

## **Environmental Assessment Worksheet**

### ***Upper Riley Creek Ecological Enhancement Project from Highway 5 to Lake Susan, Chanhassen, Minnesota***

Prepared for  
Riley Purgatory Bluff Creek Watershed District



July 2022

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Environmental Assessment Worksheet  
Upper Riley Creek Ecological Enhancement Project

July 2022

Contents

1.	Project Title .....	1
2.	Proposer .....	1
3.	RGU .....	1
4.	Reason for EAW Preparation.....	2
5.	Project Location.....	2
6.	Project Description.....	6
7.	Cover Types.....	11
8.	Permits and Approvals Required.....	13
9.	Land Use.....	13
10.	Geology, Soils and Topography/Land Forms .....	18
11.	Water Resources .....	19
12.	Contamination/Hazardous Materials/Wastes .....	26
13.	Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources (Rare Features).....	30
14.	Historic Properties.....	34
15.	Visual .....	35
16.	Air.....	35
17.	Noise.....	36
18.	Transportation.....	37
19.	Cumulative Potential Effects.....	38
20.	Other Potential Environmental Effects .....	41

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## List of Tables

Table 1	GPS Coordinates and Tax Parcel Numbers.....	3
Table 2	Project Magnitude Summary.....	10
Table 3	Summary of Cover Types (in acres) .....	11
Table 4	Permits and Approvals Required .....	13
Table 5	Soils within Project Area.....	19
Table 6	Delineated Wetland Summary.....	20

## List of Figures

Figure 1	Project Location Map.....	4
Figure 2	USGS 7.5 Minute Quad Map.....	5
Figure 3	Land Cover .....	12
Figure 4	Zoning .....	17
Figure 5	Water Resources.....	21
Figure 6	Delineated Wetlands .....	22
Figure 7	What's In My Neighborhood.....	28

## List of Appendices

Appendix A	Concept Level Design
Appendix B	United States Fish and Wildlife Service Information for Planning and Consultation
Appendix C	References

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## Acronyms and Abbreviations

2040	City of Chanhassen Comprehensive Plan
BMPs	best management practices
CRAS	Creek Restoration Action Strategy
EAW	Environmental Assessment Worksheet
ECS	Ecological Classification System
ESA	Endangered Species Act
GIS	geographic information system
IOP	Industrial Office Park
IPaC	Information for Planning and Conservation
MDH	Minnesota Department of Health
MnDNR	Minnesota Department of Natural Resources
MnDOT	Minnesota Department of Transportation
MPCA's	Minnesota Pollution Control Agency's
MSHA	Minnesota Stream Habitat Assessment
NHIS	Natural Heritage Information System
NRCS	Natural Resources Conservation Service
Plan	Local Surface Water Management Plan
RPBCWD	Riley Purgatory Bluff Creek Watershed District
SHPO	State Historic Preservation Office
SWPPP	Stormwater Pollution Prevention Plan
TP	total phosphorus
TSS	total suspended solids
USFWS	U.S. Fish and Wildlife Service

## 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

Upper Riley Creek Ecological Enhancement Project

### 2. Proposer

Contact person: Riley Purgatory Creek Watershed District (Terry Jeffrey)

Title: District Administrator

Address: 18681 Lake Drive East

City, State, ZIP: Chanhassen, MN, 55317

Phone: 952-807-6885

Email: [tjeffery@rpbcwd.org](mailto:tjeffery@rpbcwd.org)

### 3. RGU

Contact person: City of Chanhassen (Charlie Howley)

Title: Public Works Director/City Engineer

Address: 7700 Market Boulevard, PO Box 147

City, State, ZIP: Chanhassen, MN 55317

Phone: 952-227-1169

Email: [CHowley@ci.chanhassen.mn.us](mailto:CHowley@ci.chanhassen.mn.us)

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#### 4. Reason for EAW Preparation

Required:

EIS Scoping

Mandatory EAW

Discretionary:

Citizen petition

RGU discretion

Proposer initiated

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

4410.4300 Mandatory EAW Categories Subp. 27(A) Public waters, public waters wetlands, and wetlands

#### 5. Project Location

- County: [Carver County](#)
- City/Township: [City of Chanhassen](#)
- PLS Location (1/4, 1/4, Section, Township, Range): [Section 14, Township 116 North, Range 23 West](#).
  - Watershed (81 major watershed scale): [Lower Minnesota River #33](#)
  - GPS Coordinates: [See Table 1](#).
  - Tax Parcel Numbers: [See Table 1](#).

**Table 1 GPS Coordinates and Tax Parcel Numbers**

<b>Tax Parcel Number</b>	<b>Latitude</b>	<b>Longitude</b>
019-259990100	44.857662	-93.553219
019-255660010	44.860521	-93.551311
019-255650070	44.859253	-93.551245
019-254060870	44.854084	-93.544988
019-251910040	44.854548	-93.547462
019-251900380	44.85459	-93.550224
019-251900360	44.85586	-93.552144
019-251900340	44.858409	-93.552482
019-251900330	44.860811	-93.5528
019-251900320	44.860387	-93.557391
019-251900220	44.858292	-93.553167
019-251900210	44.858979	-93.552209
019-251900200	44.860827	-93.55324
019-251900190	44.86036	-93.554632
019-251900180	44.861326	-93.55314
019-251900170	44.861753	-93.552194

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

- County map showing the general location of the project ([Figure 1](#))
- U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable) ([Figure 2](#))
- Site plans showing all significant project and natural features. Pre-construction site plan and post-construction site plan. ([Appendix A](#))



Upper Riley Creek EAW



-  Project Boundary
-  Creek Alignment
-  Lake
-  Watershed District Boundary
-  Public Land Survey Section

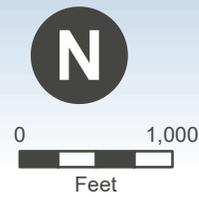
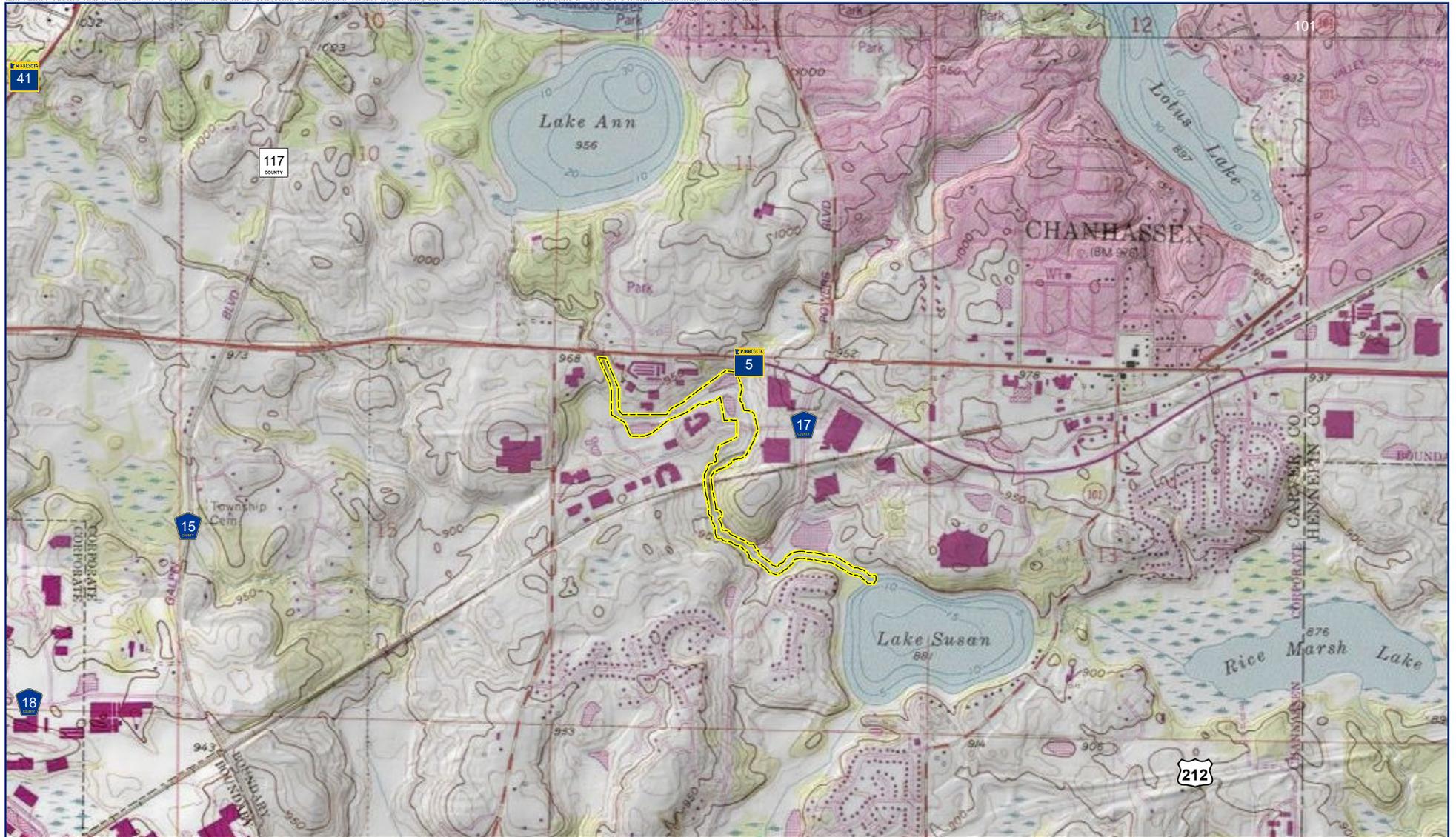


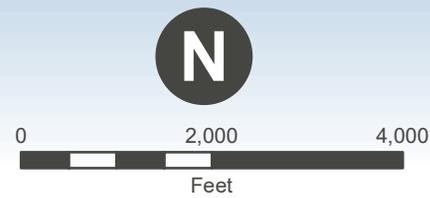
FIGURE 1



Upper Riley Creek EAW



 Project Boundary



USGS 7.5 MINUTE QUAD MAP

Background Imagery: USGS 7.5 Minute Quad

FIGURE 2

## 6. Project Description

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

The Riley Purgatory Bluff Creek Watershed District (RPBCWD), and the City of Chanhasen (City) are proposing ecological enhancements along approximately 1.6 miles (approximately 28 total acres) of Upper Riley Creek, located between Highway 5 and Lake Susan (referred to as Upper Riley Creek; proposed Project). The proposed Project would improve the ecological functions along the reach of Upper Riley Creek and downstream Lake Susan by reducing stream bank erosion, reconnecting the creek to its floodplain, restoring habitat, and promoting diverse vegetation.

- 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.

### Project Background

The RPBCWD has completed several studies that identified a need for stabilization along this reach of Upper Riley Creek. The 2007 Lake Riley Outlet Improvements and Riley Creek Lower Valley Stabilization Feasibility Study identified this portion of Upper Riley Creek (Figure 1) as a high priority to begin addressing erosion and associated water quality impacts (reference (1)).

The RPBCWD completed the Creek Restoration Action Strategy (CRAS) in 2015, which created a scoring system to compare restoration potential of all creek reaches within the RPBCWD (reference (2)). Upper Riley Creek scored high for Tier I CRAS score, which considered the fundamental factors that drive most stream restoration projects including infrastructure risk, stream stability, stream habitat, and water quality. After considering Tier II CRAS categories (public education opportunities, overall watershed benefits, partnerships, and the cost of stabilization per pound of phosphorus reduced), Upper Riley Creek likewise scored high.

Although the 2015 CRAS identified Upper Riley Creek as a degraded stream segment, the scope of the CRAS did not evaluate stream degradation causes or identify viable restoration alternatives. Upper Riley Creek was walked again in 2016 to further evaluate surface erosion, channel processes, and habitat. The updated field assessments yielded updated CRAS scores for Upper Riley Creek, which indicated that nearly all portions of Upper Riley Creek from Highway 5 to Lake Susan continue to be high priority for restoration or stabilization.

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The implementation plan portion of RBPCWD's 10-year Watershed Management Plan identifies projects within the District with high priority for achieving District goals (reference (3)). This reach of Upper Riley Creek is the highest priority project that has yet to be implemented due to water quality concerns discussed in Item #11.

## **Project Overview**

The RPBCWD is proposing to enhance approximately 8,600 feet of Upper Riley Creek. The purpose of the proposed Project is to improve the ecological functions along the reach and downstream Lake Susan by reducing stream bank erosion, reconnecting the creek to its floodplain, restoring habitat, and promoting diverse vegetation.

The total reduction in pollutant loading as a result of restoring the Project reach is estimated to be 470,000 pounds (235 tons) per year total suspended solids (TSS) and 250 pounds per year total phosphorus (TP). This reduction in TSS and TP loading is a critical component for improving the ecological health of the aquatic ecosystems (Upper Riley Creek and Lake Susan) and essential to potentially removing Lake Susan from the Minnesota Pollution Control Agency's (MPCA's) impaired waters list.

The proposed Project design focuses on improving the ecosystem by stabilizing the creek while also improving degraded habitat conditions along the Project reach. The proposed Project would provide greater stream depth variability, more channel bed substructure types, and varied channel velocities. Each of these variabilities enhances instream habitat features, potentially allowing more opportunities for macroinvertebrates and fish to use this reach of Upper Riley Creek. Providing better floodplain connectivity for Upper Riley Creek also enhances surrounding riparian habitat.

Restoration of this reach of Upper Riley Creek would be designed using a variety of bioengineering methods to dissipate stream flows. Methods that may be considered include rock vanes, rock cross vanes, log vanes, root wads, toe wood bank stabilization and/or vegetated reinforced soil slopes. The elevation of the Riley Creek channel could be raised three to five feet in select locations by constructing a series of rock riffles and natural boulder or log grade controls to raise the elevation of the channel by providing areas of grade control, allowing higher flows to better extend outside of the creek channel and into the floodplain. Allowing higher flows to more easily move outside the creek channel also reduces the potential of further downcutting and associated erosion. It is anticipated that potential changes to flood elevations would remain within City-owned property and would not affect private property.

Overbank areas would be graded to a stable, 2:1 or flatter slope and vegetated with native species. In addition, the elevation of perched outlets and culverts would be adjusted as

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appropriate and the outfall areas stabilized to dissipate flow energies. Accumulated natural and foreign debris in the channel would be removed, allowing flows to pass through the channel unobstructed. The intent of the proposed Project is to be cut/fill neutral, meaning there would be no net gain or loss of soil materials from the Project area.

The proposed Project would also remove accumulated sediment from an existing stormwater pond located south of Riley Creek and the City of Chanhassen Public Works Building (Appendix A). Dredging accumulated sediments from the pond would remove pollutants and create increased capacity for TSS and other nutrients to settle out of the water column. A Phase I environmental site assessment was completed for the Project in July 2020 to identify recognized environmental conditions (i.e., sites of contamination from hazardous substances or petroleum) that may be present in the proposed Project area. As described above in EAW item #12, the Phase I environmental site assessment did not document potential for contaminated soils to be present in upland areas; composition of accumulated aquatic sediment has not yet been evaluated. Sediment sampling of the dredged material would be completed in summer 2022 to determine if the soils are contaminated. If the soils are contaminated they would be disposed of in accordance with Minnesota state regulations.

In addition, accumulated sediment that currently forms a delta where Riley Creek outlets to Lake Susan may either be removed or vegetated to serve as a habitat feature. This area of accumulated sediment will likewise be sampled in spring 2022 to inform material handling and disposal elements of project design, as appropriate.

Areas of invasive buckthorn and reed canary grass would be managed to the extent practicable to help support the proposed Project's revegetation goals. In addition, selective tree clearing would be implemented in areas of dense woody vegetation to allow sunlight to reach the understory, promoting development of vegetation layers in the ecosystem. Vegetation would be established along the stream bank and overbank areas to stabilize bare soils and increase resistance to fluvial erosion. RPBCWD would plant native trees, shrubs, and a mix of grasses and forbs. The proposed plantings would comply with the RPBCWD buffer requirements.

### **Proposed Construction Methods and Sequencing**

The contractor would use general construction equipment such as dozers, excavators, skid-steers to construct the proposed Project. The site would be accessed from the adjacent uplands either through city-owned property or private property with access agreements. It is expected that construction equipment would travel in the channel to the extent practicable to limit access-related disturbance. All work would be done in-channel with no major flow diversions necessary. Equipment would be required to be cleaned to minimize the potential for transfer of invasive species, such as buckthorn, across the reach. Once access routes are established, tree

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clearing and grubbing would take place within grading extents. Tree clearing would occur during winter months to minimize potential for conflicts with sensitive wildlife during the spring breeding season.

Construction sequencing would likely proceed in the following order:

- Dredging Activities
  - Site mobilization to place sediment control barriers and install a dewatering zone for excavated material;
  - Install sediment and erosion control best management practices (BMPs);
  - Dredge pond or lake area (as applicable), de-water dredged material on site, stabilize dredged material (if not removed immediately);
  - Remove dredged material from site;
  - Seed and blanket any disturbed areas; and
  - Demobilize
- Stream Restoration Activities
  - Clear access routes and salvage trees for project use;
  - Install sediment and erosion control (BMPs);
  - Establish control for channel flows (if needed) and install stream crossings for access (if needed);
  - Finish clearing within grading extents;
  - Rough grading of channel;
  - Fine grading of channel and installation of bank protection and grade control measures;
  - Install seed and erosion control blanket;
  - Remove control for channel flows and stream crossings; and
  - Complete final site restoration, including revegetation and plantings

### **Proposed Construction Timing and Duration**

The proposed Project is scheduled to be submitted for bid and awarded in spring/summer 2023, with construction beginning in the fall of 2023 during lower flow conditions. The majority of the earthwork, grading, and bioengineering practice installation would occur in the fall and winter while flows remain lower. Vegetation installation would occur in spring 2024 when conditions

are favorable. Construction is anticipated to be complete in spring 2024, after which it would transition to a cycle of routine inspections and maintenance activities.

c. Project magnitude:

Table 2 provides a summary of the proposed Project’s magnitude.

**Table 2 Project Magnitude Summary**

Component	Applicability
Total project acreage	27.8 acres
Linear project length	8,600 linear feet
Number and type of residential units	N/A
Commercial building area (in square feet)	N/A
Industrial building area (in square feet)	N/A
Institutional building area (in square feet)	N/A
Other uses—specify (in square feet)	N/A
Structure height(s)	N/A

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

The purpose of the proposed Project is to improve the ecological functions along the Project reach and downstream Lake Susan by reducing stream bank erosion, reconnecting the creek to its floodplain, restoring habitat, and promoting diverse vegetation.

Currently Lake Susan is listed as an impaired water by the MPCA, and though it has not yet been assessed by MPCA for impairment, RPBCWD’s monitoring data indicates Upper Riley Creek does not meet MPCA water quality standards. The proposed project is needed to help this reach of Upper Riley Creek, Lake Susan, and downstream waterbodies meet MPCA water quality standards. Reducing the sediment and phosphorus loading to Upper Riley Creek will also help restore and protect downstream water bodies, including Lake Susan, Rice Marsh Lake, Lake Riley and ultimately the Minnesota River. These elements will be planned and implemented in coordination with opportunities to preserve and enhance maintenance access to public infrastructure features.

The proposed Project would provide watershed-wide and downstream benefits by enhancing the ecology and improving water quality of Upper Riley Creek and Lake Susan as noted above.

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

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

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

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

## 7. Cover Types

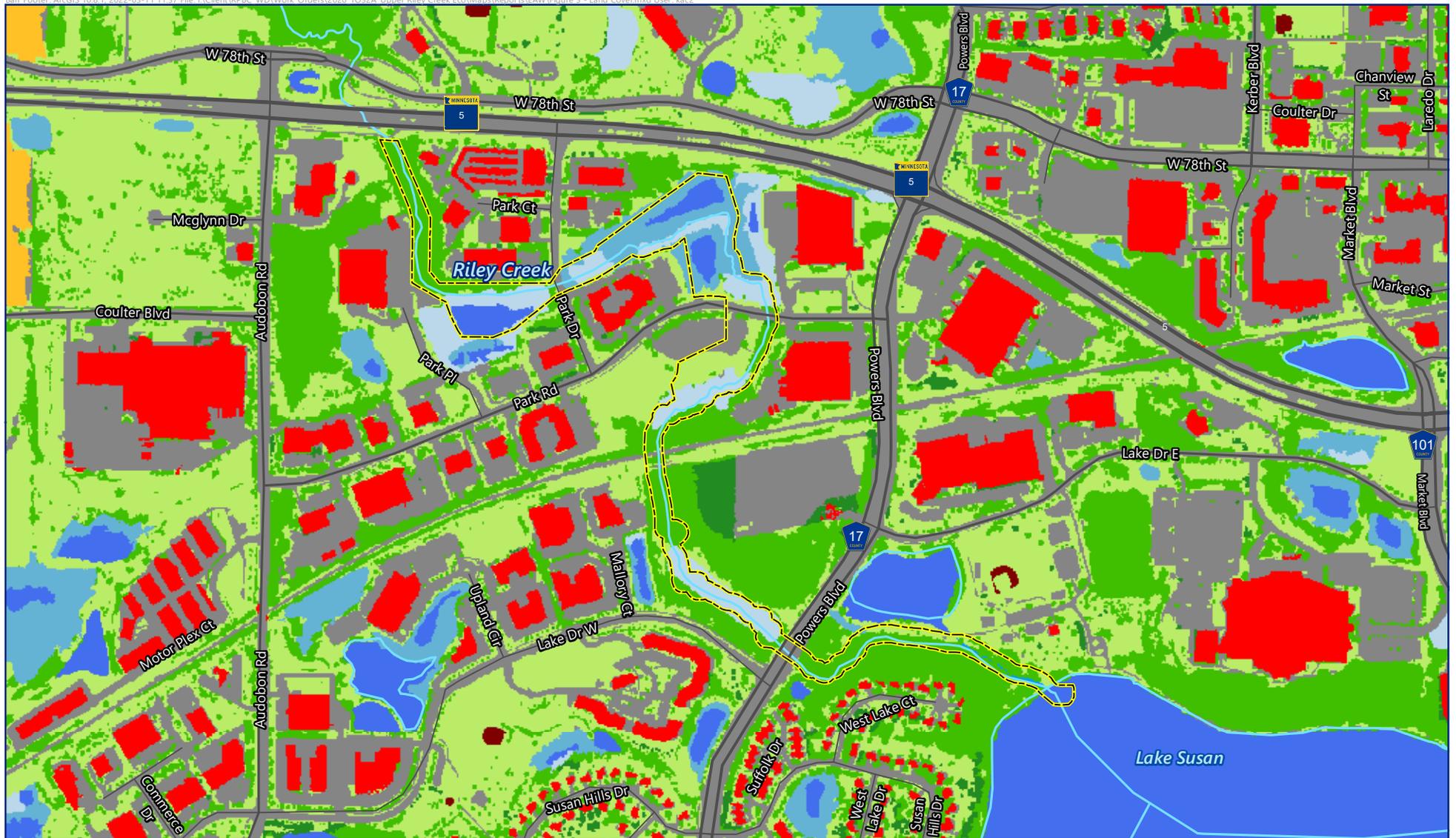
Estimate the acreage of the site with each of the following cover types before and after development:

An assessment of land cover types was estimated using a combination of field collected data and geographic information systems (GIS); the results are summarized in Table 3 and University of Minnesota landcover data is shown on Figure 3.

**Table 3 Summary of Cover Types (in acres)**

Cover Type	Before	After
Coniferous/Deciduous Tree Canopy	8.48	8.48
Wetland	10.48	10.48
Grass/Shrub	3.98	3.98
Lakes/Ponds	3.28	3.28
River	0.13	0.13
Roads/Paved Surfaces	1.45	1.45
<b>Total Area</b>	<b>27.8</b>	<b>27.8</b>

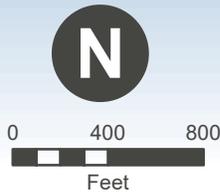
[1] Wetland acreage was estimated using a combination of field collected data and available desktop landcover data. As discussed in Item #11 the field wetland delineation did not cover the entire Project area.



Upper Riley Creek EAW



- Project Boundary
- ~ Creek Alignment
- Lake
- Grass/Shrub
- Bare Soil
- Buildings
- Roads/Paved Surfaces
- Lakes/Ponds
- Deciduous Tree Canopy
- Coniferous Tree Canopy
- Agriculture
- Emergent Wetland
- Forested/Shrub Wetland
- River



Landcover Data: University of Minnesota (2015)

LAND COVER

FIGURE 3

## 8. Permits and Approvals Required

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

Table 4 lists the permits and approvals required for the proposed Project.

**Table 4 Permits and Approvals Required**

Unit of Government	Type of Application	Status
U.S. Army Corps of Engineers	<ul style="list-style-type: none"> <li>• Section 404 Permit               <ul style="list-style-type: none"> <li>○ Section 7 Consultation</li> <li>○ Section 106 Consultation</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• To be obtained</li> </ul>
Minnesota Pollution Control Agency	<ul style="list-style-type: none"> <li>• Section 401 Water Quality Certification</li> <li>• NPDES Construction Stormwater Permit</li> </ul>	<ul style="list-style-type: none"> <li>• To be obtained</li> <li>• To be obtained</li> </ul>
Minnesota Department of Natural Resources	<ul style="list-style-type: none"> <li>• Work in Public Waters Permit</li> </ul>	<ul style="list-style-type: none"> <li>• To be obtained</li> </ul>
City of Chanhassen	<ul style="list-style-type: none"> <li>• Wetland Alteration Permit</li> <li>• Erosion and Sediment Control Plan approval</li> <li>• Conditional Use Permit</li> <li>• Interim Use Permit</li> </ul>	<ul style="list-style-type: none"> <li>• To be obtained</li> <li>• To be obtained</li> <li>• To be obtained</li> <li>• To be obtained</li> </ul>
Riley Purgatory Bluff Creek Watershed District	<ul style="list-style-type: none"> <li>• RPBCWD Permit</li> </ul>	<ul style="list-style-type: none"> <li>• To be obtained</li> </ul>

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

All potential cumulative impacts are discussed in EAW Item 19 (Cumulative Potential Effects).

## 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 proposed Project is located along Upper Riley Creek. The creek is mainly surrounded by narrow buffers of hardwood trees, open areas of primarily invasive grasses, and industrial and

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commercial uses. The southern portion of the proposed Project area is located within Lake Susan Park and Lake Susan Preserve boundaries, which also includes multiple walking/hiking trails.

Three different zoning classifications are found in and surrounding the proposed Project area, including public (municipal), commercial, and industrial. Several utility corridors are located in the proposed Project area, including an active railroad track, a Metropolitan Council sanitary sewer interceptor, and several municipal utilities (sanitary, water, etc.).

There are no prime or unique farmlands located in the proposed Project area.

- 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.

Comprehensive land-use planning documents applicable to the proposed Project are discussed below. Unless noted, the proposed Project area is located within the boundary of these plans. The planned land use in the proposed Project area is not anticipated to change as a result of the Project. The proposed Project would reduce stream bank erosion, reconnect Riley Creek to its floodplain, restore natural habitat, and promote diverse vegetation, thus improving ecological functions along the creek and in Lake Susan.

#### **City of Chanhasen Comprehensive Plan (2040)**

The *2040 Comprehensive Plan* (reference (4)) is designed to serve as a guide for the decision-making process in the City of Chanhasen. The cornerstone of the Comprehensive Plan are the goals and policies developed to identify the desired qualities and overall vision for the future of the community. Of these goals and policies, a number were developed to guide decision making on land use, natural resources, and parks and open space, the following of which are applicable to the proposed Project:

- Goal 2 - The city recognizes the importance of its natural environment to the quality of life for its citizens and the need to protect and enhance these resources.
- Goal 3 - Minimize soil erosion and sedimentation.
- Goal 4 - Preserve and protect a variety of natural environments.
- Goal 5 - Restore, protect and improve natural communities through proper management techniques.
- Goal 6 - Encourage resiliency planning that mitigates and adapts to climate changes.

- 
- Goal 7 - Be a leader in environmental sustainability.

The proposed Project aligns with the goals outlined in the Comprehensive Plan as the Project would actively minimize soil erosion and sedimentation and help preserve, restore, and protect the natural environment along Upper Riley Creek.

### **City of Chanhasen Local Surface Water Management Plan**

The *Local Surface Water Management Plan* (reference (5)) was updated in 2018 and incorporated into the *2040 Comprehensive Plan* to serve as a comprehensive program for improving the quality of existing water resources within the City, and function as a guide for staff to follow when evaluating the potential impacts to the City's water resources. This plan identifies goals and policies for the effective management of water resources, the following of which are applicable to the proposed Project:

- Goal 2 - Achieve water quality standards in lakes, streams, and wetlands consistent with their designated uses and established classifications.
- Goal 3 - Protect and rehabilitate wetlands to maintain or improve their function and value.
- Goal 5 - Maintain primary responsibility for managing water resources at the local level and continue coordination and cooperation with other agencies and organizations.
- Goal 6 - Cultivate an environmentally literate public to promote an active community role in sustainable management of water resources.

The proposed Project aligns with the identified goals as it would improve water quality and continue coordination with outside agencies to effectively manage the City's water resources.

### **Riley Purgatory Bluff Creek Watershed Management Plan (2018–2028)**

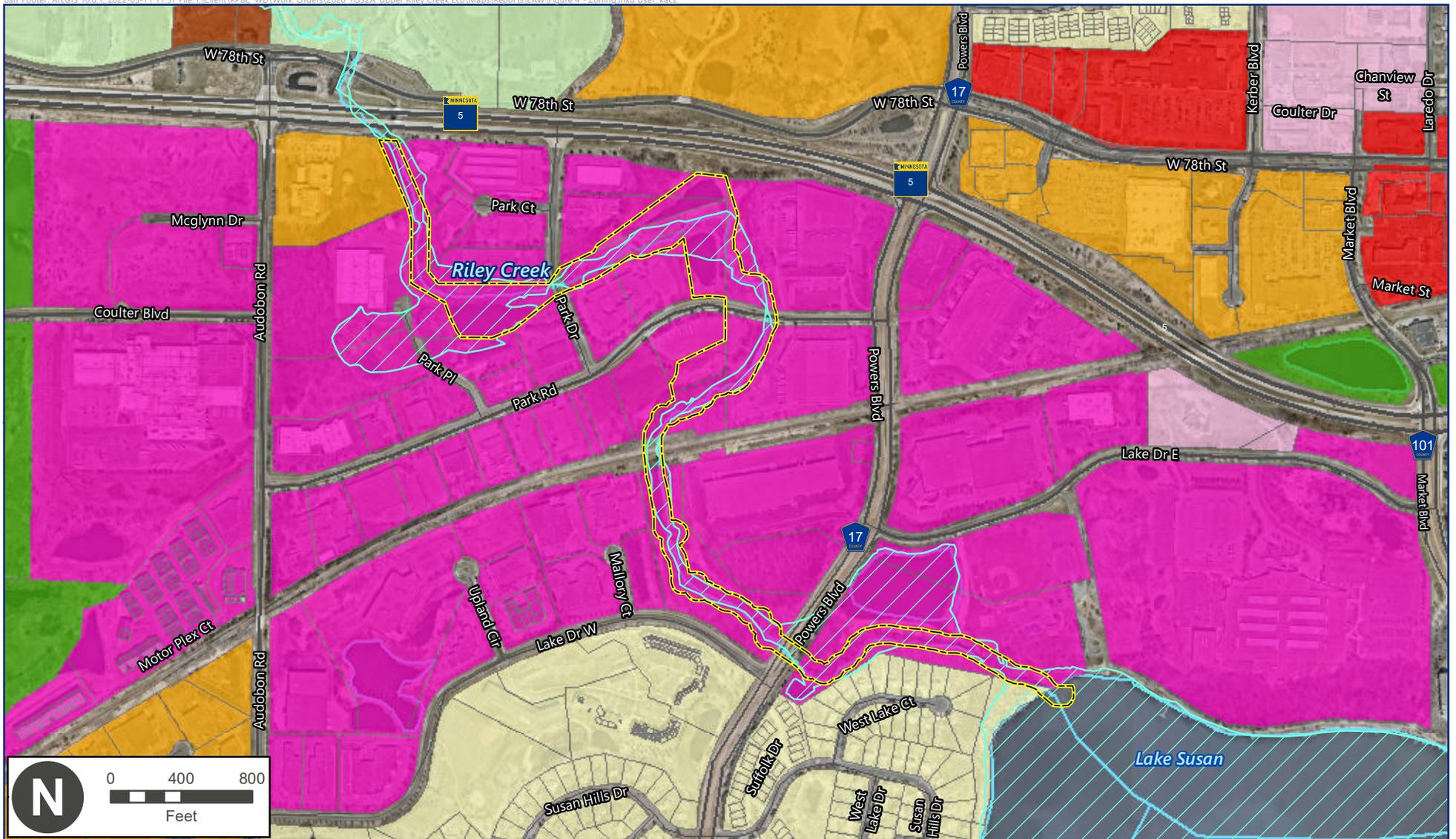
The *Watershed Management Plan* (reference (6)) sets the vision, strategies, and activities necessary for effectively managing surface water within the jurisdictional boundaries of the RPBCWD. Several strategies and goals were identified as essential to achieving the RPBCWD's mission to protect, manage, and restore, water resources, the following of which are applicable to the Project:

- 
- Goal 1 - Education and Outreach: Design, maintain, and implement Education and Outreach programs to educate the community and engage them in the work of protecting, managing, and restoring water resources.
  - Goal 2 - Planning Strategies: Include sustainability and the impacts of climate change in District projects, programs, and planning.
  - Goal 3 - Water Quality: Protect, manage, and restore water quality of District lakes and creeks to maintain or achieve designated uses.
  - Goal 4 - Water Quality: Preserve and enhance the quantity, as well as the function and value, of District wetlands.
  - Goal 5 - Water Quality: Preserve and enhance habitat important to fish, waterfowl, and other wildlife.
  - Goal 6 - Water Quantity: Protect and enhance the ecological function of District floodplains to minimize adverse impacts.
  - Goal 7 - Water Quantity: Limit the impact of stormwater runoff on receiving waterbodies.

Lake Susan, which is located at the southern end of the proposed Project area, is listed as an impaired water by the MPCA. In addition, though Upper Riley Creek has not yet been assessed by MPCA for impairment, RPBCWD's monitoring data indicates it does not meet MPCA water quality standards. The proposed Project would meet the goals of the Watershed Management Plan by improving water quality, enhancing habitat and ecological function, and educating community members and recreational users about the proposed Project itself and stewardship ideas they can implement.

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

The proposed Project area is zoned by the City of Chanhassen as an Industrial Office Park (IOP) District (Figure 4). IOP is a zoning district containing automotive repair shops, public storage facilities, retail manufacturing, and parking lots. In addition, the proposed Project is located within a floodway and Zone AE of Upper Riley Creek, making this a Flood Fringe District. Within Flood Fringe Districts, the use, size, type, and location of development must comply with applicable regulations. In no cases shall floodplain development adversely affect the efficiency or unduly restrict the capacity of the channels or floodways of any tributaries to Upper Riley Creek, drainage ditches, or any other drainage facilities or systems.



Upper Riley Creek EAW



- |                                   |  |
|-----------------------------------|--|
| Project Boundary                  | Industrial Office Park District          |
| Creek Alignment                   | Office Institutional District            |
| Lake                              | Planned Unit Devel. District             |
| <b>Zoning</b>                     | Planned Unit Devel./Residential District |
| Agricultural Estate District      | Rural Residential District               |
| Central Business District         | Flood Fringe District                    |
| High Density Residential District |  |

Imagery Source: NearMap, April 2019

**ZONING**

**FIGURE 4**

- 
- 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 proposed Project would be compatible with the nearby land uses, zoning, and plans previously described in the EAW items 9a.ii and 9a.iii.

- c. The proposed Project would be compatible with the nearby land uses, zoning, and plans previously described in the EAW Items 9a.ii and 9a.iii. Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 9b above.

The proposed Project would be compatible with current land uses.

## 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.

Bedrock in the proposed Project area is the Prairie du Chien Group (Minnesota Geological Survey, 2018). The Prairie du Chien Group is typically 10 to 25 feet (3 to 8 meters) thick. The thin remnants commonly are weathered and stained dark brown with iron and manganese oxide. The dolostone has thin, interbedded, fine- to medium-grained sandstone layers that are locally cemented with dolomite. The lowermost 10 to 20 feet (3 to 6 meters) contains substantial quartz sandstone in some areas, cemented with dolomite and siltstone. The Prairie du Chien Group unconformably overlies the Jordan Sandstone.

No karst features or other geologically sensitive features are known to occur in the vicinity of the proposed Project area.

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

Topography in the proposed Project area ranges from 882 to 958 feet above mean sea level with general southeast facing aspect leading towards Lake Susan.

According to the United States Department of Agriculture– Natural Resources Conservation Service (NRCS), the dominant soil series within the proposed Project area is, Hamel loam, 0 to 2 percent slopes, a predominantly hydric soils (Table 5). The remaining soils are rated as hydric, non-hydric and not hydric.

**Table 5 Soils within Project Area**

Soil Types	Hydric rating	Quantity (acres)
Hamel loam, 0 to 2 percent slopes	90% (predominantly hydric)	15.1
Lester-Kilkenny complex, 16 to 22 percent slopes	5% (predominantly non-hydric)	4.5
Muskego and Houghton soils, 0 to 1 percent slopes	100% (hydric)	3.6
Lester-Kilkenny complex, 6 to 10 percent slopes, moderately eroded	5% (predominantly non-hydric)	1.9
Kilkenny-Lester loams, 2 to 6 percent slopes	0% (non-hydric)	1.2
Lester-Kilkenny complex, 10 to 16 percent slopes, moderately eroded	5% (predominantly non-hydric)	0.6
Essexville sandy loam	100% (hydric)	0.5
Essexville sandy loam	100% (hydric)	0.5
Water	0% (non-hydric)	0.3
Lester-Kilkenny loams, 12 to 18 percent slopes	0% (non-hydric)	<1
Lester loam, 10 to 16 percent slopes, moderately eroded	0% (non-hydric)	<1
	<b>Total</b>	<b>27.8</b>

The proposed Project could dredge accumulated sediment and require overbank excavation. During construction, ground disturbance would be limited to the extent possible to minimize the potential for erosion. Temporary erosion and sediment control BMPs would be installed and designed to minimize erosion onsite and to prevent construction-related sediment from migrating offsite. Site conditions would determine final selection and placement of BMPs. BMPs would be installed prior to soil disturbance, and the contractor would be responsible for their inspection and maintenance.

## 11. Water Resources

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

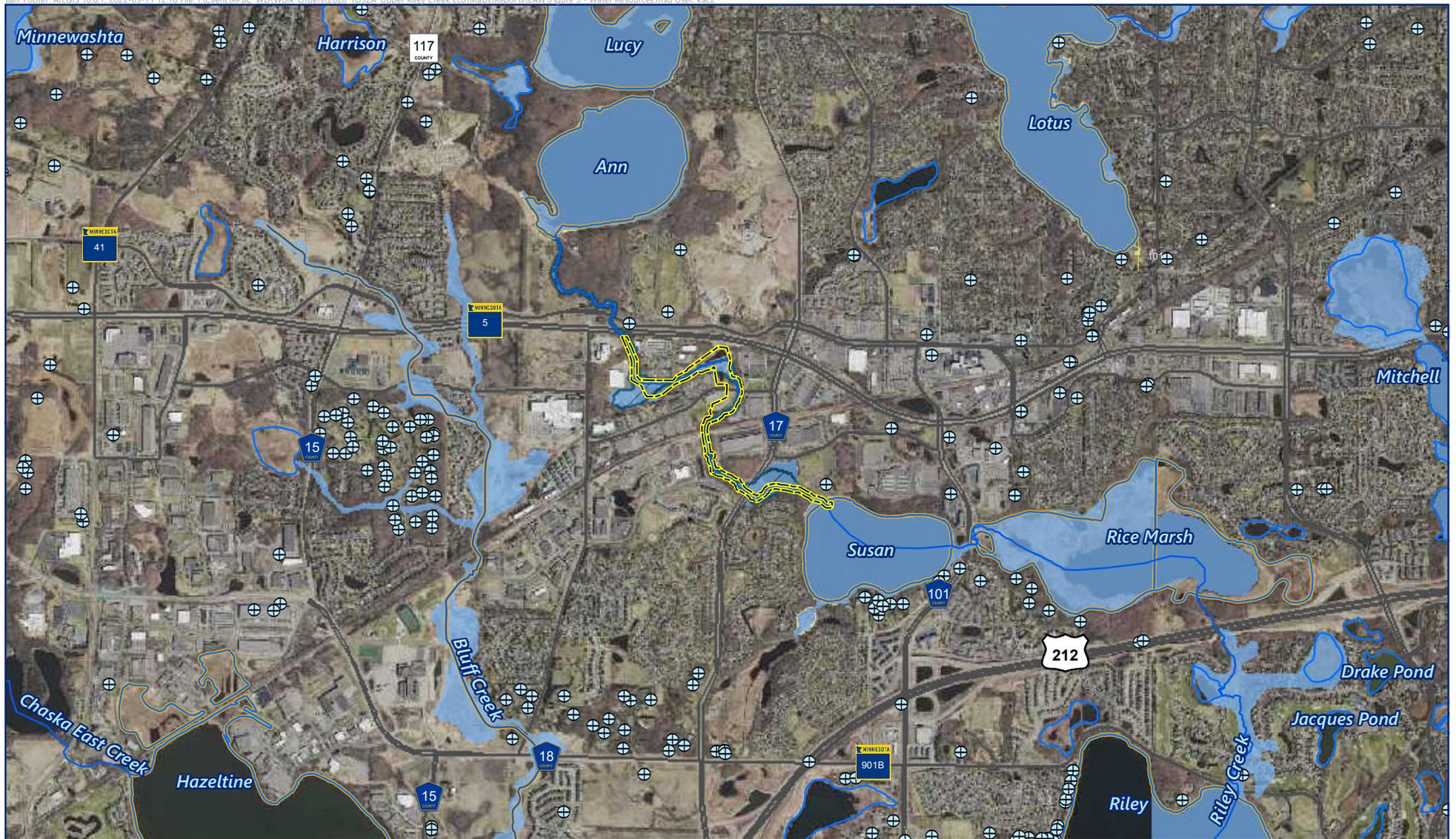
- i. Surface water – lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include water quality impairments 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.

Upper Riley Creek (PWI #10034a), and Lake Susan (PWI #10-13) are located within the proposed Project area (Figure 5). Barr Engineering Co. completed a field wetland delineation for the proposed Project in May and June 2020. The wetland delineation identified five wetlands totaling 6.63 acres within the proposed Project area (reference (7)) (Figure 6). Majority of the delineated wetlands are classified as fresh wet meadows and deep marsh (Table 6). The southeastern stormwater pond was not delineated during the field survey. A desktop delineation will be completed in 2022 to define the stormwater pond boundary.

**Table 6 Delineated Wetland Summary**

Eggers & Reed	Circular 39	Acres in Project Area
Seasonally Flooded Basin	Type 1	0.07
Floodplain Forest	Type 1	0.74
Fresh (Wet) Meadow	Type 2	2.89
Sedge Meadow	Type 2	0.05
Shallow Marsh	Type 3	0.68
Deep Marsh	Type 4	2.01
Shrub-Carr	Type 6	0.20
<b>Total</b>		<b>6.63</b>

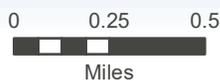
Riley Creek from Lake Riley to the Minnesota River is listed on the MPCA’s 2020 Inventory of Impaired Waters; however, Upper Riley Creek has not yet been assessed by the MPCA. RPBCWD placed an automated water-sampling unit on Riley Creek at the culvert passing under Powers Boulevard, just upstream of Lake Susan, to better quantify rain event nutrient loading from upstream sources. Based on the results of the district’s recent monitoring efforts from 2017 through 2019, Upper Riley Creek does not achieve the MPCA water quality standards for creeks (reference (8)). As such, the creek discharges water with excess nutrients and suspended solids to Lake Susan, which also does not meet MPCA water quality standards for shallow lakes. The May 2021 Upper Riley Creek Corridor Ecological Enhancement Plan provides details on water quality sampling results (reference (8)).



Upper Riley Creek EAW



- Project Boundary
- ⊕ Well (MN Well Index)
- Public Water Inventory Watercourses
- Public Water Inventory Basins
- Impaired Streams (Draft 2022)
- Impaired Lakes (Draft 2022)
- FEMA Floodplains
- 100 Year Floodplain
- 500 Year Floodplain
- Floodway



WATER RESOURCES

FIGURE 5

Imagery Source: MnGeo WMS (Twin Cities 2020 Color)



Upper Riley Creek EAW



- |                  |                          |               |
|------------------|--------------------------|---------------|
| Project Boundary | Delineated Wetland       | Shallow Marsh |
| Creek Alignment  | Deep Marsh               | Shrub-Carr    |
| Lake             | Floodplain Forest        | Wet Meadow    |
| Delineated Creek | Seasonally Flooded Basin | Sedge Meadow  |



**DELINEATED WETLANDS**

**FIGURE 6**

Imagery Source: NearMap, April 2019

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There are three other impaired aquatic resources within one mile of the proposed Project area, including Lake Ann (AUID 56-0448-00), Lake Lucy (AUID 10-0007-00), and Bluff Creek (AUID 07120012-710). Lake Ann is located north of the proposed Project area and listed as impaired for fish bioassessments. Lake Lucy is located north of Lake Ann and listed as impaired for mercury in fish tissue. Bluff Creek is located east of the proposed Project area and is listed as impaired for fish bioassessments and turbidity.

There are no trout streams/lakes, wildlife lakes, migratory waterfowl feed and resting lakes, outstanding resource value waters within the proposed Project area.

- 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 proposed Project area is located above the Prairie Du Chien-Jordan Aquifer, and the depth to water table ranges from 0 to 30 feet. No springs or seeps were identified within the proposed Project area. According to the Minnesota Department of Health (MDH) the proposed Project area is located within the Chanhassen Wellhead Protection Area. Wellhead protection areas are designated to identify sources of public drinking water and prevent contamination of public drinking water supplies. While the proposed Project is located within the Wellhead protection area it would not cause contamination of public drinking water supplies.

Following a review of the Minnesota County Well Index database (reference (9)), no wells were identified within the proposed Project area; however, two wells were found within 500 feet of the proposed Project area. Details regarding the Unique Well ID Numbers, location, depth, and primary functions are detailed below.

- ID 0000467053: Domestic well, 310 feet deep, located 252 feet north of the Project area.
  - ID 0000180913: Public supply/community well, 665 feet deep, located 317 feet north of Lake Susan.
- 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.
- 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.
- 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.

The proposed Project would not produce or treat sanitary, municipal/domestic, or industrial wastewater.

- 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.

Upper Riley Creek receives stormwater runoff from the surrounding lands and from Lake Ann. Stormwater flows southeast through the Project area into Lake Susan. From Lake Susan stormwater continues to flow through Riley Creek where it ultimately drains into the Minnesota River approximately 7.1 miles south of the proposed Project area.

Prior to construction, rock entrances would be installed to minimize soil disturbance from vehicles and equipment. Construction would be completed in the fall and winter months when water levels are lower and the potential for stormwater runoff is reduced. Disturbed soils would be stabilized using one or more of the following methods: bio logs, silt fences, erosion control blankets, preservation of mature vegetation, mulch, vegetative slash, or other appropriate cover materials.

A Stormwater Pollution Prevention Plan (SWPPP) would be prepared for the proposed Project prior to construction. The contractor would be responsible for administering the SWPPP in accordance with state regulations. Following the completion of all construction activities,

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disturbed locations would be restored by re-establishing native vegetative communities through seeding or planting native vegetation, mulching, and installing erosion control blankets.

- 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.

The proposed Project would not require a Minnesota Department of Natural Resources (MnDNR) Water Appropriations Permit. The majority of construction is planned to occur during the late-fall and winter months when water levels are low reducing the need for dewatering. In addition, no well abandonment would occur because of the Project.

- iv. Surface Waters

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

The proposed Project would result in temporary and permanent wetland disturbance. Temporary wetland disturbance would occur from site access and dredging activities. Permanent wetland impacts would occur from overbank grading and stream restoration activities. Wetland impacts would be quantified during Project design and planning.

The proposed Project could remove accumulated sediment from the existing stormwater pond south of the Chanhassen Public Works building. Methods for dewatering and control of water during construction will be chosen by the contractor and approved by the engineer.

A Joint Permit Application detailing Project-related aquatic resources (i.e., wetlands and Upper Riley Creek) impacts will be submitted to the United States Army Corps of Engineers and Local

Government Unit for approval under the Clean Water Act and Wetland Conservation Act, respectively.

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

The proposed Project would result in permanent impacts to Upper Riley Creek from the proposed stream restoration activities. Construction would include the installation of rock vanes, rock cross vanes, log vanes, root wads, toe wood bank stabilization and/or vegetated reinforced soil slopes. In addition, overbank areas would be graded to a stable, 2:1 or flatter slope and vegetated with native species. Fill quantities will be quantified during Project design for use in permitting. Providing a better connection to the floodplain may incidentally result in development of additional wetland areas adjacent to the stream channel.

While this work would require disturbance of Upper Riley Creek the proposed Project would enhance the ecology of Upper Riley Creek, reduce erosion, and improve water quality while also improving natural stream habitat for aquatic organisms. The contractor would minimize disturbance by using BMPs as discussed in Item #11.b.ii. In addition, the Project would be designed such that potential changes to flood elevations would remain within City-owned property and would not affect private property.

A Work in Public Waters Permit will be submitted to the MnDNR for Project-related activities occurring in Upper Riley Creek and Lake Susan.

## **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

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existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

The MPCA's What's in My Neighborhood database was reviewed to determine if sites with regulatory listings for contamination such as dumps, landfills, storage tanks, or hazardous liquids are located within or adjacent to the Project area.

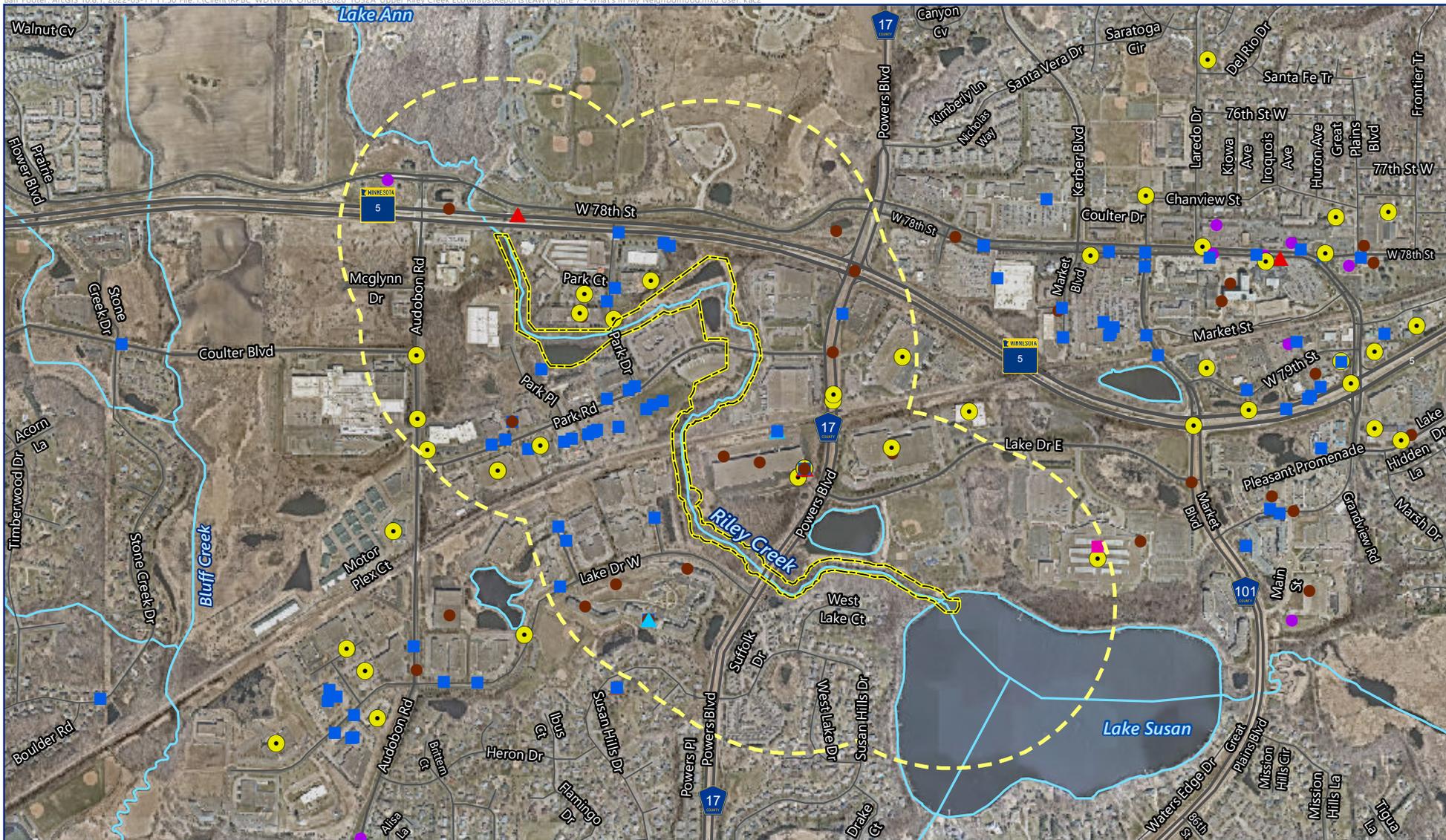
No contamination sites were identified within the Project area; however, several were located nearby. The closest site of contamination is located approximately 100 feet north of the Project area (Figure 7). The site is an active hazardous waste generator and aboveground and underground tank site. In addition to this site, eleven hazardous waste sites, two stormwater sites, and three multiple activities sites were identified within 300 feet of the Project area. The three multiple activities sites include:

- active hazardous waste generator, inactive petroleum brownfield, inactive stormwater, and active aboveground tank site.
- active hazardous waste generator and inactive stormwater site.
- active hazardous waste generator and active stormwater site.

The contaminated sites mentioned above and additional sites within a quarter-mile radius of the proposed Project area are shown in Figure 7.

Sediment sampling to test for potential contaminants within the Project area has not yet been completed. Sampling will be conducted in spring 2022 once the ice has melted.

In addition, a Phase I Environmental Site Assessment was completed for the Project in July 2020 to identify recognized environmental conditions (i.e., sites of contamination from hazardous substances or petroleum) that may be present in the proposed Project area. The assessment included a database review and coordination with the RPBCWD's Administrator and the City to complete a questionnaire on known land uses. No recognized environmental conditions were documented by the Phase I environmental site assessment (reference (10)).



Upper Riley Creek EAW



Project Boundary	Air Quality	Tanks
1/4 Mile Buffer of Property Boundary	Hazardous Waste	Water Quality
Creek Alignment	Investigation and Cleanup	
Lake	Solid Waste	
MPCA Sites	Stormwater	
Multiple Programs	SSTS	

0 600 1,200  
Feet

## WHAT'S IN MY NEIGHBORHOOD

## FIGURE 7

Imagery Source: NearMap, April 2019

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- 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 proposed Project is expected to require site grading and result in the removal of accumulated sediment. Although the Phase I Environmental Site Assessment did not document potential for contaminated soils to be present in upland areas, accumulated aquatic sediment has not yet been evaluated. Sediment sampling would occur in Spring 2022 to determine whether accumulated sediments are contaminated and require specific disposal. Proper disposal of any materials that require special handling will be the contractor's responsibility, in accordance with local and state requirements.

- 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.

Construction would require use of fuels, oils, and lubricants typical to construction equipment. These materials would be stored in upland areas away from surface waters/wetlands and inside secondary containment systems. No other chemicals or hazardous materials would be needed for or generated by the Project.

Refueling spills and equipment failures, such as a broken hydraulic line, could introduce contaminants into soil and surface waters during construction. However, the potential for an incident is relatively minimal and supplies (i.e., spill kits) and equipment needed to quickly contain such spills would also be located onsite. The contractor would minimize disturbance by using BMPs as outlined in the Project SWPPP.

To minimize the likelihood of potential spills and leaks of petroleum and hydraulic fluids during project construction, equipment would be inspected daily for leaks and petroleum contamination, fuels for construction would be stored at staging areas in upland locations, and equipment refueling and maintenance would be performed in locations away from Upper Riley Creek. In addition, the contractor would be required to use double-walled tanks or secondary containment for single-walled tanks used to store petroleum products onsite. Any bulk lubricants would also be stored with secondary containment protection. All petroleum and

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lubricant storage containers would be inspected on a weekly basis and the inspections would be documented.

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

The proposed Project is not anticipated to generate any hazardous waste.

### **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 MnDNR, in collaboration with the U.S. Forest Service, developed an Ecological Classification System (ECS) for hierarchical mapping and classification of Minnesota land areas with similar native plant communities and other ecological features. Based on the ECS, the proposed Project area is located within the Big Woods Subsection of the Minnesota and Northeast Iowa Morainal Section of the Eastern Broadleaf Forest Province (reference (11)). The dominant landscape feature in the Big Woods Subsection is circular, level topped hills bounded by smooth side slopes. Broad level areas between the hills are interspersed with closed depressions containing lakes and peat bogs. Pre-settlement vegetation primarily consisted of deciduous forest comprising northern red oak (*Quercus rubra*), sugar maple (*Acer saccharum*), basswood (*Tilia Americana*), and American elm (*Ulmus Americana*). At present, the majority of the Big Woods subsection is cropland, with approximately 10 to 15 percent comprising upland forest or wetland (MnDNR 2022).

The proposed Project is located in a highly developed area, with marginal aquatic stream habitat in Upper Riley Creek and forested and unforested habitat adjacent to the creek. RPBCWD staff previously assessed the habitat conditions for this reach of Riley Creek based on the Minnesota Stream Habitat Assessment (MSHA) protocol developed by the MPCA, with ratings throughout the reach classified as “fair.” These reaches scored well on shade and cover in the channel, including large woody debris in the channel which creates habitat; they scored poorly on bank erosion and bed substrate lacking a diverse mix of sizes of sediment. The sediment was dominated by clays, silts, and other fine materials which are not good for a diverse in-stream fauna population.

Forested portions of the proposed Project area consist of hardwood forest of marginal quality due to prevalence of common buckthorn (*Rhamnus cathartica*), a non-native invasive species,

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which accounts for up to 75 percent of the canopy cover in some locations. Forested areas are dominated by green ash (*Fraxinus pennsylvanica*), boxelder (*Acer negundo*), eastern cottonwood (*Populus deltoides*), and silver maple (*Acer saccharinum*). Sandbar willow (*Salix exigua*) becomes prevalent where Riley Creek outlets to Lake Susan.

Unforested portions of the proposed Project area consist of marsh and wet-meadow wetland communities, as described above in EAW item #11. In some wetland areas, reed canary grass (*Phalaris arundinacea*) accounts for nearly 100 percent of the vegetation cover.

The proposed Project area provides suitable habitat for a diversity of organisms, including fish, such as green sunfish (*Lepomis cyanellus*), fathead minnow (*Pimephales promelas*), bluntnose minnow (*Pimephales notatus*), and invasive common carp (*Cyprinus carpio*); amphibians, such as frogs, toads, and salamanders; birds such as bald eagles (*Haliaeetus leucocephalus*), hawks, heron, ducks, and perching birds; and mammals, such as fox (*Vulpes vulpes*), white-tailed deer (*Odocoileus virginianus*), squirrels (*Sciuridae* sp.), beaver (*Castor canadensis*), and muskrats (*Ondatra zibethicus*).

- 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.

Barr has a license agreement (LA-986) with the MnDNR for access to the Natural Heritage Information System (NHIS) database, which was queried in February 2022 to determine if any rare species could potentially be affected by the proposed Project. The NHIS database does not identify any rare species documented within one mile of the proposed Project area.

The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) online tool was queried on February 8, 2022, to identify federally endangered or threatened species that could potentially occur within the vicinity of the proposed Project area (Appendix B). The IPaC query results identified two species as potentially being present in the vicinity of the proposed Project area, the federally threatened and state-special concern northern long-eared bat (*Myotis septentrionalis*) and the federal candidate monarch butterfly (*Danaus plexippus*). No designated critical habitat is present within the vicinity of the project.

The northern long-eared bat inhabits caves, mines, and forests (reference (12)). Suitable habitat for northern long-eared bats is present in the forested areas within the proposed Project area.

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The MnDNR NHIS database indicates the closest record of a northern long-eared bat is approximately 8 miles southwest of the proposed Project area. According to the MnDNR, the nearest hibernacula is over 15 miles east of the proposed Project area and no maternity roost trees have been identified within the vicinity of the Project area (reference (13)).

In December 2020, the USFWS assigned the monarch butterfly a candidate for listing under the ESA due to its decline from habitat loss and fragmentation; however, candidate species are not protected under the ESA. The monarch butterfly inhabits fields and parks where native flowering plants, including milkweed (*Asclepias* spp.), which is required for breeding, are common (reference (14)). Although not documented during field surveys, suitable monarch butterfly habitat containing milkweed may be present within the vicinity of the proposed Project area. The monarch butterfly is not tracked in the MDNR NHIS database because it is not protected at the state level.

No Minnesota Biological Survey native plant communities, Sites of Biodiversity Significance, or MnDNR Scientific and Natural Areas are present within the vicinity of the proposed Project area.

- 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.

### **General Impacts**

The proposed Project may have minor temporary adverse impacts on wildlife within and adjacent to the proposed Project area. Temporary impacts on wildlife may include increased noise and human activity during construction. Many species, even those accustomed to human proximity, could temporarily abandon habitats near the proposed Project area until the work is completed. These temporary impacts are not expected to irreparably harm wildlife individuals or populations.

Within Upper Riley Creek, mobile organisms such as fish are expected to avoid and move away from the work area during construction. Direct impacts may occur to more sessile aquatic biota that are unable to remove themselves from the construction area. Construction activities within the Upper Riley Creek channel would not occur between March 15 and June 15 in order to avoid the primary months for fish spawning and migration.

Ultimately, the proposed Project would enhance aquatic habitat for fish and macroinvertebrates in this stretch of Upper Riley Creek by stabilizing banks, providing greater stream depth variability, more channel bed substructure types, and varied channel velocities.

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Selective tree clearing would occur where necessary within the primary access routes to provide construction equipment access to the proposed Project area. As discussed above in EAW item #6, non-native and invasive buckthorn and reed canary grass would be managed as feasible. In addition, selective tree clearing would be implemented in areas of dense woody vegetation to allow sunlight to reach the understory, promoting development of vegetation layers in the ecosystem. Native trees, shrubs, and a mix of grasses and forbs would be established along the stream bank and overbank areas to stabilize bare soils and increase resistance to fluvial erosion. This would provide better floodplain connectivity for Upper Riley Creek, while enhancing the surrounding riparian habitat.

### **Threatened and Endangered Species Impacts**

No impacts to state-listed threatened or endangered species are anticipated from the proposed Project. Habitat for the federally threatened northern long-eared bat is present within the proposed Project area, and tree clearing could affect this habitat. Although no maternity roost trees or hibernacula have been documented within the vicinity of the proposed Project, tree removal would not occur during the pup season (June 1 through July 31) per the USFWS 4(d) rule; as such, adverse effects on northern long-eared bats are not anticipated from the proposed Project. Clearing and grading activities associated with the proposed Project could potentially impact habitat for monarch butterflies. However, as previously noted, this species is not legally protected at the federal or state level. Upon construction completion, the proposed Project area would be revegetated with native species, potentially providing an improvement to suitable habitat available for monarch butterflies.

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

As previously mentioned, potential impacts to fish would be minimized by avoiding construction activities within Upper Riley Creek between March 15 and June 15; the primary months for fish spawning and migration. Additionally, as described above in EAW Item #6, erosion control BMPs would be used in order to minimize impacts to Upper Riley Creek. The potential impacts associated with the construction of the proposed Project would be mitigated by ultimately restoring habitat and promoting diverse vegetation, which would improve the ecological functions within the reach and downstream.

Natural materials and bioengineering techniques would be incorporated into the proposed Project whenever feasible. Bioengineering techniques maintain more of a stream's natural function and provide better habitat and a more natural appearance than hard armoring.

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As noted above, impacts to northern long-eared bats would be minimized by avoiding tree clearing during the pup season (June 1 to July 31) per the USFWS 4(d) rule.

In order to minimize the spread of non-native invasive species, such as buckthorn and reed canary grass, across the reach, construction equipment would be cleaned. The proposed Project would be constructed in accordance with RPBCWD rules to minimize, to the extent possible, the potential spread of aquatic invasive species such as zebra mussels, Eurasian watermilfoil, and Asian.

#### **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.

In June of 2020, Commonwealth Heritage Group conducted a Phase I archaeological survey to gather information about known historic properties and archaeological sites in the vicinity of the proposed Project area (reference (15)). The survey included a background literature search to identify previously documented historic properties and archaeological sites in the vicinity of the proposed Project area and a field pedestrian investigation to identify any previously undocumented sites in the proposed Project area.

The background literature search was conducted by reviewing information regarding previously identified archaeological sites available on the Minnesota Office of the State Archaeologist Portal, submitting a file search request to the SHPO, and reviewing literature regarding historic and cultural contexts, along with official General Land Office records, historic aerial photographs, and historic plat maps relevant to the proposed Project area to identify areas with potential for containing cultural resources.

The background literature research identified one archaeological site, 21CR108, a precontact lithic scatter, located approximately 80 feet from the proposed Project area near Lake Susan. Subsurface testing in the vicinity of this site was completed during the pedestrian survey. Testing consisted of three transects placed on either side of the creek north and south of the identified site with three to six shovel tests excavated along each transect. All subsurface tests were negative for cultural resources, and no new archaeological sites were identified.

Based on the Phase I survey results, it is not anticipated that the proposed Project would adversely affect any historic properties or archaeological sites.

## 15. Visual

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

The proposed Project would occur within and adjacent to Upper Riley Creek. While some portions of the proposed Project area can be seen from roadways, industrial buildings, and residences just upstream of Lake Susan, the majority of the proposed Project area is blocked by tree cover. During construction, from areas where the proposed Project is visible, the viewshed would be temporarily altered from the presence of construction equipment. As mentioned above in EAW Items #6 and #13, some tree clearing would occur for access and management of non-native and invasive buckthorn in the proposed Project area. It is possible that tree removal may slightly alter the viewshed in areas where buckthorn is more dense; in these areas the viewshed could appear more open. However, it is anticipated that the proposed Project would improve the visual quality of the area by providing a more naturalized stream corridor and a riparian area free from the visual impediment caused by buckthorn.

## 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.

Not applicable – no stationary source emissions would be created by the proposed Project.

- 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 would result in short-term, localized air quality impacts due to emissions from equipment used during construction activities; construction is anticipated to occur on and off between fall of 2023 and spring of 2024. Emissions from powered equipment would be minor and temporary in nature during construction. Emissions are expected to have an overall negligible impact on air quality.

- 
- 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.

During construction, the proposed Project would generate dust due to site grading and clearing. However, after construction, the proposed Project is not expected to generate dust. No impacts to quality of life are anticipated as any fugitive dust emissions from construction activities would be minimized through BMP control measures.

The proposed Project may generate odors from excavated sediment during dredging activities. It is anticipated that the odors would dissipate and have a negligible effect on adjacent landowners. Once dredging activities are complete the proposed Project will not generate any additional odors.

## **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.

Existing noise in the vicinity of the proposed Project area is typical of an industrial suburban setting. Surrounding areas consist of commercial buildings, residences (just upstream of Lake Susan), and roadways. Noise is generated primarily by local roadway traffic.

Construction noise is expected to be temporary and limited to the noise generated by equipment and workers accessing the proposed Project area. The equipment associated with the proposed Project is anticipated to include general earthmoving equipment (dozers, loaders, excavators, skid-steers, etc.), chainsaws, and trucks used to haul material to and from the proposed Project area.

The majority of noise generated by the proposed Project would occur during the fall and winter months, thereby minimizing potential impacts to residences and outdoor recreation activities in the vicinity of the proposed Project. In accordance with the City of Chanhassen Municipal Code Sec 13-52, construction activities would be conducted between the hours of 7:00 a.m. and 6:00 p.m. on weekdays or between 9:00 a.m. and 5:00 p.m. on Saturdays; no work would occur on Sundays or public holidays (reference (16)).

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No change in long-term noise levels is expected after completion of the proposed Project.

## 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.

Currently, no parking spaces are present with the proposed Project area, and the addition of parking is not planned.

Roadways immediately adjacent to the proposed Project area convey local traffic, and significant traffic congestion is not anticipated. Highway 5 runs north of the proposed Project area, while Park Road intersects the central portion and Powers Boulevard (County State Aid Highway; CSAH 17) intersects the southern portion (Figure 1). The Minnesota Department of Transportation (MnDOT) classifies Highway 5 and Powers Boulevard as urban minor arterial and Park Road as urban local (reference (17)). According to 2019 counts, the annual average daily traffic is approximately 32,000 vehicles per day for Highway 5, 15,600 vehicles per day for Powers Boulevard, and 2,600 vehicles per day for Park Road (reference (17)). Construction vehicles would likely access the proposed Project area from locations along each of these roadways to the extent practicable.

The daily truck traffic would be dependent on contractor equipment availability and detailed work schedule. It is anticipated that construction material hauling needs and therefore trip generation would be minimal.

There are no accessible public transit stops in the vicinity of the proposed Project area. The proposed Project is not expected to impact public transit or alternative modes of transit such as walking and biking.

- 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.*

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Based on the low traffic volumes anticipated, the proposed Project is not anticipated to impact local traffic flow and no roadway improvements are warranted to accommodate traffic generated by the proposed Project. Construction of the proposed Project is not anticipated to require any vehicular detours.

## **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 geographic scale with which cumulative effects were assessed for the proposed Project includes areas within the City of Chanhassen that are within a few blocks of the proposed Project area and waterbodies and watercourses that drain into Riley Creek. It is anticipated that the major construction activities associated with the proposed Project would take approximately 9 months to complete, with construction occurring on and off between fall of 2023 and spring of 2024.

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

The potential for negative effects resulting from the proposed Project would be temporary, resulting from construction activities. These temporary effects, which are discussed in detail above, include temporary loss of aquatic and terrestrial habitat due to work within and adjacent to Upper Riley Creek, tree clearing, and noise from construction equipment. Once construction is complete, the proposed Project would positively affect ecological functions along the reach and downstream Lake Susan by reducing stream bank erosion, reconnecting the creek to its floodplain, restoring habitat, and promoting diverse vegetation.

Past, present, and reasonably foreseeable future projects that could potentially interact with the environmental effects of the proposed Project include projects in the City of Chanhassen that are within the vicinity of the proposed Project and within nearby waterbodies or watercourses that drain into Riley Creek.

### **Projects in Chanhassen within Vicinity of Proposed Project Area**

The following infrastructure projects in Chanhassen have been recently constructed or are in the construction, planning, or permitting stage:

- 
- Lake Place – this project consists of an apartment complex located on Lake Drive West near Powers Boulevard. The project is currently under construction.
  - Highway 5 Regional Trail Project (Arboretum Connection) – project involves construction of a 2- mile segment of the Highway 5 Regional Trail. The project removes a trail gap in the trail system, connecting the existing trail and box culvert at Minnewashta Parkway and the Arboretum to existing trails at Century Boulevard. Project was completed in fall of 2021.
  - CSAH Highway 17 (Powers Boulevard) Resurfacing Project – resurfacing between Highway 5 and Highway 14. Project is scheduled for 2024.

### **Projects in Nearby Waterbodies or Water Courses that Drain into Riley Creek**

The following water resources/water quality projects have been recently constructed or are in the construction, planning, or permitting stage:

- 2021 Stormwater Pond Maintenance Project – maintenance is planned for 5 sites around the City of Chanhassen, one of which is located in the Riley Creek watershed. Construction is underway, with restoration planned for spring of 2022.
- Rice Marsh Lake Water Quality Treatment Project – the City of Chanhassen and RPBCWD are partnering to install a Kraken Filter. Stormwater from the downtown Chanhassen area that drains to the lake would now pass through the system, which contains a series of chambers and various filters which would remove pollutants which negatively impact the water quality within Rice Marsh Lake. Project is anticipated to be complete in spring 2022.
- Lower Riley Creek Ecological Restoration – the City of Eden Prairie partnered with the RPBCWD and the Lower Minnesota River Watershed District to restore and enhance roughly 5,500 feet of the lower reach of Riley Creek. This project was completed in 2021.
- Middle Riley Creek Stabilization Project – the RPBCWD has partnered with the Bearpath Golf and Country Club in the City of Eden Prairie to stabilize 9,710 feet of Riley creek at two locations within the Bearpath Golf and Country Club. This project will be completed in the spring of 2022.
- Lake Susan Park Pond Project – the City of Chanhassen partnered with the RPBCWD to implement a stormwater reuse system and an iron-enhanced sand filter at the

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edge of Lake Susan Pond Park, in order to clean the water before it flows into Lake Susan. This project was completed in spring of 2019.

- Lake Susan In-Lake Phosphorus Load Control – the RPBCWD is conducting a series of alum treatments to control phosphorus levels within Lake Susan. The project is anticipated to occur within the next 5 years.
  - Lake Riley In-Lake Phosphorus Load Control – the RPBCWD is conducting a series of alum treatments to control phosphorus levels within Lake Riley. The project is on-going, with alum treatments continuing over the next few years.
  - Rice Marsh Lake In-Lake Phosphorus Load Control – the RPBCWD is conducting a series of alum treatments to control phosphorus levels within Rice Marsh Lake. The project is on-going, with alum treatments continuing over the next few years.
- 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.

### **Negative Effects**

The potential for negative effects (e.g., loss of habitat and noise) from the proposed Project would be temporary, lasting only the duration of construction activities. These effects are discussed in detail in the resource-specific sections above. Because these effects would be temporary and localized in nature, they are not likely to interact with any of the projects identified above.

### **Beneficial Effects**

Construction of the proposed Project would positively affect water quality and ecological function/habitat in the proposed Project area and downstream. These effects are discussed in detail in the resource-specific sections above. Several of the projects identified above in nearby water bodies and watercourses that drain into Riley Creek have also improved or are in the process of improving water quality and habitat in the Riley Creek watershed. Future implementation of water resources/water quality projects in the Riley Creek watershed would interact with and complement previous projects and the proposed Project to work towards meeting the goals and objectives (see EAW item #9) of improving water quality and ecological function/habitat within the watershed.

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## 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 proposed Project is not anticipated to result in environmental effects beyond those described in this document.

**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:**

  
Charlie Howley

**Date:**

7/7/22

**Title:** Public Works Director/City Engineer  
City of Chanhassen

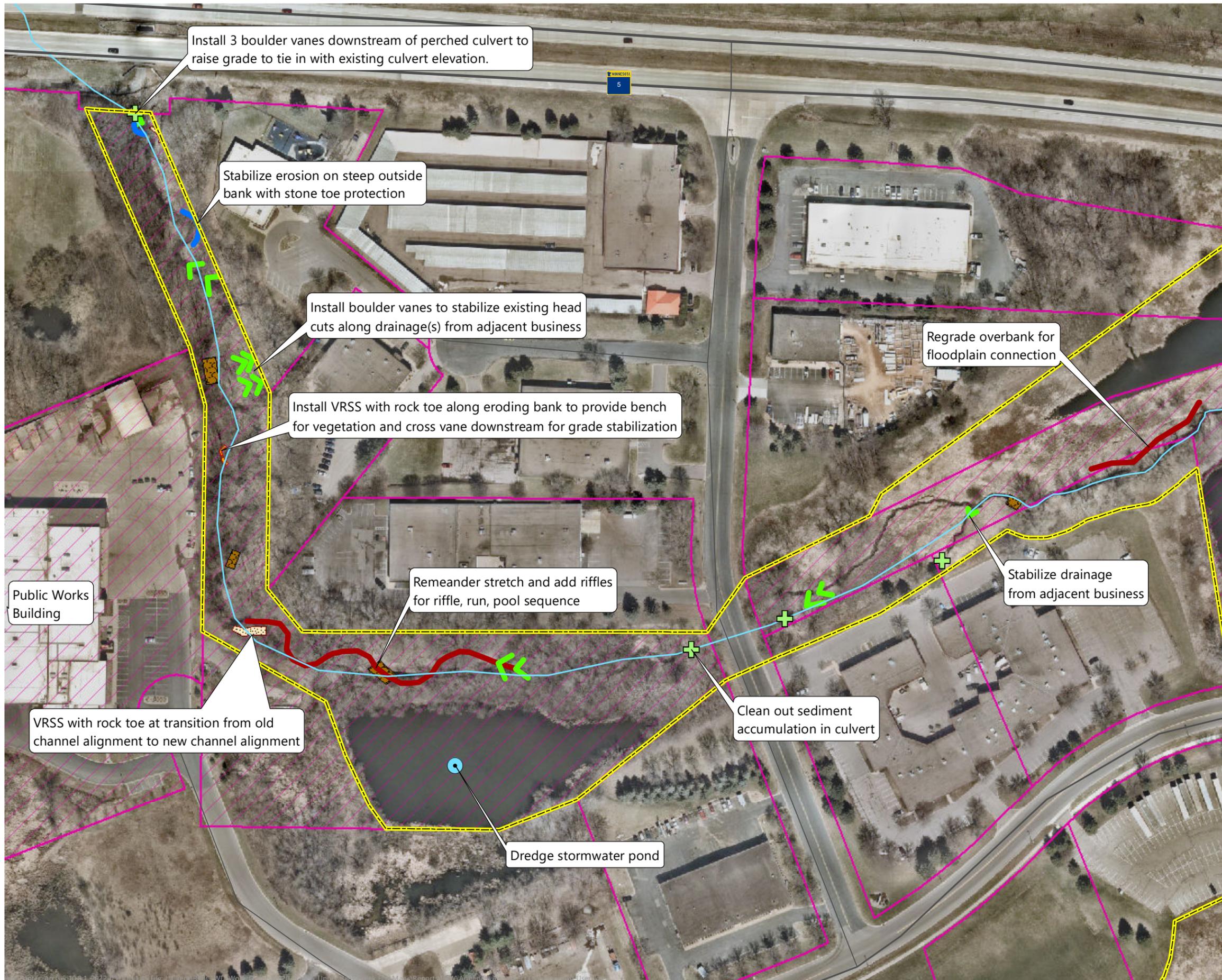
## Appendices

## **Appendix A**

### **Concept Level Design**

# PROJECT OVERVIEW

## FIGURE A-1



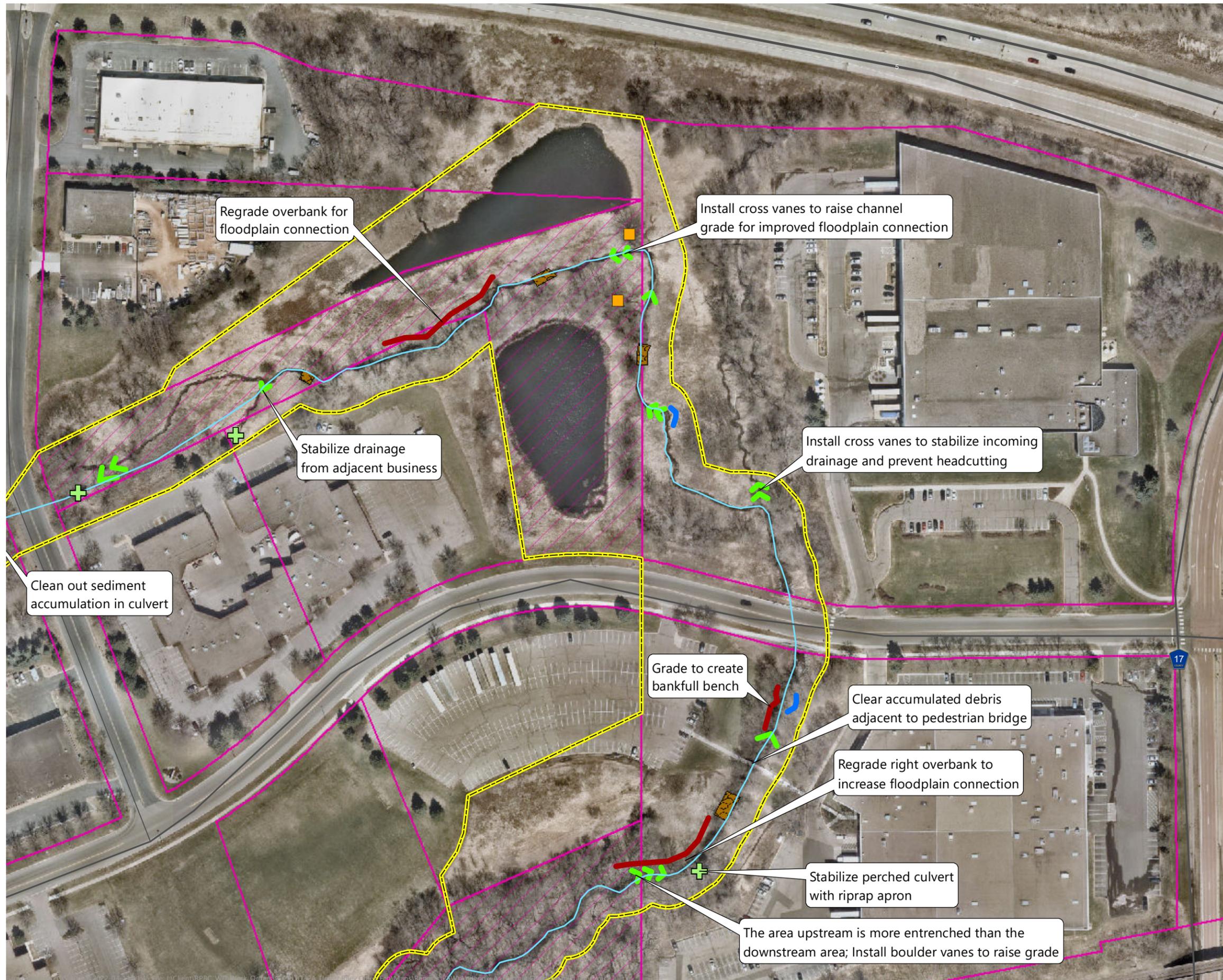
- Project Boundary
- Creek Alignment
- Lake
- Culvert Outfalls
- Parcels Intersecting the Project Boundary
  - Public Property
  - Private Property
- Potential Restoration Features
  - Culvert Stabilization
  - Pond Enhancement
  - Cross Vane
  - Stone Toe Protection
  - Other
    - Rock Riffle
    - Toe Wood Bank Stabilization
    - Vegetated Reinforced Soil Slope (VRSS)
    - Other



0 75 150 300 Feet

# PROJECT OVERVIEW

## FIGURE A-2



- Project Boundary
- Creek Alignment
- Lake
- Culvert Outfalls
- Parcels Intersecting the Project Boundary
  - Public Property
  - Private Property
- Potential Restoration Features
  - Culvert Stabilization
  - Pond Enhancement
  - Cross Vane
  - Stone Toe Protection
  - Other
    - Rock Riffle
    - Toe Wood Bank Stabilization
    - Vegetated Reinforced Soil Slope (VRSS)
    - Other



0 75 150 300 Feet

# PROJECT OVERVIEW

## FIGURE A-3



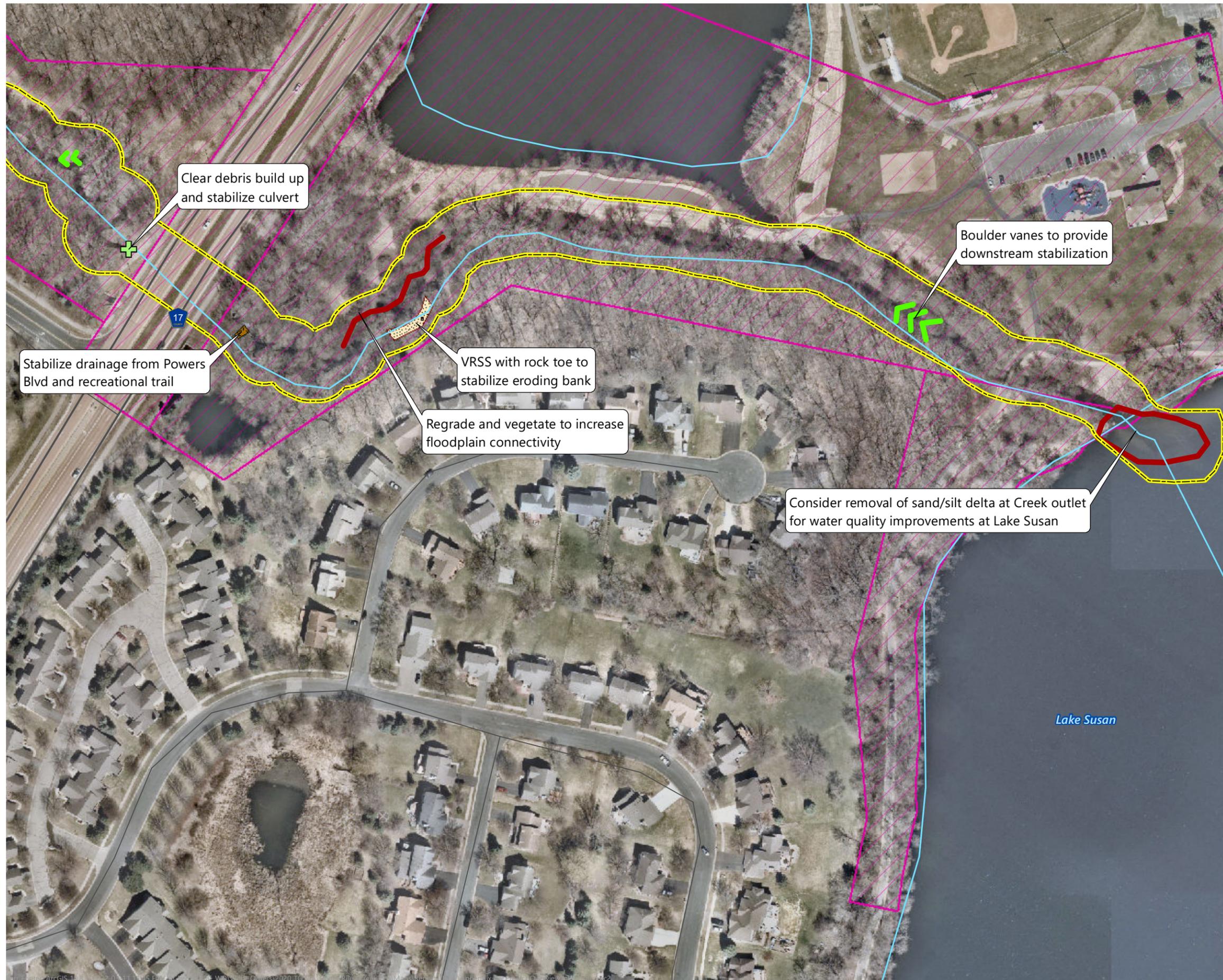
- Project Boundary
- Creek Alignment
- Lake
- Culvert Outfalls
- Parcels Intersecting the Project Boundary
  - Public Property
  - Private Property
- Potential Restoration Features
  - Culvert Stabilization
  - Pond Enhancement
  - Cross Vane
  - Stone Toe Protection
  - Other
    - Rock Riffle
    - Toe Wood Bank Stabilization
    - Vegetated Reinforced Soil Slope (VRSS)
    - Other



0 75 150 300 Feet

# PROJECT OVERVIEW

## FIGURE A-4



- Project Boundary
- Creek Alignment
- Lake
- Culvert Outfalls
- Parcels Intersecting the Project Boundary
- Public Property
- Private Property
- Potential Restoration Features
- Culvert Stabilization
- Pond Enhancement
- Cross Vane
- Stone Toe Protection
- Other
- Rock Riffle
- Toe Wood Bank Stabilization
- Vegetated Reinforced Soil Slope (VRSS)
- Other



0 75 150 300 Feet

## **Appendix B**

### **United States Fish and Wildlife Service Information for Planning and Consultation**

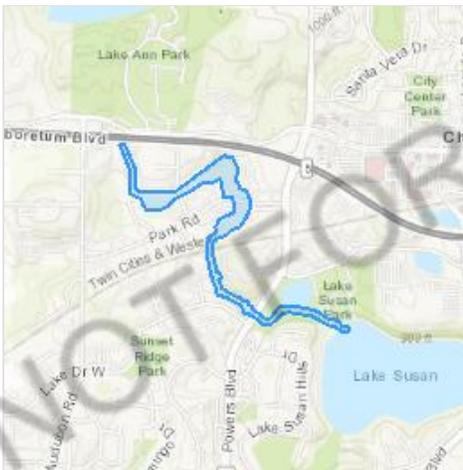
# IPaC resource list

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

Carver 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>

NOT FOR CONSULTATION

# 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<sup>1</sup> 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<sup>2</sup>).

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](#).

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*

Threatened

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9045>

## Insects

NAME

STATUS

Monarch Butterfly *Danaus plexippus*

Candidate

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9743>

## 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<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

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.)
<p><b>Bald Eagle</b> <i>Haliaeetus leucocephalus</i>            This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.  <a href="https://ecos.fws.gov/ecp/species/1626">https://ecos.fws.gov/ecp/species/1626</a></p>	Breeds Dec 1 to Aug 31
<p><b>Black-billed Cuckoo</b> <i>Coccyzus erythrophthalmus</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  <a href="https://ecos.fws.gov/ecp/species/9399">https://ecos.fws.gov/ecp/species/9399</a></p>	Breeds May 15 to Oct 10
<p><b>Bobolink</b> <i>Dolichonyx oryzivorus</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 20 to Jul 31
<p><b>Canada Warbler</b> <i>Cardellina canadensis</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 20 to Aug 10

Golden-winged Warbler <i>Vermivora chrysoptera</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/8745">https://ecos.fws.gov/ecp/species/8745</a>	Breeds May 1 to Jul 20
Le Conte's Sparrow <i>Ammodramus leconteii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 1 to Aug 15
Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9679">https://ecos.fws.gov/ecp/species/9679</a>	Breeds elsewhere
Marbled Godwit <i>Limosa fedoa</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9481">https://ecos.fws.gov/ecp/species/9481</a>	Breeds May 1 to Jul 31
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Wood Thrush <i>Hylocichla mustelina</i> 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.

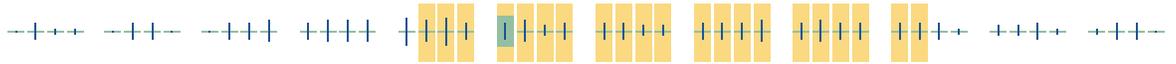
### Probability of Presence (■)

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.

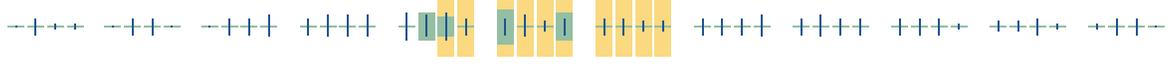
How is the probability of presence score calculated? The calculation is done in three steps:



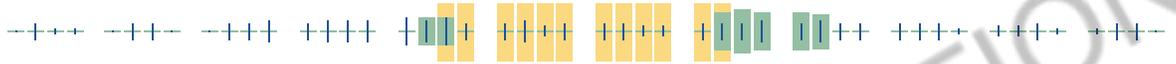
Black-billed Cuckoo  
 BCC Rangewide  
 (CON) (This is a Bird  
 of Conservation  
 Concern (BCC)  
 throughout its  
 range in the  
 continental USA  
 and Alaska.)



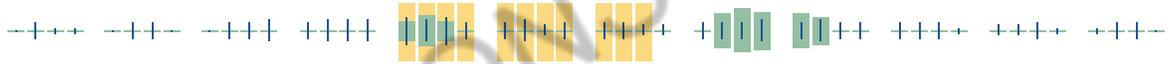
Bobolink  
 BCC Rangewide  
 (CON) (This is a Bird  
 of Conservation  
 Concern (BCC)  
 throughout its  
 range in the  
 continental USA  
 and Alaska.)



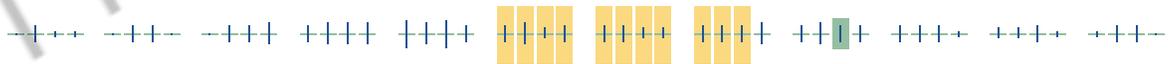
Canada Warbler  
 BCC Rangewide  
 (CON) (This is a Bird  
 of Conservation  
 Concern (BCC)  
 throughout its  
 range in the  
 continental USA  
 and Alaska.)



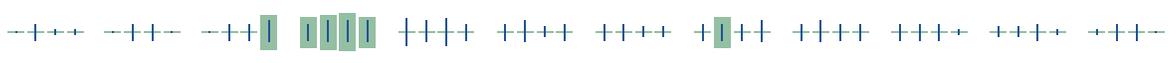
Golden-winged  
 Warbler  
 BCC Rangewide  
 (CON) (This is a Bird  
 of Conservation  
 Concern (BCC)  
 throughout its  
 range in the  
 continental USA  
 and Alaska.)



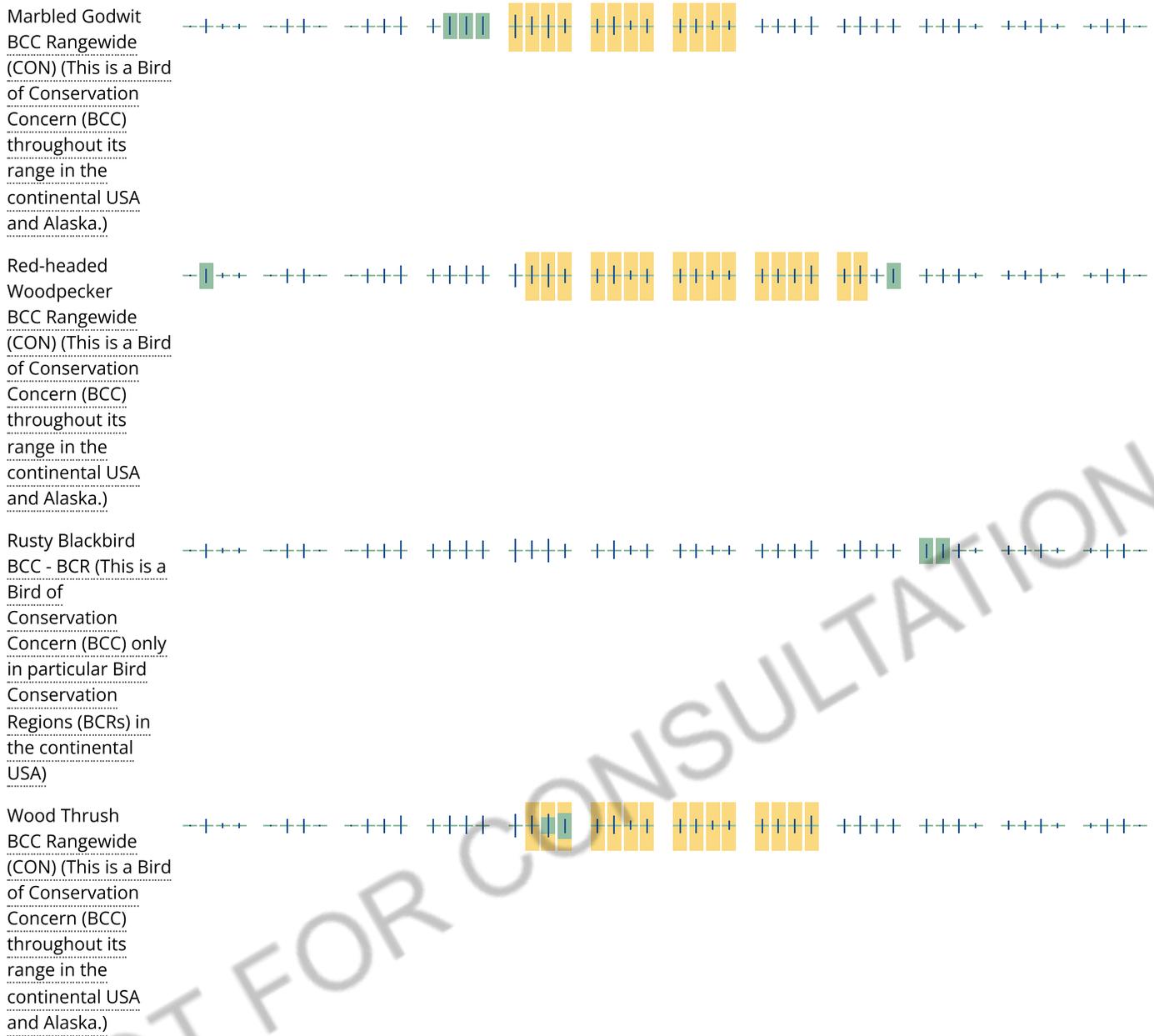
Le Conte's Sparrow  
 BCC Rangewide  
 (CON) (This is a Bird  
 of Conservation  
 Concern (BCC)  
 throughout its  
 range in the  
 continental USA  
 and Alaska.)



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



NOT FOR CONSULTATION



**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 to 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

### National Wildlife Refuge lands

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

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

### Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

## 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 tubercid 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 C

### References

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## Appendix C References

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