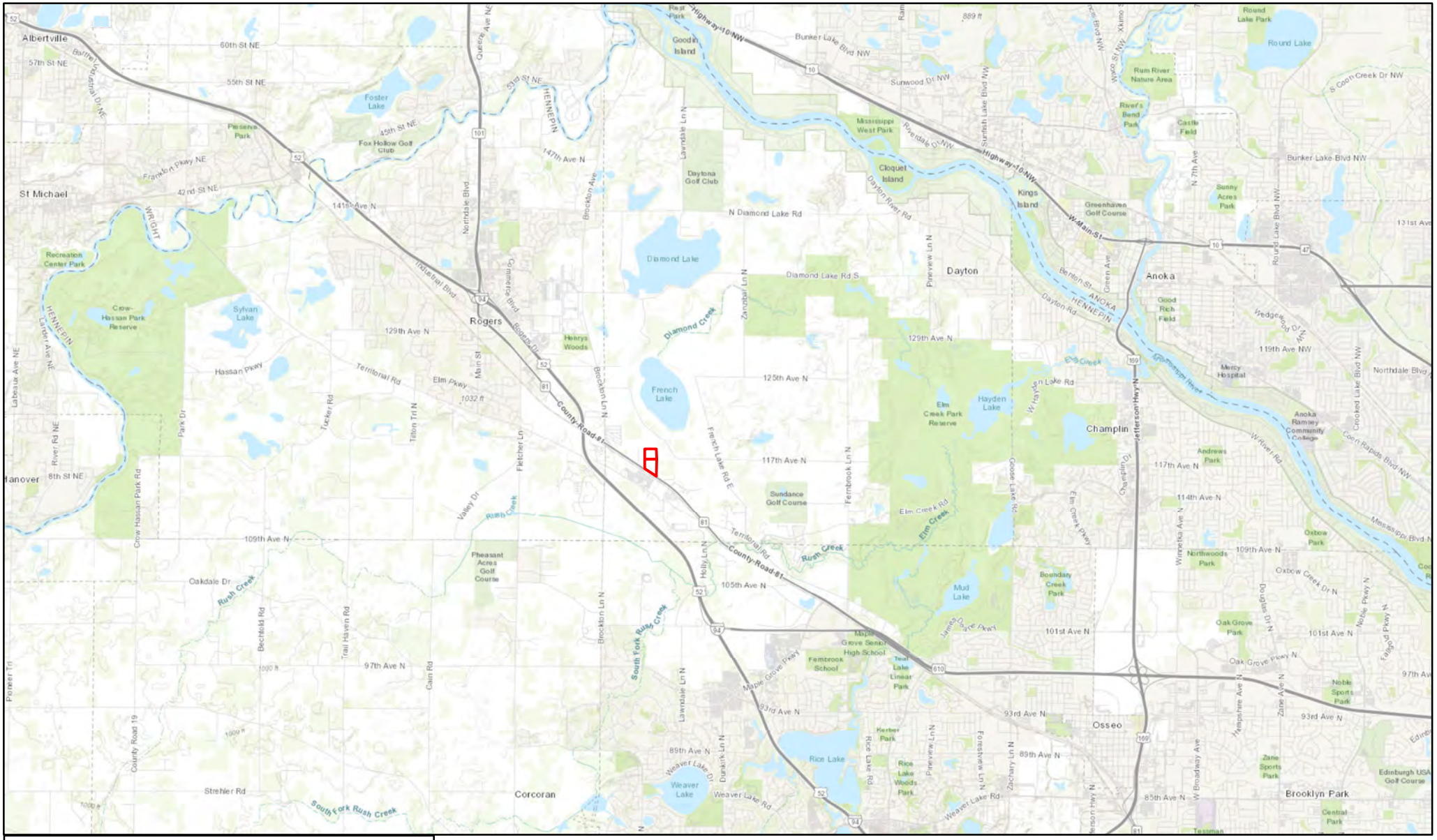

Figure 1.
Project Location

Dayton Industrial
Dayton, MN

Source: MnGeo WMS, Twin Cities metro, 2020 color 7-county

Legend

Study Area

ALLIANT
733 Marquette Ave Ste 700
Minneapolis, MN 55402-2340
OFFICE: (612) 758 3080
FAX: (612) 758 3099
www.alliant-inc.com

N
W E
S

0 1.5 3 Miles

Figure 2.
National Wetland Inventory

Dayton Industrial
Dayton, MN

Source: MnGeo WMS, Twin Cities metro, 2020 color 7-county

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Minneapolis, MN 55402-2340
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FAX: (612) 758 3099
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Legend

- Study Area
- National Wetland Inventory

N
W E
S

0 250 500 Feet

Site Location

Figure 3.
Public Waters Inventory

Dayton Industrial
Dayton, MN

Source: MnGeo WMS, Twin Cities metro, 2020 color 7-county

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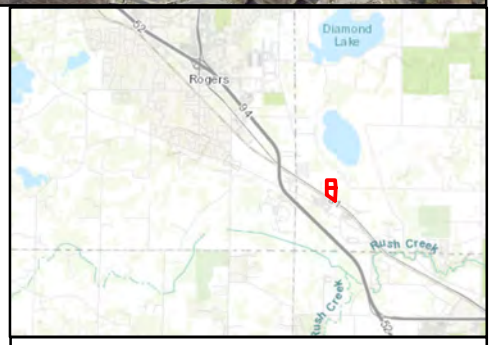
FAX: (612) 758 3099
www.alliant-inc.com

Legend

- Study Area
- Public Waters Inventory - Basins

N
W E
S

0 800 1,600 Feet



Site Location

Figure 4.
Hennepin County Soil Survey

Dayton Industrial
Dayton, MN

Source: MnGeo WMS, Twin Cities metro, 2020 color 7-county

ALLIANT
733 Marquette Ave Ste 700
Minneapolis, MN 55402-2340
OFFICE: (612) 758 3080
FAX: (612) 758 3099
www.alliant-inc.com

Legend

Study Area

Hydric Rating

Non-hydric

Partially hydric

N
W E
S

0 300 600 Feet

Site Location

Figure 5.
LiDAR (2 FT) Contours

Dayton Industrial
Dayton, MN

Source: MnGeo WMS, Twin Cities metro, 2020 color 7-county

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Legend

Study Area

LiDAR (2 FT) Contours

N
W E
S

0 300 600 Feet

Site Location

Figure 6.
Wetland Delineation

Dayton Industrial
Dayton, MN

Source: MnGeo WMS, Twin Cities metro, 2020 color 7-county

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Legend

- Sample Point
- Delineated Wetland Boundary
- Study Area

N
W E
S

0 300 600 Feet

Site Location

Attachment C

WETLAND DETERMINATION FORMS

ALLIANT

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Dayton Industrial | City/County: Dayton/Hennepin | Sampling Date: 5/4/2020

Applicant/Owner: Thurber and Mary Spaanem | State: MN | Sampling Point: SP-01-WET

Investigator(s): Keara Pringle | Section, Township, Range: S 30 and 31, T 120N, R 22W

Landform (hillslope, terrace, etc.): depression | Local relief (concave, convex, none): concave

Slope (%): 0 | Lat: 45.168675 | Long: -93.511131 | Datum: NAD83

Soil Map Unit Name: Dundas-Cordova complex, 0-3% slopes | NWI Classification: PEM1A

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	Y
Hydric soil present?	Y
Indicators of wetland hydrology present?	Y
Is the sampled area within a wetland?	Y
If yes, optional wetland site ID:	Wetland 1

Remarks: (Explain alternative procedures here or in a separate report.)

Wetland 1 - inplot

VEGETATION -- Use scientific names of plants.

	Absolute % Cover	Dominant Species	Indicator Staus
Tree Stratum (Plot size: 30')			
1 *Ulmus americana*	30	Y	FACW
2			
3			
4			
5			
	30 = Total Cover		
Sapling/Shrub stratum (Plot size: 15')			
1 *Ulmus americana*	15	Y	FACW
2 *Rhamnus cathartica*	5	Y	FAC
3			
4			
5			
	20 = Total Cover		
Herb stratum (Plot size: 5')			
1 *Phalaris arundinacea*	90	Y	FACW
2 *Typha X glauca*			OBL
3			
4			
5			
6			
7			
8			
9			
10			
	90 = Total Cover		
Woody vine stratum (Plot size: 30')			
1			
2			
	0 = Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across all Strata: 4 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	135	x 2 =	270
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	140 (A)		285 (B)

Prevalence Index = B/A = 2.04

Hydrophytic Vegetation Indicators:

- ____ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** SP-01-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-4	10YR 2/1	97	7.5YR 3/4	3	C	M	loam	
4-13	10YR 2/1	85	7.5YR 4/6	15	C	M	silt loam	
13-15	10YR 4/1	73	10YR 5/6	25	C	M	clay loam	
	10YR 2/1	3						

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes		No	X	Depth (inches):	
Water table present?	Yes		No	X	Depth (inches):	
Saturation present? (includes capillary fringe)	Yes	X	No		Depth (inches):	10

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Dayton Industrial | City/County: Dayton/Hennepin | Sampling Date: 5/4/2021
Applicant/Owner: Thurber and Mary Spaanem | State: MN | Sampling Point: SP-01-UPL
Investigator(s): Keara Pringle | Section, Township, Range: S 30 and 31, T 120N, R 22W
Landform (hillslope, terrace, etc.): slope of berm | Local relief (concave, convex, none): none
Slope (%): 0.5 | Lat: 45.168697 | Long: -93.511003 | Datum: NAD83
Soil Map Unit Name: Dundas-Cordove complex, 0-3% slopes | NWI Classification: N/A
Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances"
Are vegetation ____, soil ____, or hydrology ____ naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	Y		
Hydric soil present?	Y	**Is the sampled area within a wetland?**	N
Indicators of wetland hydrology present?	N	If yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

Outplot associated with Wetland 1

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Staus
1 *Ulmus americana*	20	Y	FACW
2 *Acer negundo*	20	Y	FAC
3			
4			
5			
	40	= Total Cover	
Sapling/Shrub stratum (Plot size: 15')			
1 *Rhamnus cathartica*	12	Y	FAC
2 *Ribes cynosbati*	8	Y	FAC
3 *Lonicera tatarica*	5	Y	FACU
4			
5			
	25	= Total Cover	
Herb stratum (Plot size: 5')			
1 *Hydrophyllum virginianum*	50	Y	FAC
2 *Phalaris arundinacea*	8	N	FACW
3 *Geum canadense*	6	N	FAC
4			
5			
6			
7			
8			
9			
10			
	64	= Total Cover	
Woody vine stratum (Plot size: 30')			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)
Total Number of Dominant Species Across all Strata: 6 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 83.33% (A/B)

Prevalence Index Worksheet

Total % Cover of:			
OBL species	0	x 1 =	0
FACW species	28	x 2 =	56
FAC species	96	x 3 =	288
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column totals	129 (A)		364 (B)

Prevalence Index = B/A = 2.82

Hydrophytic Vegetation Indicators:

- ____ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: SP-01-UPL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-7	10YR 2/2	90	7.5YR 3/4	10	C	M	silt loam	
7-15	10YR 4/2	85	10YR 5/6	15	C	M	clay loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches): ___
Water table present?	Yes	___	No	X	Depth (inches): ___
Saturation present? (includes capillary fringe)	Yes	___	No	X	Depth (inches): ___

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Dayton Industrial | City/County: Dayton/Hennepin | Sampling Date: 5/4/2021

Applicant/Owner: Thurber and Mary Spaanem | State: MN | Sampling Point: SP-02-WET

Investigator(s): Keara Pringle | Section, Township, Range: S 30 and 31, T 120N, R 22W

Landform (hillslope, terrace, etc.): depression | Local relief (concave, convex, none): concave

Slope (%): 0 | Lat: 45.166196 | Long: -95.508863 | Datum: NAD83

Soil Map Unit Name: Dundas-Cordova complex, 0-3% slopes | NWI Classification: PEM1A

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	Y
Hydric soil present?	Y
Indicators of wetland hydrology present?	Y
Is the sampled area within a wetland?	Y
If yes, optional wetland site ID:	Wetland 2

Remarks: (Explain alternative procedures here or in a separate report.)

Wetland 2 - inplot

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	

Sapling/Shrub stratum (Plot size: 15')			
1 *Ribes cynosbati*	3		FAC
2			
3			
4			
5			
	3	= Total Cover	

Herb stratum (Plot size: 5')			
1 *Phalaris arundinacea*	90	Y	FACW
2 *Solidago altissima*	2	N	FACU
3			
4			
5			
6			
7			
8			
9			
10			
	92	= Total Cover	

Woody vine stratum (Plot size: 30')			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	90	x 2 =	180
FAC species	3	x 3 =	9
FACU species	2	x 4 =	8
UPL species	0	x 5 =	0
Column totals	95 (A)		197 (B)

Prevalence Index = B/A = 2.07

Hydrophytic Vegetation Indicators:

- ____ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: SP-02-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-6	N 2/0	100					silt loam	
6-18	10YR 3/1	97	10YR 5/6	3	C	M	clay loam	
18-22	10YR 3/1	90	10YR 5/3	6	D	M	clay loam	
			7.5YR 5/8	4	C	M		

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches): ___
Water table present?	Yes	___	No	X	Depth (inches): ___
Saturation present? (includes capillary fringe)	Yes	___	No	X	Depth (inches): ___

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Dayton Industrial | City/County: Dayton/Hennepin | Sampling Date: 5/4/2021

Applicant/Owner: Thurber and Mary Spaanem | State: MN | Sampling Point: SP-02-UPL

Investigator(s): Keara Pringle | Section, Township, Range: S 30 and 31, T 120N, R 22W

Landform (hillslope, terrace, etc.): gradual slope | Local relief (concave, convex, none): none

Slope (%): 1 | Lat: 45.166094 | Long: -93.508866 | Datum: NAD83

Soil Map Unit Name: Dundas-Cordova complex, 0-3% slopes | NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation ____, soil ____, or hydrology ____ naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	N		
Hydric soil present?	Y	**Is the sampled area within a wetland?**	N
Indicators of wetland hydrology present?	N	If yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

Outplot associated with Wetland 2

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratum (Plot size: 15')			
1 *Acer saccharum*	30	Y	FACU
2 *Rhamnus cathartica*	20	Y	FAC
3 *Cornus racemosa*	10	N	FAC
4 *Prunus virginiana*	7	N	FACU
5 *Lonicera tatarica*	3	N	FACU
	70	= Total Cover	
Herb stratum (Plot size: 5')			
1 *Bromus inermis*	70	Y	FACU
2 *Poa pratensis*	40	Y	FAC
3 *Taraxacum officinale*	3	N	FACU
4 *Acer saccharum*	3	N	FACU
5			
6			
7			
8			
9			
10			
	116	= Total Cover	
Woody vine stratum (Plot size: 30')			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 4 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	70	x 3 =	210
FACU species	116	x 4 =	464
UPL species	0	x 5 =	0
Column totals	186 (A)		674 (B)

Prevalence Index = B/A = 3.62

Hydrophytic Vegetation Indicators:

- ____ Rapid test for hydrophytic vegetation
- ____ Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** SP-02-UPL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-7	10YR 2/2	100					silt loam	
7-20	10YR 5/1	80	10YR 5/4	15	C	M	silt loam	
	10YR 2/2	5						
20-24	10YR 5/1	80	10YR 5/4	15	C	M	clay loam	
	10YR 2/2	5						

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches): ___
Water table present?	Yes	___	No	X	Depth (inches): ___
Saturation present? (includes capillary fringe)	Yes	___	No	X	Depth (inches): ___

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Attachment D

PHOTOS

ALLIANT

Dayton Industrial
Wetland Delineation Report
Photo Log

	**Dayton Industrial** **5/4/2021** **Photo 1.** Wetland 1 facing east.
	**Dayton Industrial** **5/4/2021** **Photo 2.** Wetland 2 facing north.

Attachment E

HISTORIC AERIAL REVIEW

ALLIANT

Wetland Determination from Aerial Imagery - Recording Form

Date Image Taken (M-D-Y)	Image Source	Climate Condition (wet, dry, normal)	Image Interpretation		
			Area: 1	Area: 2	Area: 3
5/18/2010	**Google Earth**	Normal	SS	NSS	NSS
5/15/2012	Google Earth	Normal	NSS	NSS	NSS
9/13/2013	Google Earth	Normal	NC	NC	NC
10/11/2014	Google Earth	Dry	NSS	NSS	NSS
8/11/2015	Google Earth	Normal	DO	NSS	DO
4/15/2016	MnGeo	Normal	SS	NSS	SS
4/15/2017	MnGeo	Normal	NC	NSS	NSS
5/15/2018	MnGeo	Normal	NC	NSS	SS
10/25/2019	Google Earth	Wet	SS	NSS	NSS
5/11/2020	Google Earth	Dry	SS	NSS	NSS
Normal Climate Conditions			**Area: 1**	**Area: 2**	**Area: 3**
Number			7	7	7
Number with wet signatures			6	1	4
Percent with wet signatures			**85.7%**	**14.3%**	**57.1%**

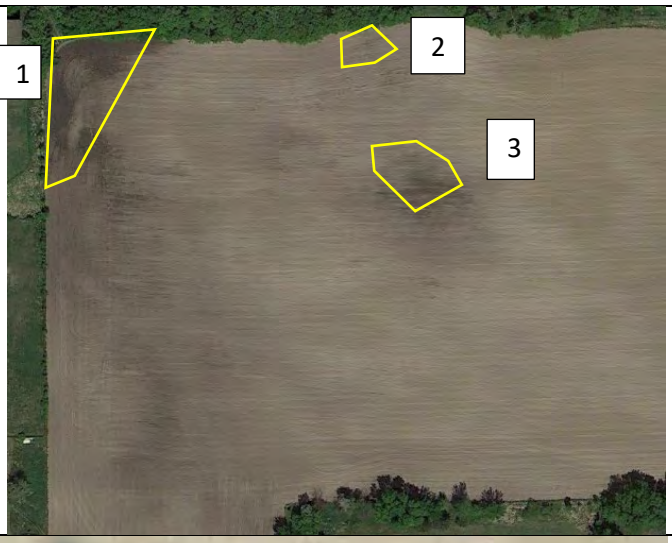
*Dates are based on the recorded dates in Google Earth with the exception of the 2012 aerial imagery that was likely taken in May instead of April. MnGeo imagery is estimated based on aerial imagery, specific month/day is not provided.

Decision Matrix Table

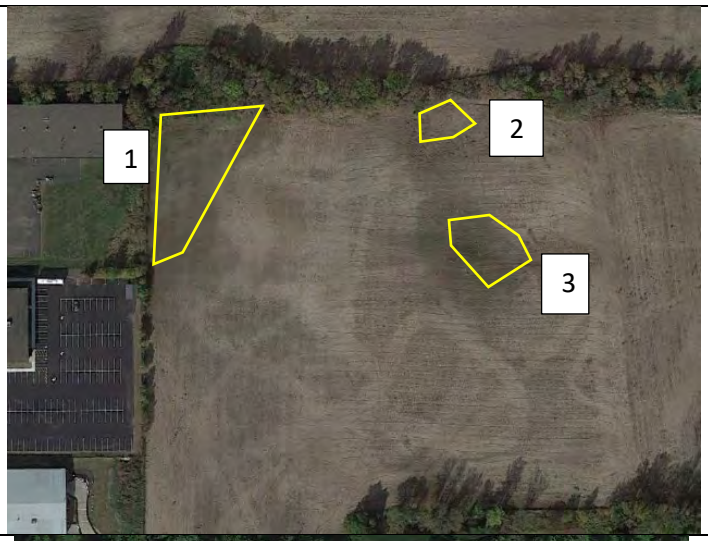
Area	Hydric Soils Present	Identified on NWI or other wetland map	Percent with wet signatures from Exhibit 1	Other hydrology indicators present	Wetland
1	Partially hydric	No	>50%	N/A	Yes
2	Partially hydric	No	<30%	N/A	No
3	Partially hydric	No	>50%	N/A	Yes

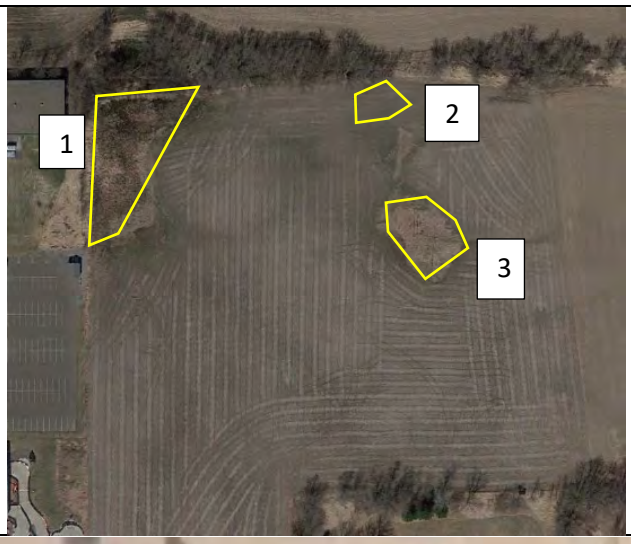
*See notes in wetland delineation report about Area 3

Dayton Industrial
Historic Aerial Photos

	MnGeo 2010
	Google Earth 2012 5/15/2012 *Google Earth says 4/5/2012 but it's more likely the picture was taken in May based off of how much vegetation is leafed off
	Google Earth 2013

Dayton Industrial
Historic Aerial Photos

	Google Earth 2014 10/11/2014
	Google Earth 2015 8/11/2015
	MnGeo 2016 4/15/2016

	MnGeo 2017 4/15/2017
	MnGeo 2018 5/15/2018
	Google Earth 2019 10/25/2019

	Google Earth 2020 5/11/2020

Minnesota State Climatology Office

State Climatology Office - DNR Division of Ecological and Water Resources

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Hennepin** township number: **120N**
township name: **Dayton** range number: **22W**
nearest community: **Fletcher** section number: **31**

Aerial photograph or site visit date:
Tuesday, May 18, 2010

Score using 1981-2010 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: **April 2010**	second prior month: **March 2010**	third prior month: **February 2010**
estimated precipitation total for this location:	**1.88**	**0.98**	**0.87**
there is a 30% chance this location will have less than:	1.80	1.11	0.40
there is a 30% chance this location will have more than:	2.92	1.89	0.87
type of month: dry normal wet	**normal**	**dry**	**normal**
monthly score	**3 * 2 = 6**	**2 * 1 = 2**	**1 * 2 = 2**
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**10 (Normal)**		

Other Resources:

- retrieve daily precipitation data
- view radar-based precipitation estimates
- view weekly precipitation maps
- *Evaluating Antecedent Precipitation Conditions* (BWSR)

Minnesota State Climatology Office

State Climatology Office - DNR Division of Ecological and Water Resources

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Hennepin** township number: **120N**
township name: **Dayton** range number: **22W**
nearest community: **Fletcher** section number: **31**

Aerial photograph or site visit date:
Tuesday, May 15, 2012

Score using 1981-2010 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: **April 2012**	second prior month: **March 2012**	third prior month: **February 2012**
estimated precipitation total for this location:	**2.68**	**1.05**	**1.75**
there is a 30% chance this location will have less than:	1.80	1.11	0.40
there is a 30% chance this location will have more than:	2.92	1.89	0.87
type of month: dry normal wet	**normal**	**dry**	**wet**
monthly score	**3 * 2 = 6**	**2 * 1 = 2**	**1 * 3 = 3**
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**11 (Normal)**		

Other Resources:

- retrieve daily precipitation data
- view radar-based precipitation estimates
- view weekly precipitation maps
- *Evaluating Antecedent Precipitation Conditions* (BWSR)

Minnesota State Climatology Office

State Climatology Office - DNR Division of Ecological and Water Resources

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Hennepin** township number: **120N**
township name: **Dayton** range number: **22W**
nearest community: **Fletcher** section number: **31**

Aerial photograph or site visit date:
Friday, September 13, 2013

Score using 1981-2010 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: **August 2013**	second prior month: **July 2013**	third prior month: **June 2013**
estimated precipitation total for this location:	**1.13**	**3.61**	**6.69**
there is a 30% chance this location will have less than:	3.35	2.45	3.09
there is a 30% chance this location will have more than:	4.49	4.20	5.28
type of month: dry normal wet	**dry**	**normal**	**wet**
monthly score	**3 * 1 = 3**	**2 * 2 = 4**	**1 * 3 = 3**
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**10 (Normal)**		

Other Resources:

- retrieve daily precipitation data
- view radar-based precipitation estimates
- view weekly precipitation maps
- *Evaluating Antecedent Precipitation Conditions* (BWSR)

Minnesota State Climatology Office

State Climatology Office - DNR Division of Ecological and Water Resources

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Hennepin** township number: **120N**
township name: **Dayton** range number: **22W**
nearest community: **Fletcher** section number: **31**

Aerial photograph or site visit date:
Saturday, October 11, 2014

Score using 1981-2010 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: **September 2014**	second prior month: **August 2014**	third prior month: **July 2014**
estimated precipitation total for this location:	**2.31**	**3.28**	**2.31**
there is a 30% chance this location will have less than:	2.11	3.35	2.45
there is a 30% chance this location will have more than:	4.21	4.49	4.20
type of month: dry normal wet	**normal**	**dry**	**dry**
monthly score	**3 * 2 = 6**	**2 * 1 = 2**	**1 * 1 = 1**
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**9 (Dry)**		

Other Resources:

- retrieve daily precipitation data
- view radar-based precipitation estimates
- view weekly precipitation maps
- *Evaluating Antecedent Precipitation Conditions* (BWSR)

Minnesota State Climatology Office

State Climatology Office - DNR Division of Ecological and Water Resources

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Hennepin** township number: **120N**
township name: **Dayton** range number: **22W**
nearest community: **Fletcher** section number: **31**

Aerial photograph or site visit date:
Friday, September 11, 2015

Score using 1981-2010 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: **August 2015**	second prior month: **July 2015**	third prior month: **June 2015**
estimated precipitation total for this location:	**3.58**	**6.88**	**3.98**
there is a 30% chance this location will have less than:	3.35	2.45	3.09
there is a 30% chance this location will have more than:	4.49	4.20	5.28
type of month: dry normal wet	**normal**	**wet**	**normal**
monthly score	**3 * 2 = 6**	**2 * 3 = 6**	**1 * 2 = 2**
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**14 (Normal)**		

Other Resources:

- retrieve daily precipitation data
- view radar-based precipitation estimates
- view weekly precipitation maps
- *Evaluating Antecedent Precipitation Conditions* (BWSR)

Minnesota State Climatology Office

State Climatology Office - DNR Division of Ecological and Water Resources

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Hennepin** township number: **120N**
township name: **Dayton** range number: **22W**
nearest community: **Fletcher** section number: **32**

Aerial photograph or site visit date:
Friday, April 15, 2016

Score using 1981-2010 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: **March 2016**	second prior month: **February 2016**	third prior month: **January 2016**
estimated precipitation total for this location:	**1.13**	**0.72**	**0.24**
there is a 30% chance this location will have less than:	1.13	0.40	0.40
there is a 30% chance this location will have more than:	1.86	0.86	0.75
type of month: dry normal wet	**normal**	**normal**	**dry**
monthly score	**3 * 2 = 6**	**2 * 2 = 4**	**1 * 1 = 1**
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**11 (Normal)**		

Other Resources:

- retrieve daily precipitation data
- view radar-based precipitation estimates
- view weekly precipitation maps
- *Evaluating Antecedent Precipitation Conditions* (BWSR)

Minnesota State Climatology Office

State Climatology Office - DNR Division of Ecological and Water Resources

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Hennepin** township number: **120N**
township name: **Dayton** range number: **22W**
nearest community: **Fletcher** section number: **32**

Aerial photograph or site visit date:
Saturday, April 15, 2017

Score using 1981-2010 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: **March 2017**	second prior month: **February 2017**	third prior month: **January 2017**
estimated precipitation total for this location:	**0.72**	**0.60**	**0.77**
there is a 30% chance this location will have less than:	1.13	0.40	0.40
there is a 30% chance this location will have more than:	1.86	0.86	0.75
type of month: dry normal wet	**dry**	**normal**	**wet**
monthly score	**3 * 1 = 3**	**2 * 2 = 4**	**1 * 3 = 3**
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**10 (Normal)**		

Other Resources:

- retrieve daily precipitation data
- view radar-based precipitation estimates
- view weekly precipitation maps
- *Evaluating Antecedent Precipitation Conditions* (BWSR)

Minnesota State Climatology Office

State Climatology Office - DNR Division of Ecological and Water Resources

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Hennepin** township number: **120N**
township name: **Dayton** range number: **22W**
nearest community: **Fletcher** section number: **32**

Aerial photograph or site visit date:
Tuesday, May 15, 2018

Score using 1981-2010 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: **April 2018**	second prior month: **March 2018**	third prior month: **February 2018**
estimated precipitation total for this location:	**1.93**	**1.30**	**1.29**
there is a 30% chance this location will have less than:	1.84	1.13	0.40
there is a 30% chance this location will have more than:	2.92	1.86	0.86
type of month: dry normal wet	**normal**	**normal**	**wet**
monthly score	**3 * 2 = 6**	**2 * 2 = 4**	**1 * 3 = 3**
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**13 (Normal)**		

Other Resources:

- retrieve daily precipitation data
- view radar-based precipitation estimates
- view weekly precipitation maps
- *Evaluating Antecedent Precipitation Conditions* (BWSR)

Minnesota State Climatology Office

State Climatology Office - DNR Division of Ecological and Water Resources

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Hennepin** township number: **120N**
township name: **Dayton** range number: **22W**
nearest community: **Fletcher** section number: **32**

Aerial photograph or site visit date:
Friday, October 25, 2019

Score using 1981-2010 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: **September 2019**	second prior month: **August 2019**	third prior month: **July 2019**
estimated precipitation total for this location:	**5.87**	**5.12**	**4.67**
there is a 30% chance this location will have less than:	2.04	3.38	2.43
there is a 30% chance this location will have more than:	4.12	4.54	4.28
type of month: dry normal wet	**wet**	**wet**	**wet**
monthly score	**3 * 3 = 9**	**2 * 3 = 6**	**1 * 3 = 3**
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**18 (Wet)**		

Other Resources:

- retrieve daily precipitation data
- view radar-based precipitation estimates
- view weekly precipitation maps
- *Evaluating Antecedent Precipitation Conditions* (BWSR)

Minnesota State Climatology Office

State Climatology Office - DNR Division of Ecological and Water Resources

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Hennepin** township number: **120N**
township name: **Dayton** range number: **22W**
nearest community: **Fletcher** section number: **31**

Aerial photograph or site visit date:
Monday, May 11, 2020

Score using 1981-2010 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: **April 2020**	second prior month: **March 2020**	third prior month: **February 2020**
estimated precipitation total for this location:	**1.09**	**1.85**	**0.48**
there is a 30% chance this location will have less than:	1.80	1.11	0.40
there is a 30% chance this location will have more than:	2.92	1.89	0.87
type of month: dry normal wet	**dry**	**normal**	**normal**
monthly score	**3 * 1 = 3**	**2 * 2 = 4**	**1 * 2 = 2**
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**9 (Dry)**		

Other Resources:

- retrieve daily precipitation data
- view radar-based precipitation estimates
- view weekly precipitation maps
- *Evaluating Antecedent Precipitation Conditions* (BWSR)

BOARD OF WATER AND SOIL RESOURCES

Minnesota Wetland Conservation Act
Notice of Decision

Local Government Unit: City of Dayton	**County:** Hennepin
Applicant Name: Thurber & Mary Spaanem **Applicant Representative:** Alliant Engineering – Keara Pringle	
Project Name: Dayton Industrial Development	**LGU Project No. (if any):**
Date Complete Application Received by LGU: 5/21/2021	
Date of LGU Decision: 6/1/2021	
Date this Notice was Sent: 6/24/2021	

WCA Decision Type - check all that apply

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

Replacement Plan Impacts (replacement plan decisions only)

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

Technical Evaluation Panel Findings and Recommendations (attach if any)

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

LGU Decision

☐ Approved with Conditions (specify below)[1] ☒ Approved[1] ☐ Denied
List Conditions:

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

Decision is valid for: ☒ 5 years (default) ☐ Other (specify):

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

LGU Findings – Attach document(s) and/or insert narrative providing the basis for the LGU decision[1].

☐ Attachment(s) (specify):
☒ Summary: On behalf of the Applicant, Thurber & Mary Spaanem, Alliant Engineering submitted a WCA Application for Wetland Boundary and Type approval for the approximately 25-acre subject property located 18150 State County Road 81 between 113th Ave North and Brockton Lane North in Section 30 & 31, T120N, R22W in the City of Dayton (PID : 3112022120005, 3012022430003).The boundary of one wetland was delineated on May 4, 2021 as documented in the Wetland Delineation Report dated May 2021 and shown in the attached Figure.

Wetland 1: Type 1/2, 0.38 acres

Wetland 2: Type 2, 0.03 acres
Wetland 3: Type 1, 0.14 acres

The TEP conducted a field review of the delineation on June 1, 2021 and requested modification to two wetlands. The TEP concurs with the revised delineation as flagged in the field and presented in the revised delineation report. The City of Dayton approves this application.

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

Attached Project Documents

☒ Site Location Map ☒ Project Plan(s)/Descriptions/Reports (specify): Figure 6 – Wetland Delineation

Appeals of LGU Decisions

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

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

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

☐ Yes[1] ☒ No

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

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

Notice Distribution (include name)

Required on all notices:

☒ SWCD TEP Member: Stacey Lijewski , Hennepin SWCD	☒ BWSR TEP Member: Ben Carlson
☒ LGU TEP Member (if different than LGU contact):	
☒ DNR Representative: Lucas Youngsma and Melissa Collins	
☒ Watershed District or Watershed Mgmt. Org.: Elm Creek WMO	
☒ Applicant: Thurber & Mary Spaanem	☒ Agent/Consultant: Keara Pringle – Alliant Engineering

Optional or As Applicable:

☒ Corps of Engineers:	
☐ BWSR Wetland Mitigation Coordinator (required for bank plan applications only):	
☐ Members of the Public (notice only):	☐ Other:

Signature:	Date: 6/24/2021
	

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

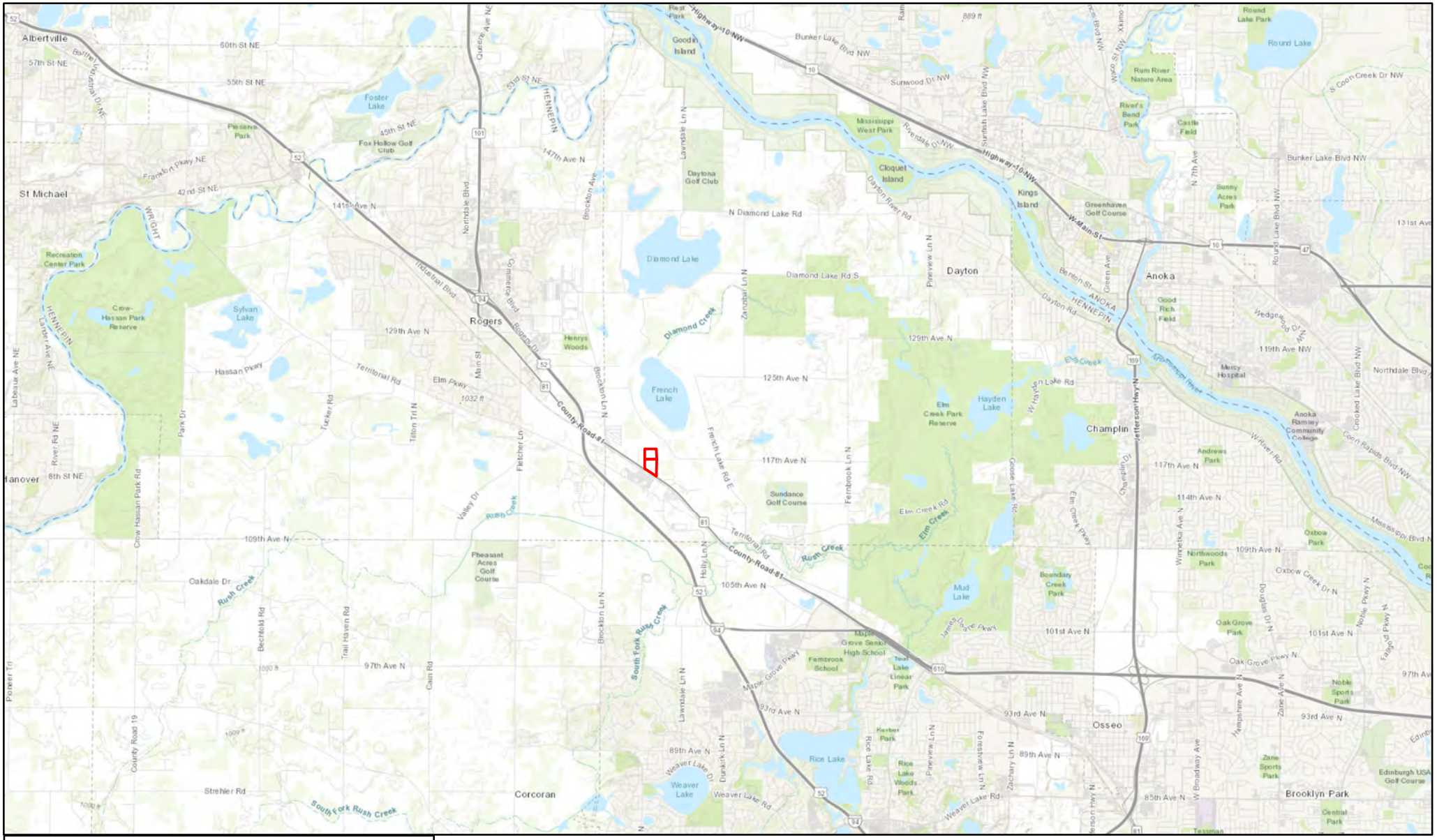


Figure 1.
Project Location

Dayton Industrial
Dayton, MN

Source: MnGeo WMS, Twin Cities metro, 2020 color 7-county

Legend

Study Area

ALLIANT
733 Marquette Ave Ste 700
Minneapolis, MN 55402-2340
OFFICE: (612) 758 3080
FAX: (612) 758 3099
www.alliant-inc.com

N
W E
S

0 1.5 3 Miles

Figure 6.
Wetland Delineation

*Updated from TEP meeting on June 1, 2021
Wetland 1 - boundary in the southern portion of the wetland was adjusted
Wetland 3 - added based on aerial photo and field investigation

Dayton Industrial
Dayton, MN

Source: MnGeo WMS, Twin Cities metro, 2020 color 7-county

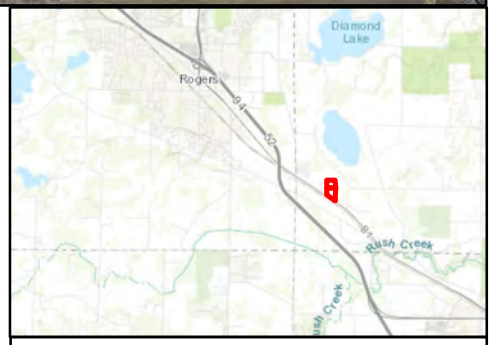
ALLIANT
733 Marquette Ave Ste 700
Minneapolis, MN 55402-2340
OFFICE: (612) 758 3080
FAX: (612) 758 3099
www.alliant-inc.com

Legend

- Sample Point
- Wetland Boundary
- Study Area

N W E S

0 300 600 Feet



Site Location

Appendix C

MINNESOTA DEPARTMENT OF HEALTH
WELL INDEX LOG LOG

Minnesota Unique Well Number

410668

County Hennepin
Quad Rogers
Quad ID 121A

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date 04/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
SPAANUM,	120	22	W	31	ABBDAA

Elevation 945 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 18150 152 HY DAYTON MN 55327

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	15	YELLOW	MEDIUM
CLAY	15	50	BLUE	MEDIUM
SAND	50	76	YELLOW	MEDIUM
CLAY	76	88	BLUE	SOFT
GRAVEL	88	96	VARIED	

Remarks

Well Depth 96 ft. **Depth Completed** 96 ft. **Date Well Completed** 11/18/1986

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

Use domestic **Status** Active

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

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

Casing Diameter	Weight	Hole Diameter
4 in. To 96 ft.	lbs./ft.	6.2 in. To 96 ft.

Open Hole From ft. To ft.

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

Diameter	Slot/Gauze	Length	Set	
4 in.	18	8 ft.	88 ft.	96 ft.

Static Water Level

70 ft. land surface Measure 11/18/1986

Pumping Level (below land surface)

85 ft. 1 hrs. Pumping at 10 g.p.m.

Wellhead Completion

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

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

Material	Amount	From	To
cuttings		0 ft.	88 ft.
pearock		88 ft.	96 ft.

Nearest Known Source of Contamination

150 feet Northwes Direction Septic tank/drain field Type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed 11/20/1986
Manufacturer's name MEYERS
Model Number HP 2 Volt 220
Length of drop pipe 73 ft Capacity 10 g.p. Typ Submersible

Abandoned

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

Variance

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

Miscellaneous

First Bedrock Aquifer Quat. buried
Last Strat gravel (+larger) Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)
System UTM - NAD83, Zone 15, Meters X 459954 Y 5001520
Unique Number Verification Information from Input Date 01/01/1990

Angled Drill Hole

Well Contractor

Steffl Well Co. 61335 STEFFL, S.
Licensee Business Lic. or Reg. No. Name of Driller

Appendix D

MN DNR NATURAL HERTIGATE INFORMATION SYSTEM (NHIS) CONCURRENT LETTER

DEPARTMENT OF NATURAL RESOURCES

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

April 11, 2022
Correspondence # MCE 2022-00022

Keara Fehr
Alliant Engineering

RE: Natural Heritage Review of the proposed Dayton 94 Industrial,
T120N, R22W, Sections 30-31; Hennepin County

Dear Keara Fehr,

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, I do not believe the proposed project will negatively affect any known occurrences of rare features. To ensure compliance with federal law, conduct a federal regulatory review using the U.S. Fish and Wildlife Service's (USFWS) online Information for Planning and Consultation (IPaC) tool.

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

For environmental review purposes, the results of this Natural Heritage Review are valid for one year; the results are only valid for the project location and 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.

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. For information on the environmental review process or other natural resource concerns, you may contact your DNR Regional Environmental Assessment Ecologist.

Please include a copy of this letter and the MCE-generated Final Project Report in any state or local license or permit application. Thank you for consulting us on this matter, and for your interest in preserving Minnesota's rare natural resources.

Sincerely,

Samantha Bump

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

ALLIANT

Memorandum

TO: Samantha Bump, MN DNR
FROM: Keara Pringle (CWMP), Environmental Specialist
DATE: 1.12.2022
SUBJECT: MN DNR Concurrence Request – Dayton Industrial – Dayton, Hennepin County, MN

A review of the Natural Heritage Information System (NHIS) data (license #181676) within 1 mile of the Dayton Industrial site in Dayton, Hennepin County, MN was completed by Alliant Engineering for the EAW process. The proposed project is located at 18150 State County Road 81. The parcel IDs associated with this property are 3012022430003 and 3112022120005.

NHIS Data Review:
The NHIS data revealed that there are no rare plants, animals, native plant communities, or other rare features within the project site or within adjacent parcels. However, there is data indicating that there is one bird species, the common gallinule (*Gallinula galaeta),* located within 1 mile of the project site.

The common gallinule, a species of special concern in Minnesota, commonly prefers habitats that contain freshwater marshes with dense stands of emergent vegetation and open water areas. This includes quiet rivers, lakes, ponds, and small marshes along the edge of lakes or rivers (MN DNR, 2022) [1].

The existing land use on site is an agriculture field in corn/soybean rotation with a residence located in the southern part of the site surrounding by a small patch of trees. There are three wetlands located on site, two of which are farmed wetlands and one wetland that clips the project boundary and occurs predominately on the adjacent site. The wetlands are identified as Type 1 ,seasonally flooded basin, and Type 2, wet meadow. A delineation was conducted in spring 2021 and a Notice of Decision was issued.

The marsh and open water habitat complex that the common gallinule prefers is not present on the project site. Therefore, it is unlikely the site provides suitable habitat for the common gallinule.

Appropriate measures will be taken to avoid any impact or disturbance to the common gallinule if the species is identified on site during construction.

Based on the documentation provided here, a MN DNR concurrence letter is being requested for this NHIS review.

Sincerely,

Keara Pringle

[1]Minnesota Department of Natural Resources (MN DNR). 2022. *Gallinula galeata.* *https://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=ABNME13030*

733 Marquette Ave Ste 700
Minneapolis, MN 55402
612.758.3080 MAIN
612.758.3099 FAX
www.alliant-inc.com

Project Location

Dayton Industrial
Dayton, Hennepin County, MN

Source: MnGeo WMS, Twin Cities metro, 2020 color 7-county

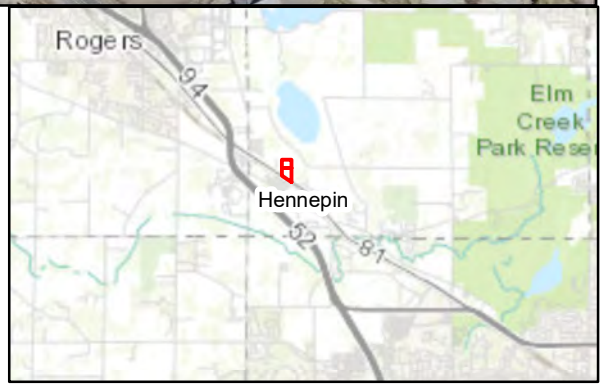
ALLIANT
733 Marquette Ave Ste 700
Minneapolis, MN 55402-2340
OFFICE: (612) 758 3080
FAX: (612) 758 3099
www.alliant-inc.com

Legend

Project Location

N
W E
S

0 500 1,000 Feet



Appendix E

USFWS IPAC REVIEW

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Hennepin County, Minnesota

Local office

Minnesota-Wisconsin Ecological Services Field Office

(952) 252-0092
(952) 646-2873

MAILING ADDRESS

4101 American Blvd E
Bloomington, MN 55425-1665

PHYSICAL ADDRESS

4101 American Blvd E
-}
Bloomington, MN 55425-1665

http://www.fws.gov/midwest/Endangered/section7/s7process/step1.html

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. 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.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Northern Long-eared Bat Myotis septentrionalis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

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

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

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

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

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle *Haliaeetus leucocephalus* 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 Dec 1 to Aug 31
Black-billed Cuckoo *Coccyzus erythropthalmus* 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 *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31

Canada Warbler Cardellina canadensis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
Cerulean Warbler Dendroica cerulea This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 22 to Jul 20
Henslow's Sparrow Ammodramus henslowii 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 Tringa flavipes 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
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird Euphagus carolinus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	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 and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

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

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

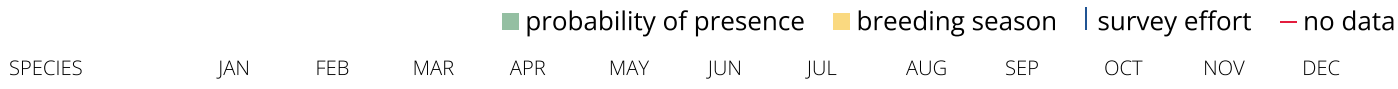
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

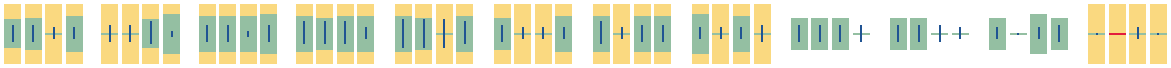
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

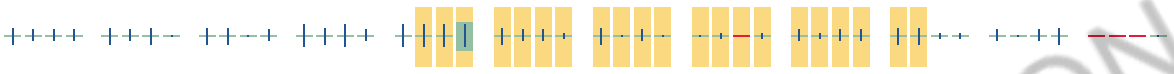
Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



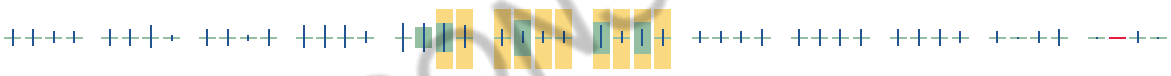
Bald Eagle
Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)



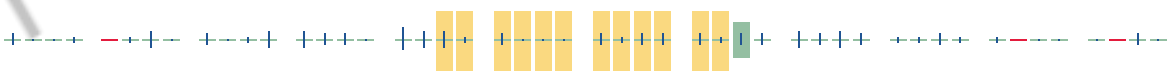
Black-billed Cuckoo
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Bobolink
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Canada Warbler
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

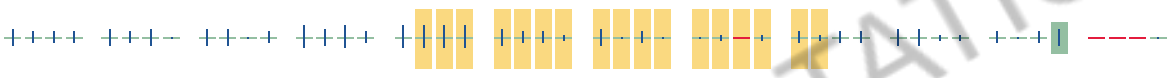


Cerulean Warbler
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Henslow's Sparrow BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

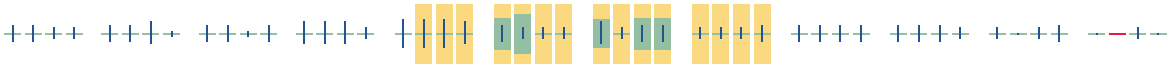
Lesser Yellowlegs BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Red-headed Woodpecker BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Rusty Blackbird BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Wood Thrush BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



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

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and

avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

Wildlife refuges and fish hatcheries

REFUGE AND FISH HATCHERY INFORMATION IS NOT AVAILABLE AT THIS TIME

Wetlands in the National Wetlands Inventory

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.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix F

MINNESOTA STATE HISTORIC PRESERVATION (SHPO) DATABASE REVIEW

From:	MN_MNIT_Data Request SHPO
To:	Keara Pringle
Subject:	RE: Database Search Request - Dayton Industrial - Dayton, Hennepin County, MN
Date:	Thursday, January 13, 2022 7:31:49 PM
Attachments:	image002.png image003.png image004.png image005.png image001.png Archaeology.xls History.xls

---

Hello Keara,

Please see attached.

Jim

DEPARTMENT OF ADMINISTRATION
STATE HISTORIC PRESERVATION OFFICE

SHPO Data Requests
Minnesota State Historic Preservation Office
50 Sherburne Avenue, Suite 203
Saint Paul, MN 55155
(651) 201-3299
datarequestshpo@state.mn.us

Notice: This email message simply reports the results of the cultural resources database search you requested. The database search is only for previously known archaeological sites and historic properties. **IN NO CASE DOES THIS DATABASE SEARCH OR EMAIL MESSAGE CONSTITUTE A PROJECT REVIEW UNDER STATE OR FEDERAL PRESERVATION LAWS –** please see our website at https://mn.gov/admin/shpo/protection/ for further information regarding our Environmental Review Process.

Because the majority of archaeological sites in the state and many historic/architectural properties have not been recorded, important sites or properties may exist within the search area and may be affected by development projects within that area. Additional research, including field surveys, may be necessary to adequately assess the area's potential to contain historic properties or archaeological sites.

Properties that are listed in the National Register of Historic Places (NRHP) or have been determined eligible for listing in the NRHP are indicated on the reports you have received, if any. The following codes may be on those reports:

NR – National Register listed. The properties may be individually listed or may be within the boundaries of a National Register District.

CEF – Considered Eligible Findings are made when a federal agency has recommended that a property is eligible for listing in the National Register and MN SHPO has accepted the recommendation for the purposes of the Environmental Review Process. These properties need to be further assessed before they are officially listed in the National Register.

SEF – Staff eligible Findings are those properties the MN SHPO staff considers eligible for listing in the National Register, in circumstances other than the Environmental Review Process.

DOE – Determination of Eligibility is made by the National Park Service and are those properties that are eligible for listing in the National Register, but have not been officially listed.

CNEF – Considered Not Eligible Findings are made during the course of the Environmental Review Process. For the purposes of the review a property is considered not eligible for listing in the National Register. These properties may

need to be reassessed for eligibility under additional or alternate contexts.
Properties without NR, CEF, SEF, DOE, or CNEF designations in the reports may not have been evaluated and therefore no assumption to their eligibility can be made. Integrity and contexts change over time, therefore any eligibility determination made ten (10) or more years from the date of the current survey are considered out of date and the property will need to be reassessed.
If you require a comprehensive assessment of a project's potential to impact archaeological sites or historic/architectural properties, you may need to hire a qualified archaeologist and/or historian. If you need assistance with a project review, please contact Kelly Gragg-Johnson, Environmental Review Specialist @ 651-201-3285 or by email at kelly.graggjohnson@state.mn.us.
The Minnesota SHPO Archaeology and Historic/Architectural Survey Manuals can be found at https://mn.gov/admin/shpo/identification-evaluation/.

Given the Governor's implementation of Stay Safe MN, SHPO staff will continue to work remotely and be available via phone and email, and the SHPO office will be closed to visitors and unable to accommodate in-person research and deliveries. Mail is being delivered to the office via USPS, FedEx and UPS, however, staff have limited weekly access to sort and process mail. Our office will continue to take file search requests via DataRequestSHPO@state.mn.us. Check SHPO's webpage for the latest updates and we thank you for your continued patience.

From: Keara Pringle <kpringle@alliant-inc.com>
Sent: Friday, January 7, 2022 3:06 PM
To: MN_MNIT_Data Request SHPO <DataRequestSHPO@state.mn.us>
Subject: Database Search Request - Dayton Industrial - Dayton, Hennepin County, MN

Hello,

Alliant is conducting an EAW for a site in Dayton, Hennepin County, MN. We are requesting a database search for any potential listed/designated historic properties and/or cultural resources location within or near the project site. See site information below:

- **Name of property:** No name on property
- **Address:** 18150 State County Road No. 81, Dayton, MN 55369
- **City:** Dayton
- **County:** Hennepin
- **Section, Township, Range:** 30 and 31, 120, 22

- **Attached shapefile is the study area**

If you have any questions, please feel free to email or contact me at 612-718-6880.

Thanks!

Keara Pringle, CMWP
(she, her, hers)
ENVIRONMENTAL SPECIALIST
Alliant Engineering, Inc.
733 Marquette Ave, Ste 700, Minneapolis, MN 55402
612.718.6880 CELL | **612.315.3200** DIRECT

Building better communities with excellence and passion.

ALLIANT // An employee-owned company.

ARCHAEOLOGY SITES															
COUNTY	SITENUM	SITENAME	TOWNSHIP	RANGE	SECTION	XQUARTERS	ACRES	WORKTYPE	DESCRIPT	TRADITION	CONTEXT	ReportNum	Natreg	CEF	DOE
Hennepin															
	21HE0442		120	22	30	NE-NW-NW	0.1	1,2	LS						
	21HE0444		120	22	30	NW-NE-NW	0.1	1	LS						
	21HE0511	Schany I	120	22	31	NW-NW-NW-	0.1	1	SA	W-1					
	21HE0512	Schany II	120	22	31	SW-NW-SW	0.1	1	SA						

HISTORICAL SITES													
COUNTY	CITYTWP	PROPNAME	ADDRESS	TOWNSHIP	RANGE	SECTION	QUARTERS	USGS	REPORTNUM	NRHP	CEF	DOE	INVENTNUM
Hennepin													
	Dayton												
		Bridge 27946	2.7 MI SE of JCT TH 101 (carries Brockton Lane over I-94)	120	22	31	NE-NE	Rogers					HE-DYC-016
		M&NW/StPM&M/GN W Side Line (Osseo Branch): Dayton Segment	BNSF RR in Dayton	120	22	30		Rogers	HE-2018-4H		Y		HE-DYC-018
		M&NW/StPM&M/GN W Side Line (Osseo Branch): Dayton Segment		120	22	31		Rogers	HE-2018-4H		Y		HE-DYC-018
		Farmstead	11150 Brockton Ln N	120	22	31			HE-2018-4H				HE-DYC-019
		Farmstead	11030 Holly Ln N	120	22	31			HE-2018-4H				HE-DYC-020
		Farmstead	18660 County Rd 81	120	22	31			HE-2018-4H				HE-DYC-021
		Farmstead	18950 Territorial Rd	120	22	31			HE-2018-4H				HE-DYC-022
		Private Bridge	Farm lane over Rush Creek east of	120	22	31			HE-2018-4H				HE-DYC-023
		Farmstead	c. 17400 Territorial Rd	120	22	31			HE-2018-4H				HE-DYC-024
		D. Chase House	17801 Territorial Rd	120	22	31		Rogers					HE-DYC-026

Appendix G

STANTEC TRAFFIC STUDY

File #227704008
July 20, 2021

DRAFT

Traffic Impact Study for Troy Lane Industrial Development in Dayton, MN

Prepared for:
City of Dayton

12260 S. Diamond Lake Rd.
Dayton, MN 55327

Prepared by:

Stantec Consulting Services Inc.
1800 Pioneer Creek Center
Maple Plain, MN 55359
Phone: 7963-479-4200
Fax: 763-479-4242

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FIGURE 2 SITE PLAN 2-3
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I hereby certify that this 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.

_____ DATE: July 20, 2021
Edward F. Terhaar
License No. 24441

1.0 Executive Summary

The purpose of this Traffic Impact Study is to evaluate the traffic impacts of two proposed industrial developments located in Dayton, MN. Based on discussions with City staff, this study examined weekday a.m. and p.m. peak hour traffic impacts of the proposed developments at the following intersections:

- CSAH 81/Troy Lane
- CSAH 81/right turn in/out access (future only)

The following development characteristics were used for this study:

- Development 1 – MTL Trucking
  - Four buildings totaling 130,000 square feet
  - 150 employees
  - 110 trucks entering and exiting per day
  - All access onto Troy Lane
  - Expected to be complete by the end of 2022

- Development 2 – Warehouse and Office building
  - One building with 273,885 square feet of warehouse and 20,615 square feet of office space
  - One full access onto Troy Lane
  - One right in/right out access on CSAH 81
  - Expected to be complete by the end of 2022

The conclusions drawn from the information and analyses presented in this report are as follows:

- Development 1 is expected to generate 262 trips during the weekday a.m. peak hour and 262 trips during the weekday p.m. peak hour. Development 2 is expected to generate 71 trips during the weekday a.m. peak hour and 76 trips during the weekday p.m. peak hour.

- Under the 2021 and 2023 No-Build scenarios at the CSAH 81/Troy Lane intersection, the overall intersection and all movements operate at acceptable levels of service except the southbound left turn during the p.m. peak hour, which operates at LOS F. All vehicle queue lengths are contained within the available queueing space.

- Under the 2023 Build scenario at the CSAH 81/Troy Lane intersection, vehicles exiting the proposed developments will have difficulty entering onto CSAH 81 during the a.m. and p.m. peak hours. Delays will result in significant vehicle queues for the southbound left turn and right turn movements.

- Under the 2023 Build scenario at the CSAH 81/right turn in/out intersection, the overall intersection and all movements operate at acceptable levels of service.

- The addition of an eastbound left turn and traffic signal control with no additional through lanes on CSAH 81 results in improved operations for the southbound movements during the a.m. and p.m. peak hours. However, the additional delay caused by traffic signal control results in LOS F for the westbound through

movements, resulting in vehicle queues extending east to Holly Lane.

- The addition of an eastbound left turn lane, widening CSAH 81 to four lanes, and traffic signal control results in acceptable levels of service for all movements.

- The following improvements are recommended to accommodate the proposed development:

    - Widen eastbound and westbound CSAH 81 to four lanes for a minimum length 800 feet east and 800 feet west of Troy Lane.
    - Construct an eastbound left turn lane at 300 feet in length with 180 foot taper.
    - Construct westbound right turn lane at 300 feet in length with 180 foot taper.
    - Construct 300 foot left and right turn southbound lanes on the Troy Lane at CSAH 81.
    - Install traffic signal control.

- As an alternative to the recommended mitigation measures, the option of extending Troy Lane north to West French Lake Road was also considered. While this option creates an alternative route for site trips, it does not eliminate the operational and safety issues that occur at the CSAH 81/Troy Lane intersection. Some trips from the development would likely still access CSAH 81 at Troy Lane due to the added travel distance of the new route. This would lead to operational issues at the Troy Lane intersection if improvements were not made.

2.0 Purpose and Background

The purpose of this Traffic Impact Study is to evaluate the traffic impacts of two proposed industrial developments located in Dayton, MN. Based on discussions with City staff, this study examined weekday a.m. and p.m. peak hour traffic impacts of the proposed developments at the following intersections:

- CSAH 81/Troy Lane
- CSAH 81/right turn in/out access (future only)

The development locations are shown in Figure 1.

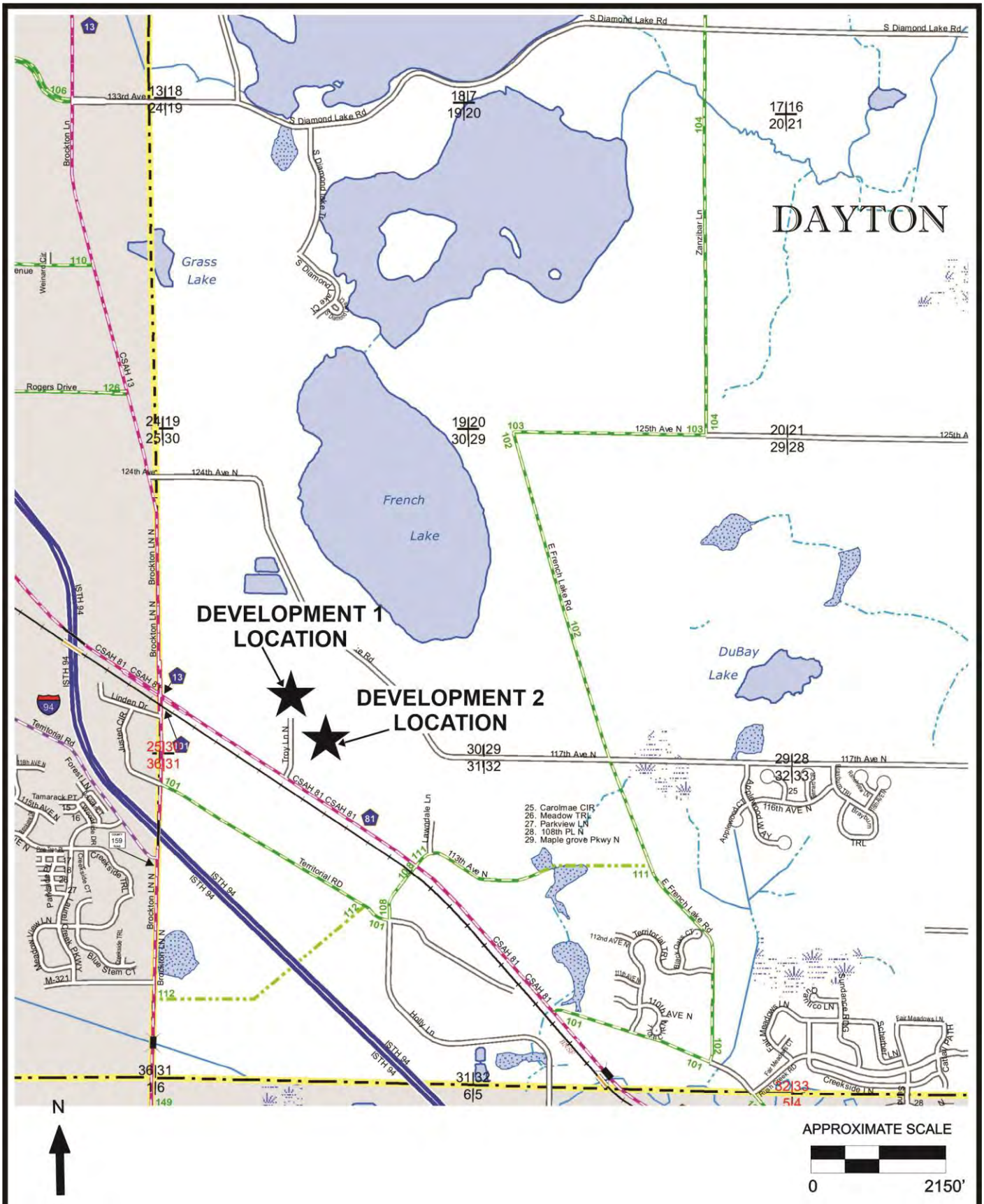
Proposed Development Characteristics

The following development characteristics were used for this study:

- Development 1 – MTL Trucking
    - Four buildings totaling 130,000 square feet
    - 150 employees
    - 110 trucks entering and exiting per day
    - All access onto Troy Lane
    - Expected to be complete by the end of 2022

- Development 2 – Warehouse and Office building
    - One building with 273,885 square feet of warehouse and 20,615 square feet of office space
    - One full access onto Troy Lane
    - One right in/right out access on CSAH 81
    - Expected to be complete by the end of 2022

The project site plans are shown in Figures 2 and 3.



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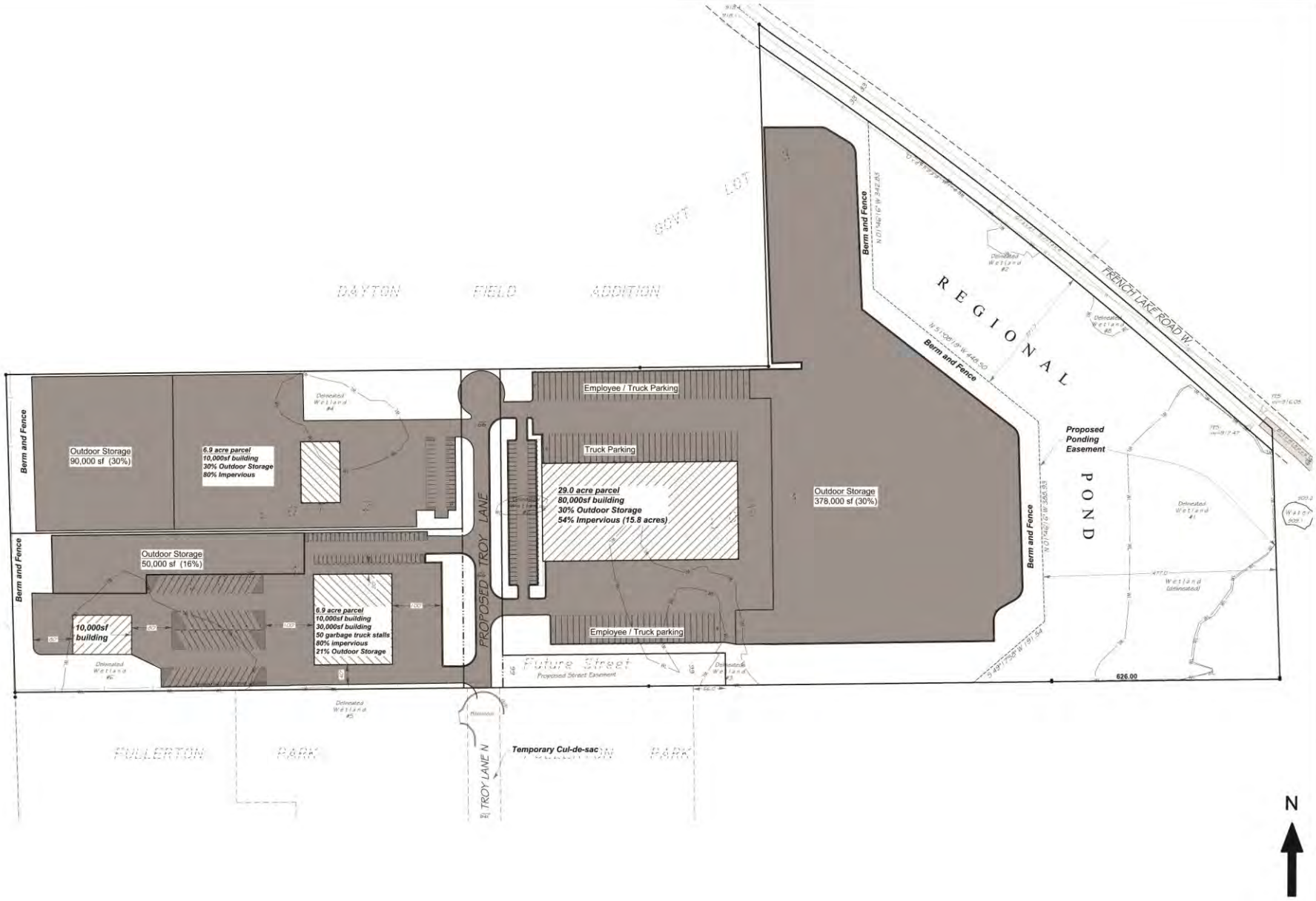
TRAFFIC IMPACT STUDY
FOR TROY LANE
INDUSTRIAL DEVELOPMENT
IN DAYTON, MN

FIGURE 1

PROJECT LOCATION

DRAFT

DRAFT



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FOR TROY LANE
INDUSTRIAL DEVELOPMENT
IN DAYTON, MN

FIGURE 2

DEVELOPMENT 1 SITE PLAN

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FOR TROY LANE
INDUSTRIAL DEVELOPMENT
IN DAYTON, MN

FIGURE 3

DEVELOMENT 2
SITE PLAN

3.0 Existing Conditions

At Troy Lane, CSAH 81 is a two-lane rural section roadway with a westbound right turn lane and an eastbound bypass lane. At CSAH 101 to the west and Holly Lane to the east, CSAH 81 is widened to four lanes and each intersection is traffic signal controlled. The speed limit on CSAH 81 is 55 miles per hour.

Troy Lane is a two-lane urban section roadway that provides access for existing industrial and commercial development north of CSAH 81. The speed limit on Troy Lane is 30 miles per hour.

Existing conditions near the proposed project location are shown in Figure 4 and described below.

CSAH 81/Troy Lane (minor street stop sign control)

This intersection has three approaches and is controlled with a stop sign on the Troy Lane approach. The eastbound approach provides one left turn/through lane and one through bypass lane. The westbound approach provides one through lane and one right turn lane. The southbound approach provides one left turn lane and one right turn lane.

Traffic Volume Data

Weekday traffic volume data was recorded at the existing intersection in May 2021. Existing traffic volume data is presented later in this report.

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INDUSTRIAL DEVELOPMENT
IN DAYTON, MN

FIGURE 4

EXISTING CONDITIONS

4.0 Traffic Forecasts

Traffic Forecast Scenarios

To adequately address the impacts of the proposed project, forecasts and analyses were completed for the year 2023. Specifically, weekday a.m. and p.m. peak hour traffic forecasts were completed for the following scenarios:

- *2021 Existing.* Turn movement volumes collected in May 2021 were used for existing conditions. The existing volume information includes trips generated by uses near the project site.

- *2023 No-Build.* Existing volumes at the subject intersections were increased by 1.0 percent per year to determine 2023 No-Build volumes. The 1.0 percent per year growth rate was calculated based on both recent traffic volume growth experienced near the site.

- *2023 Build.* Trips generated by the proposed developments were added to the 2023 No-Build volumes to determine 2023 Build volumes.

Estimation of Existing Volumes Due to COVID-19 Impacts

The impacts of COVID-19 have resulted in reductions in traffic volumes at some locations due to changes in work and travel habits. Traffic volume data collected at the CSAH 81/CSAH 101 and CSAH 81/Holly Lane intersections prior to the pandemic was used to adjust the existing counts, resulting in reasonable estimates for the weekday peak hours that would occur under non-pandemic conditions. These volumes were used for the traffic forecasts presented in this report.

Trip Generation

Trip generation estimates for Development 1 were based on specific employee and truck information obtained from the project owner. The expected development trips for Development 2 were calculated based on data presented in Trip Generation, Tenth Edition, published by the Institute of Transportation Engineers. The resultant trip generation estimates are shown in Tables 4-1 and 4-2.

Table 4-1
Weekday Trip Generation for Development 1

Trip Type	Weekday AM Peak Hour			Weekday PM Peak Hour		
	In	Out	Total	In	Out	Total
Employees	150	0	150	0	150	150
Trucks	0	110	110	110	0	110
Deliveries	1	1	2	1	1	2
Totals	151	111	262	111	151	262

Table 4-2
Weekday Trip Generation for Development 2

Land Use	Size	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
Warehouse	273,885 SF	36	11	47	14	38	52
Office	20,615 SF	21	3	24	4	20	24
Totals	294,500 SF	57	14	71	18	58	76

SF=square feet

Trip Distribution Percentages

Trip distribution percentages for the subject development trips were established based on the nearby roadway network, existing and expected future traffic patterns, and location of the subject development in relation to major attractions and population concentrations.

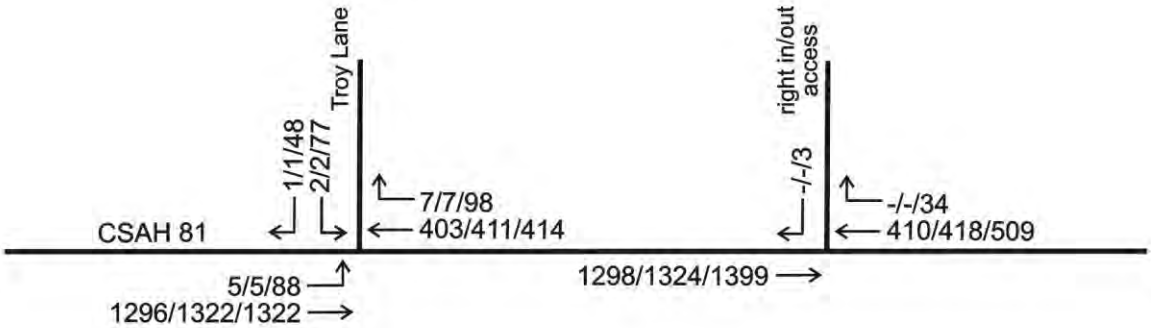
The distribution percentages for new trips generated by the proposed development are as follows:

- 60 percent to/from the east on CSAH 81
- 40 percent to/from the west on CSAH 81

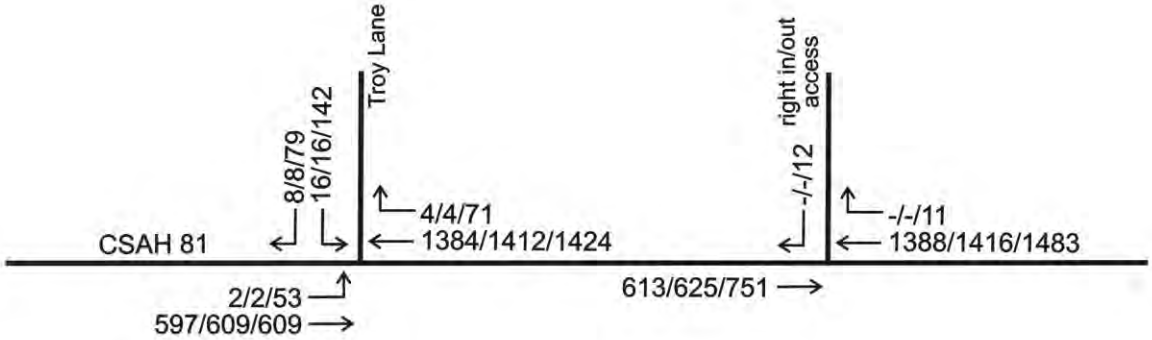
Peak Hour Traffic Volumes

Development trips were assigned to the surrounding roadway network using the preceding trip distribution percentages. Traffic volumes were established for all the forecasting scenarios described earlier during the weekday a.m. and p.m. peak hours. The resultant traffic volumes are presented in Figure 5.

AM PEAK HOUR



PM PEAK HOUR



2021
2023 NO-BUILD
2023 BUILD
XX/XX/XX

WENCK
Responsive partner.
Exceptional outcomes.

TRAFFIC IMPACT STUDY
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INDUSTRIAL DEVELOPMENT
IN DAYTON, MN

FIGURE 5

WEEKDAY PEAK HOUR TURN MOVEMENT VOLUMES

5.0 Traffic Analysis

Level of Service Analysis

Traffic analyses were completed for the subject intersection for all scenarios described earlier during the weekday a.m. and p.m. peak hours using Synchro/SimTraffic software. Initial analysis was completed using existing geometrics and intersection control.

Capacity analysis results are presented in terms of level of service (LOS), which is defined in terms of traffic delay at the intersection. LOS ranges from A to F. LOS A represents the best operation, with little delay for each vehicle using the intersection. LOS F represents the worst operation with excessive delay. The following is a detailed description of the conditions described by each LOS designation:

- Level of service A corresponds to a condition with motorists virtually unaffected by the intersection control mechanism. For a signalized or an unsignalized intersection, the average delay per vehicle would be approximately 10 seconds or less.

- Level of service B represents a condition with a high degree of freedom, but with some influence from the intersection control device and the traffic volumes. For a signalized intersection, the average delay ranges from 10 to 20 seconds. An unsignalized intersection would have delays ranging from 10 to 15 seconds for this level.

- Level of service C depicts a condition which remains stable, but with significant influence from the intersection control device and the traffic volumes. The general level of comfort and convenience changes noticeably at this level. The delay ranges from 20 to 35 seconds for a signalized intersection and from 15 to 25 seconds for an unsignalized intersection at this level.

- Level of service D corresponds to a condition in which speed and freedom are significantly restricted. Though traffic flow remains stable, reductions in comfort and convenience are experienced. The control delay for this level is 35 to 55 seconds for a signalized intersection and 25 to 35 seconds for an unsignalized intersection.

- Level of service E represents a condition with traffic at or near the capacity of the intersection with poor levels of comfort and convenience. The delay ranges from 55 to 80 seconds for a signalized intersection and from 35 to 50 seconds for an unsignalized intersection at this level.

- Level of service F represents a condition in which the volume of traffic approaching the intersection exceeds the volume that can be served. Characteristics often experienced include long queues, stop-and-go waves, poor travel times, low comfort and convenience, and increased accident exposure. Delays over 80 seconds for a signalized intersection and over 50 seconds for an unsignalized intersection correspond to this level of service.

The LOS and vehicle queueing results are described below.

CSAH 81/Troy Lane (minor street stop control)

2021 Existing

Weekday A.M. and P.M. Peak Hour LOS Results

Intersection	Traffic Control	AM Peak Hour LOS	PM Peak Hour LOS
CSAH 81/Troy Lane	SB stop	A/D	A/F

Note: Level of service results presented with overall intersection LOS followed by worst movement LOS.

The overall intersection and all movements operate at acceptable levels of service except the southbound left turn during the p.m. peak hour, which operates at LOS F.

Critical Movement 95th Percentile Queue Lengths (in feet)

Intersection	Southbound approach		Eastbound left turn	
	AM queue	PM queue	AM queue	PM queue
CSAH 81/Troy Lane	11	28	18	20

All queue lengths are contained within the available queueing space.

2023 No-Build

Weekday A.M. and P.M. Peak Hour LOS Results

Intersection	Traffic Control	AM Peak Hour LOS	PM Peak Hour LOS
CSAH 81/Troy Lane	SB stop	A/D	A/F

Note: Level of service results presented with overall intersection LOS followed by worst movement LOS.

The overall intersection and all movements operate at acceptable levels of service except the southbound left turn during the p.m. peak hour, which operates at LOS F.

Critical Movement 95th Percentile Queue Lengths (in feet)

Intersection	Southbound approach		Eastbound left turn	
	AM queue	PM queue	AM queue	PM queue
CSAH 81/Troy Lane	11	32	10	22

All queue lengths are contained within the available queueing space.

2023 Build

Weekday A.M. and P.M. Peak Hour LOS Results

Intersection	Traffic Control	AM Peak Hour LOS	PM Peak Hour LOS
CSAH 81/Troy Lane	SB stop	E/F	F/F

Note: Level of service results presented with overall intersection LOS followed by worst movement LOS.

The overall intersection and the southbound movements operate at poor of service during the a.m. and p.m. peak hours.

Critical Movement 95th Percentile Queue Lengths (in feet)

Intersection	Southbound approach		Eastbound left turn	
	AM queue	PM queue	AM queue	PM queue
CSAH 81/Troy Lane	1,245	2,218	112	85

The southbound queues greatly exceed the available storage during both the a.m. and p.m. peak hours.

CSAH 81/proposed access (right in/right out, minor street stop control)

During the a.m. peak hour under the 2023 Build scenario, all movements operate at LOS B or better and the overall intersection operates at LOS A.

During the p.m. peak hour under the 2023 Build scenario, all movements operate at LOS D or better and the overall intersection operates at LOS A.

Overall Traffic Impact

Under the 2023 Build scenario, vehicles exiting the proposed developments will have difficulty entering onto CSAH 81 during the a.m. and p.m. peak hours. Delays will result in significant vehicle queues for the southbound left turn and right turn movements.

Potential Intersection Mitigation Measures

The following mitigation measures were investigated for the intersection:

- Option 1 – construct a dedicated eastbound left turn lane and install traffic signal control

- Option 2 – construct a dedicated eastbound left turn lane, widen CSAH 81 to four lanes, and install traffic signal control

Under Option 1, the addition of an eastbound left turn results in improved operations for the southbound movements during the a.m. and p.m. peak hours. However, the additional delayed caused by traffic signal control results in LOS F for the westbound through movements, resulting in vehicle queues extending to east Holly Lane.

Under Option 2, the addition of an eastbound left turn lane and widening CSAH 81 to four lanes results in acceptable levels of service for all movements.

Option 1 - 2023 Build

Weekday A.M. and P.M. Peak Hour LOS Results

Intersection	Traffic Control	AM Peak Hour LOS	PM Peak Hour LOS
CSAH 81/Troy Lane	Signal control	C/E	D/F

Note: Level of service results presented with overall intersection LOS followed by worst movement LOS.

Critical Movement 95th Percentile Queue Lengths (in feet)

Intersection	Southbound approach		Eastbound left turn		Eastbound through		Westbound through	
	AM queue	PM queue	AM queue	PM queue	AM queue	PM queue	AM queue	PM queue
CSAH 81/Troy Lane	89	132	246	97	938	158	256	1,227

Option 2 – 2023 Build

Weekday A.M. and P.M. Peak Hour LOS Results

Intersection	Traffic Control	AM Peak Hour LOS	PM Peak Hour LOS
CSAH 81/Troy Lane	Signal control	A/C	B/C

Note: Level of service results presented with overall intersection LOS followed by worst movement LOS.

Critical Movement 95th Percentile Queue Lengths (in feet)

Intersection	Southbound approach		Eastbound left turn		Eastbound through		Westbound through	
	AM queue	PM queue	AM queue	PM queue	AM queue	PM queue	AM queue	PM queue
CSAH 81/Troy Lane	71	132	73	94	122	74	107	308

Recommended Mitigation Measures

The following improvements are recommended to accommodate the proposed development:

- Widen eastbound and westbound CSAH 81 to four lanes for a minimum length 800 feet east and 800 feet west of Troy Lane.
- Construct an eastbound left turn lane at 300 feet in length with 180 foot taper.
- Construct westbound right turn lane at 300 feet in length with 180 foot taper.
- Construct 300 foot left and right turn southbound lanes on the Troy Lane at CSAH 81.
- Install traffic signal control.

Troy Lane Extension

As an alternative to the recommended mitigation measures, the option of extending Troy Lane north to West French Lake Road was also considered. This option would create a route for traffic to access the proposed development via the new Dayton Parkway extension from CSAH 81 at Holly Lane. Under this option, Troy Lane would be extended north through neighboring property and West French Lake Road would be improved east to Dayton Parkway. While this option creates an alternative route for site trips, it does not eliminate the operational and safety issues that occur at the CSAH 81/Troy Lane intersection. Some trips from the development would likely still access CSAH 81 at Troy Lane due to the added travel distance of the new route. This would lead to operational issues at the Troy Lane intersection if improvements were not made.

6.0 Conclusions and Recommendations

The conclusions drawn from the information and analyses presented in this report are as follows:

- Development 1 is expected to generate 262 trips during the weekday a.m. peak hour and 262 trips during the weekday p.m. peak hour. Development 2 is expected to generate 71 trips during the weekday a.m. peak hour and 76 trips during the weekday p.m. peak hour.

- Under the 2021 and 2023 No-Build scenarios at the CSAH 81/Troy Lane intersection, the overall intersection and all movements operate at acceptable levels of service except the southbound left turn during the p.m. peak hour, which operates at LOS F. All vehicle queue lengths are contained within the available queueing space.

- Under the 2023 Build scenario at the CSAH 81/Troy Lane intersection, vehicles exiting the proposed developments will have difficulty entering onto CSAH 81 during the a.m. and p.m. peak hours. Delays will result in significant vehicle queues for the southbound left turn and right turn movements.

- Under the 2023 Build scenario at the CSAH 81/right turn in/out intersection, the overall intersection and all movements operate at acceptable levels of service.

- The addition of an eastbound left turn and traffic signal control with no additional through lanes on CSAH 81 results in improved operations for the southbound movements during the a.m. and p.m. peak hours. However, the additional delay caused by traffic signal control results in LOS F for the westbound through movements, resulting in vehicle queues extending east to Holly Lane.

- The addition of an eastbound left turn lane, widening CSAH 81 to four lanes, and traffic signal control results in acceptable levels of service for all movements.

- The following improvements are recommended to accommodate the proposed development:

    - Widen eastbound and westbound CSAH 81 to four lanes for a minimum length 800 feet east and 800 feet west of Troy Lane.
    - Construct an eastbound left turn lane at 300 feet in length with 180 foot taper.
    - Construct westbound right turn lane at 300 feet in length with 180 foot taper.
    - Construct 300 foot left and right turn southbound lanes on the Troy Lane at CSAH 81.
    - Install traffic signal control.

- As an alternative to the recommended mitigation measures, the option of extending Troy Lane north to West French Lake Road was also considered. While this option creates an alternative route for site trips, it does not eliminate the operational and safety issues that occur at the CSAH 81/Troy Lane intersection. Some trips from the development would likely still access CSAH 81 at Troy Lane due to the added travel distance of the new route. This would lead to operational issues at the Troy Lane intersection if improvements were not made.