PUBLIC DOCUMENT – TRADE SECRET DATA EXCISED

APPENDIX R

NATURAL HERITAGE INFORMATION SYSTEM, USFWS SPECIES LIST, AND PHASE IA CULTURAL RESOURCES LITERATURE SEARCH

NO STAPLES PLEASE

2012	For Agency Use Only:	
	Received _____ Due _____ Inv _____	#Sec _____ Contact Rqsted? _____
	Search Radius _____mi. L / I / D EM Map'd _____	#EOs _____ Survey Rqsted? _____
	NoR / NoF / NoE / Std / Sub Let _____ Log out _____	#Com _____
		Related ERDB# _____

NATURAL HERITAGE INFORMATION SYSTEM (NHIS) DATA REQUEST FORM

Please read the instructions on page 3 before filling out the form. Thank you!

WHO IS REQUESTING THE INFORMATION?

Mr. / Ms.

Name and Title: Brian Hunker

Agency/Company: HDR Engineering, Inc.

Mailing Address: 1601 Utica Ave South, Suite 600, St. Louis Park, MN 55416
(Street) (City) (State) (Zip Code)

Phone: 763-218-9845 e-mail: brian.hunker@hdrinc.com

Responses will be sent via email. If you prefer US Mail check here: ☐

THIS INFORMATION IS BEING REQUESTED FOR A:

☐ Federal EA ☐ State EAW ☑ PUC Site or Route Application ☐ Watershed Plan ☐ BER

☐ Federal EIS ☐ State EIS ☐ Local Government Permit ☐ Research Project

☐ NEPA Checklist ☑ Other (describe) Information will be used for discussion with DNR staff

☐ Check here if this project is funded through any of the following grant programs: Lessard-Sams Outdoor Heritage Council (L-SOHC), Conservation Partners Legacy (CPL), or Legislative-Citizen Commission on Minnesota Resources (LCCMR).

INFORMATION WE NEED FROM YOU:

1) **Enclose a map** of the project boundary/area of interest (topographic maps or aerial photos are preferred).

2) Please **provide a GIS shapefile*** (NAD 83, UTM Zone 15N) of the project boundary/area of interest.

3) List the following locational information* (attach additional sheets if necessary):

For Agency Use: TRS Confirmed ☐

For Agency Use: Region / MBS Status

County	Township #	Range #	Section(s) (please list **all** sections)
			See attachment A

4) Please provide the following information (attach additional sheets if necessary):

Project Name: Duluth Loop Reliability Project

Project Proposer: Minnesota Power

Description of Project (including types of disturbance anticipated from the project):

See attachment A

* Please see the instructions on page 3.

Describe the existing land use of the project site. What types of land cover / habitat will be impacted by the proposed project? See attachment A

List any waterbodies (e.g., rivers, intermittent streams, lakes, wetlands) that may be affected by the proposed project, and discuss how they may be impacted (e.g., dewatering, discharge, riverbed disturbance).
See attachment A

Does the project have the potential to affect any groundwater resources (e.g., groundwater appropriation, change in recharge, or contamination)?
No

To your knowledge, has the project undergone a previous Natural Heritage review? If so, please list the correspondence #: ERDB # _____ How does this request differ from the previous request (e.g., change in scope, change in boundary, project being revived, project expansion, different phase)?

No

To your knowledge, have any native plant community or rare species surveys been conducted within the site? If so, please list: No

List any DNR Permits or Licenses that you will be applying for or have already applied for as part of this project:
License to Cross Public Waters and License to Cross Public Lands (depending on preferred route selection)

INFORMATION WE PROVIDE TO YOU

1) The response will include a Natural Heritage letter. If applicable, the letter will discuss potential effects to rare features.

☐ Check here if you are interested in a list of rare features in the vicinity of the area of interest but you do **not** need a review of potential effects to rare features. Please list the reason a review is not needed:

2) Depending on the results of the query or review, the response may include an Index Report of known aggregation sites and known occurrences of federally and state-listed plants and animals* within an approximate one-mile radius of the project boundary/area of interest. The Index Report and Natural Heritage letter can be included in any public environmental review document.

3) A Detailed Report that contains more information on each occurrence may also be requested. Please note that the Detailed Report may contain specific location information that is protected under *Minnesota Statutes*, section 84.0872, subd. 2, and, as such, the Detailed Report may not be included in any public document (e.g., an EAW).

☑ Check here if you would like to request a Detailed Report. Please note that if the results of the review are 'No Effects' or a standard comment, a Detailed Report may not be available.

FEES / TURNAROUND TIME

There is a fee* for this service. Requests generally take **3-4 weeks** from date of receipt to process, and are processed in the order received.

I have read the entire form and instructions, and the information supplied above is complete and accurate. I understand that material supplied to me from the Natural Heritage Information System is copyrighted and that I am not permitted to reproduce or publish any of this copyrighted material without prior written permission from the DNR. Further, if permission to publish is given, I understand that I must credit the Minnesota Division of Ecological and Water Resources, Minnesota Department of Natural Resources, as the source of the material.

Signature (**required**) Brian Hunter	Note: Digital signatures representing the name of a person shall be sufficient to show that such person has signed this document.

Mail or email completed form to:
Lisa Joyal, Endangered Species Review Coordinator
Division of Ecological and Water Resources
Minnesota Department of Natural Resources
500 Lafayette Road, Box 25
St. Paul, Minnesota 55155
Review.NHIS@state.mn.us

Online version of the form

Revised March 2, 2012

* Please see the instructions on page 3

Attachment A – Additional Information

Project: Duluth Loop Reliability Project

Proposer Minnesota Power

Subject: Minnesota Department of Natural Resources Natural Heritage Inventory System Review Request

Project Location Information

The Duluth Loop Reliability Project's Route Alternatives (Project Area) is located in the following township, range and sections:

TABLE 1. PROJECT LOCATION INFORMATION

County	Township	Range	Section
St. Louis County	51	14	29
St. Louis County	51	14	30
St. Louis County	51	15	25
St. Louis County	51	15	26
St. Louis County	51	15	27
St. Louis County	51	14	32
St. Louis County	51	15	34
St. Louis County	51	15	33
St. Louis County	50	14	4
St. Louis County	50	14	5
St. Louis County	50	15	4
St. Louis County	50	14	9
St. Louis County	50	14	8
St. Louis County	50	14	7
St. Louis County	50	15	9
St. Louis County	50	15	8
St. Louis County	50	14	18
St. Louis County	50	15	13
St. Louis County	50	15	14
St. Louis County	50	15	15
St. Louis County	50	15	16
St. Louis County	50	15	17
St. Louis County	50	15	22
St. Louis County	50	15	21
St. Louis County	50	15	28
St. Louis County	50	15	27
St. Louis County	50	15	30
St. Louis County	50	15	36
St. Louis County	50	15	35

County	Township	Range	Section
St. Louis County	50	15	34
St. Louis County	50	15	33
St. Louis County	50	15	31
St. Louis County	49	15	1
St. Louis County	49	15	2
St. Louis County	49	15	3
St. Louis County	49	15	4

Description of Project (including types of disturbance anticipated from the project):
Minnesota Power is proposing the Duluth Loop Reliability Project (proposed Project or Project) to enhance reliability by building an additional transmission source to communities in and around Duluth and along the North Shore.

The Duluth Loop Reliability Project includes three components:

- Construction of about 10 to 20 miles of new 115 kilovolt (kV) transmission line between the Ridgeview and Hilltop substations
- Construction of approximately one-mile extension of an existing 230kV transmission line, connecting to the Arrowhead Substation
- Upgrades to the Ridgeview, Hilltop, Haines Road, and Arrowhead substations, including expansion of the Ridgeview and Hilltop substations and reconfiguring existing transmission lines at the Hilltop Substation. Upgrades at the Haines Road and Arrowhead substations would occur within the existing substation fenced boundary.

The new 230kV transmission line to the Arrowhead Substation and expansions of the Ridgeview and Hilltop substations are proposed to occur on Minnesota Power owned property.

Right-of-Way Requirements

The proposed 115kV transmission line from the Ridgeview Substation to Hilltop Substation would utilize new and existing Minnesota Power transmission line right-of-way (ROW). The new single-circuit 115kV transmission line ROW would be 100-feet-wide. Where the new 115kV transmission line parallels an existing 115kV transmission line the ROW would be 160-feet-wide. The new 230kV transmission line would utilize a new 130-foot-wide ROW.

Structure Design

The 115kV transmission line would consist of direct embedded wood H-frame structures that are approximately 500- to 1,000-feet apart and 50- to 80-feet above ground. The 230kV transmission line would consist of direct embedded wood H-frame structures that are approximately 500- to 1,000-feet apart and 60- to 100-feet above ground. Guy wires and screw-in helical anchors will be used to stabilize the poles, when necessary. Steel monopole structures with concrete foundations may be necessary at certain locations depending on design, construction, and ROW requirements.

Construction Protocol

Large scale grading of the ROW would not occur. Impacts to vegetation will be minimized as the Project will attempt to parallel existing transmission line ROW to the extent practical. During initial construction, all woody vegetation will be cut and removed within the ROW. Herbaceous and low growing shrub vegetation would not be cleared from the ROW.

Where possible, existing paved and improved unpaved highways and roads will be used for the transportation of materials and equipment to the ROW. Access from existing roads to the ROW and construction areas would be identified in consultation with adjacent landowners and would utilize existing private approaches or existing transmission line ROW where possible. Access along the centerline of the Project would be overland and would be limited to the ROW where possible. Access down the ROW may be shifted outside of the ROW to avoid potential sensitive areas or other natural obstructions within the ROW. When soft ground conditions exist that may impede overland travel, construction matting will be used to provide for a minimal disturbance access way leading to or on the ROW, as well as in work areas that require a more stable travel or work surface. Drilling of structure holes, hauling, assembly, and erection of the structures would take place by wheeled or tracked construction equipment. Structures would be installed directly in the ground by augering or excavating a hole typically eight- to twenty-feet-deep and two- to three-feet in diameter. The new structures will then be set in the holes and the holes are back-filled with the excavated material, native soil, or crushed rock. In poor soil conditions, a galvanized steel culvert may be installed vertically to hold soils then the structure is set inside the culvert. Low ground pressure or large tracked type equipment will be used for pulling overhead ground wires and conductor lead lines for the Project. For the installation of the conductors and wires, pulling, tensioning and splicing sites will be established for a particular section of line to be installed, typically three miles apart. These sites would be collocated with a structure work site and extend beyond the work site. They would be placed on temporary construction matting when located within soft ground conditions, otherwise, the pull and tension site would be on the ground.

Describe the existing land use of the project site. What types of land cover / habitat will be impacted by the proposed project?

Land cover within the Project Area includes residential, rural residential, urban and commercial development, forest and shrub lands, wetlands, streams, and maintained transmission line utility ROW. Permanent changes to land cover will occur from forest and shrub vegetation clearing for a utility ROW and the Ridgeview and Hilltop substation expansions. Cleared areas will be allowed to regrow to shrub and herbaceous vegetation and therefore a permanent conversion from forest to shrub and/or herbaceous lands will occur. Other areas will have temporarily vegetation impacted by construction activities, such as pull and tension sites and access points.

Ground disturbance is anticipated to be minimal and occur at the Ridgeview and Hilltop substation expansions and where a new transmission line structure will be installed. Upon completion of construction activities, disturbed areas would be restored to preconstruction grade and vegetation allowed to regrow naturally. The ROW would be maintained in an herbaceous and shrub vegetation classifications.

List any waterbodies (e.g., rivers, intermittent streams, lakes, wetlands) that may be affected by the proposed project, and discuss how they may be impacted (e.g., dewatering, discharge, riverbed disturbance).

Sixteen Public Water Inventory (PWI) streams, two PWI wetland/water, and National Wetland Inventory (NWI) mapped wetlands will be crossed by the Project. At this time, the exact PWI stream, PWI wetland, and NWI wetland crossings are not known until the Public Utilities Commission issues a Route Permit for the Project.

PWI streams and PWI wetlands crossed by the Route Alternatives are listed in Tables 2 and 3 (respectively) and shown on the attached map book. No permanent impacts to PWI streams and PWI waters/wetlands are anticipated as a result of the Project as the new transmission line will span these resources. Temporary impacts to PWI streams will be associated with forested vegetation clearing and conversion from forested to shrub and herbaceous land cover. Temporary construction crossings of PWI streams may be required and each crossing will be reviewed and permitted with the DNR through a License to Cross Public Waters.

NWI wetlands within the Route Alternatives are listed in Table 4 and shown on the attached map book. Table 4 does not list NWI wetland impacts. Anticipated wetland impacts will be calculated once a preferred route is selected and structure locations are known. Permanent impacts to wetland resources may result from fill placement at the Ridgeview and Hilltop substation expansions and yet to be determined structure locations that may occur within the boundaries of wetlands. Additionally, temporary impacts to wetland resources would result from the placement of matting materials within wetland areas as needed for access and construction of the Project.

As design progresses, the Project intends to conduct a Level 1 desktop wetland delineation along the new transmission line, which will be supplemented by a Level 2 on-site wetland delineations at the substation locations where permanent wetland impacts may occur. The Project will coordinate with the applicable Local Government Units, Board of Water and Soil Resources, and the U.S. Army Corps of Engineers regarding both Minnesota Wetland Conservation Act and Section 404 of the Clean Water Act permitting requirements. Additionally, the Project will coordinate with the MN DNR Department of Lands and Minerals regarding application for Utility License Crossings over Public Waters.

TABLE 2. PWI WATERCOURSE CROSSING LOCATION INFORMATION

PWI Name	Number	Township	Range	Section	Map Book Page	Trout Stream
Rocky Run	S-002-010-004	50	15	8, 17	15, 19	Designated Trout
Miller Creek	S-002-001	50	14, 15	13, 18	23	Designated Trout
Midway River	S-002-010	50	15	21, 22, 28	28, 29, 32	Designated Trout
Midway River	S-002-010-B007.5	50	15	28	29	No Designation
West Rocky Run	S-002-010-003	50	15	31	40	Designated Trout
Unnamed Stream	S-002-010-004-005	50	15	17	17	Designated Trout
Unnamed Stream	S-002-010-003.9	50	15	33	30	Designated Trout
Unnamed Stream	S-002-001-001	50	14	7, 18	22, 23	Designated Trout only in Section 18

PWI Name	Number	Township	Range	Section	Map Book Page	Trout Stream
Keene Creek	S-002-002	50	15	13	24	No Designation
Unnamed Stream	S-002-010-006	50	15	28	28, 29	Designated Trout
Midway River	S-002-010-B008	50	15	28	28	No Designation
Unnamed Stream	S-002-010-004-003	50	15	15, 16, 21	20, 27	Designated Trout
Kingsbury Creek	S-002-003	49, 50	15	4, 33, 34, 35	31, 35, 36	Designated Trout
Chester Creek, East Branch	S-003-009	50	14	4, 5, 9	2, 3, 4	Designated Trout
Unnamed Stream	S-002-016-008-007.5	51	14	29, 30	6, 7	No Designation
Chester Creek	S-003	50	14	7, 8	21, 22	Designated Trout

TABLE 3. PWI WETLAND AND WATER CROSSING LOCATION INFORMATION

PWI Name	PWI Type	Township	Range	Section	Map Book Page
Wild Rice Lake Reservoir	Public Water Basin	51	15	26	10
Unnamed	Public Water Wetland	50	14	8	3, 21

TABLE 4. NWI WETLAND CROSSING INFORMATION

Circular 39 Class	Wetland Type	Acres within Route Alternatives (Not Impact Acres*)
1	Seasonally Flooded Basin	45
2	Wet Meadow	97
3	Shallow Marsh	30
4	Deep Marsh	0.6
5	Shallow Open Water	4
6	Shrub Wetland	373
7	Forested Wetland	370
8	Forested Wetland/Bog	25
90	Riverine	2

*Anticipated wetland impacts will be calculated once a preferred route is selected and structure locations are known. Wetland impacts will be permitted through WCA.

To your knowledge, have any native plant community or rare species surveys been conducted within the site? If so, please list:

A formal on-site review for native plant communities or rare species has not occurred. The following information was identified through a review of the Project Area under HDR's Natural Heritage Inventory System License Agreement [redacted] and the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) online system.

One state endangered and one species of special concern were identified as occurring within the Project Area and a one-mile buffer of the Project Area based on a review of NHIS data (Table 5). On January 14, 2021, the Project team had a conference call with DNR staff, who

mentioned the Blanding's turtle (*Emydoidea blaningii),* a state threatened species may occur or travel through the Project Area, although it was listed within NHIS data as occurring beyond the one-mile buffer. Below is a discussion of each species NHIS occurrence within the Project Area.

Floating Marsh Marigold (*Caltha natans)*

[redacted]

The MnDNR's Rare Species Guide lists habitat loss and degradation as the primary reasons for this species endangered listing. The Project plans to span streams and maintain the native vegetation of stream buffers. In addition, the Project plans to parallel existing transmission lines to utilize existing corridors. During construction, the Project will use silt fence to keep sedimentation from entering the waterbody and as a visual barrier for the contractor to stay on the construction ROW.

Northern Goshawk (*Accipiter gentilis)*

[redacted] The MnDNR's Rare Species Guide lists this species regional decline due to fragmented land ownership and the fragmentation of large contiguous forest stands due to past and current forest management practices. The Project plans to parallel existing transmission lines to utilize existing corridors and reduce additional habitat fragmentation. Minnesota Power will work with the MnDNR to develop an Avian Protection Plan for the Project.

Blanding's Turtle (Emydoidea blaningii)

Turtles may travel along streams and wetlands in the Project Area. The Project will not grade or build access roads in wetlands. All access will be overland or on matting. Silt fence will be used to keep turtles out of structure work areas and access routes. Structure holes that have been augered will be covered until a structure is placed in the hole and backfilled to minimize a turtle accidently falling into an augered hole. Minnesota Power will consult and work with the DNR to develop a contractor training program and a Blanding's Turtle Protection Plan for the Project during construction.

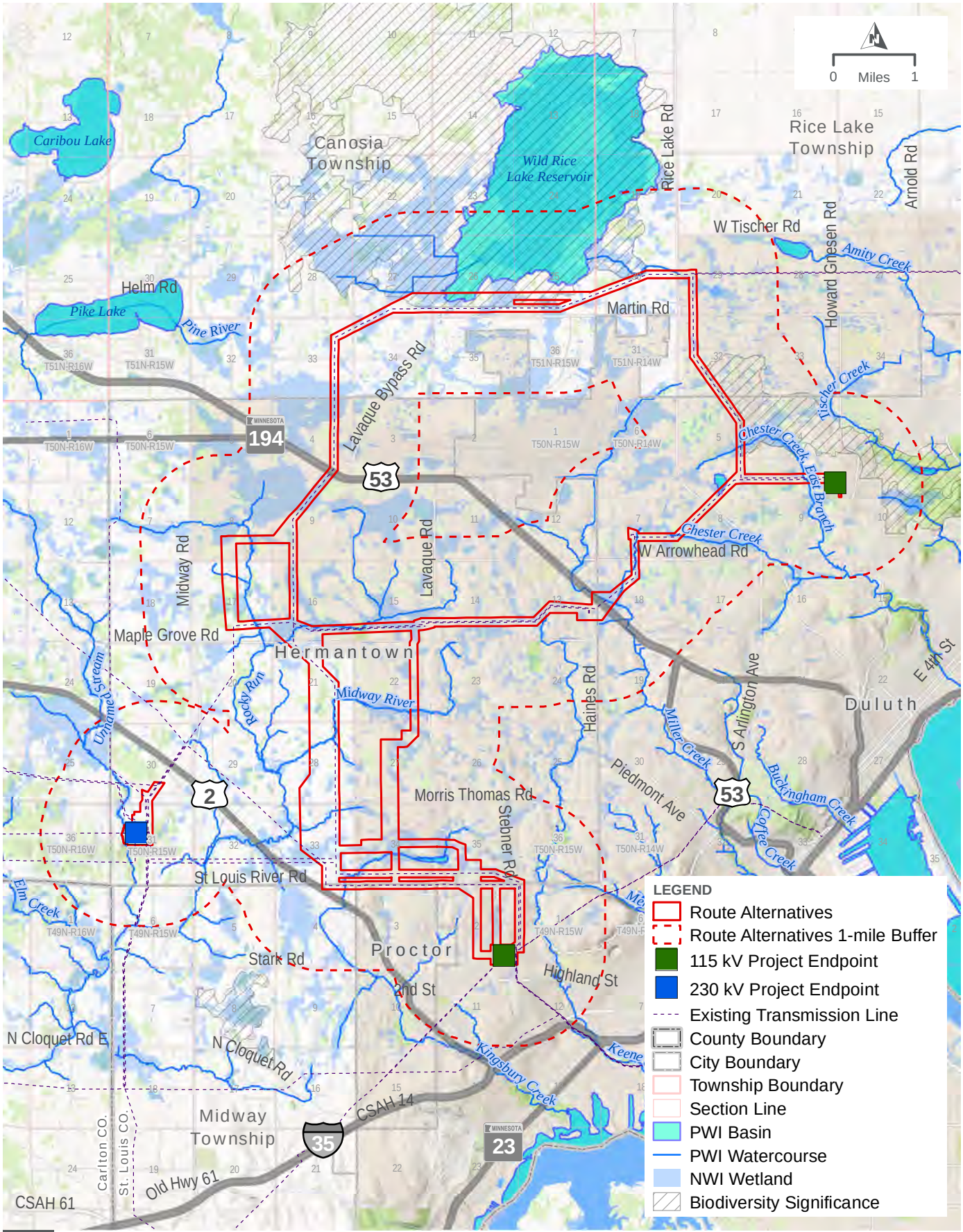
IPaC identify designated Canada lynx (*Lynx canadensis*) critical habitat occurring in the northern half of the Project Area. (Table 6). Four federally listed species were identified as having the potential to occur within a one-mile buffer of the Project Area by IPaC (Table 6).

TABLE 5. MN DNR STATE LISTED SPECIES WITHIN ONE MILE BUFFER OF THE PROJECT AREA

Species Name	Common Name	State Listing Status
Caltha natans	Floating marsh marigold	Endangered
Accipiter gentilis	Northern goshawk	Special Concern
Emydoidea blaningii	Blanding's turtle	Threatened

TABLE 6. FEDERALLY LISTED SPECIES WITHIN ONE MILE BUFFER OF THE PROJECT AREA

Species Name	Common Name	Federal Listing Status
Myotis septentrionalis	Northern long-eared bat	Threatened
Lynx canadensis	Canada lynx	Threatened and Designated Critical Habitat (state special concern)
Charadrius melodus	Piping plover	Endangered
Calidris canutus rufa	Red knot	Threatened



DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 1

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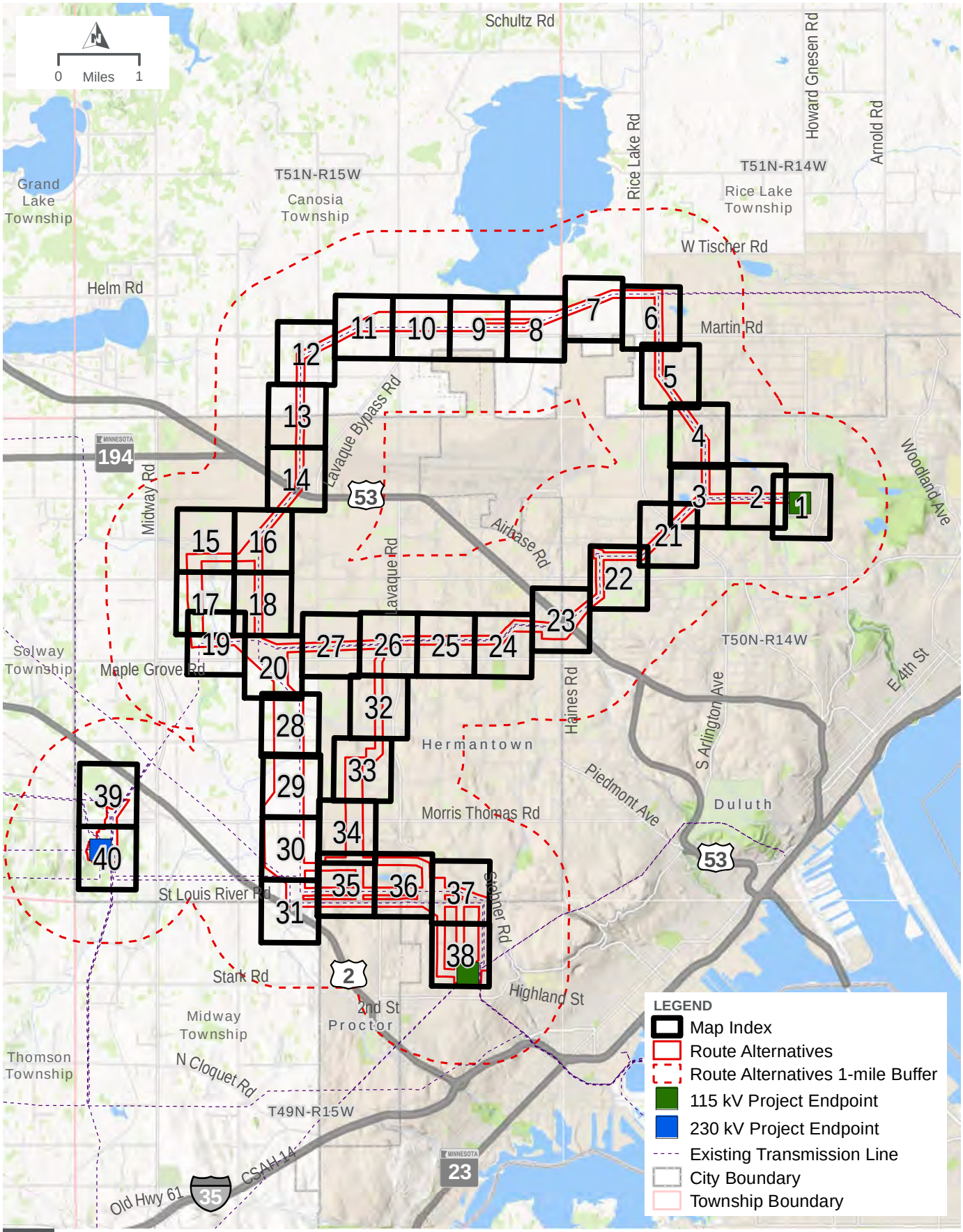
MN DNR NHIS REQUEST



DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 2

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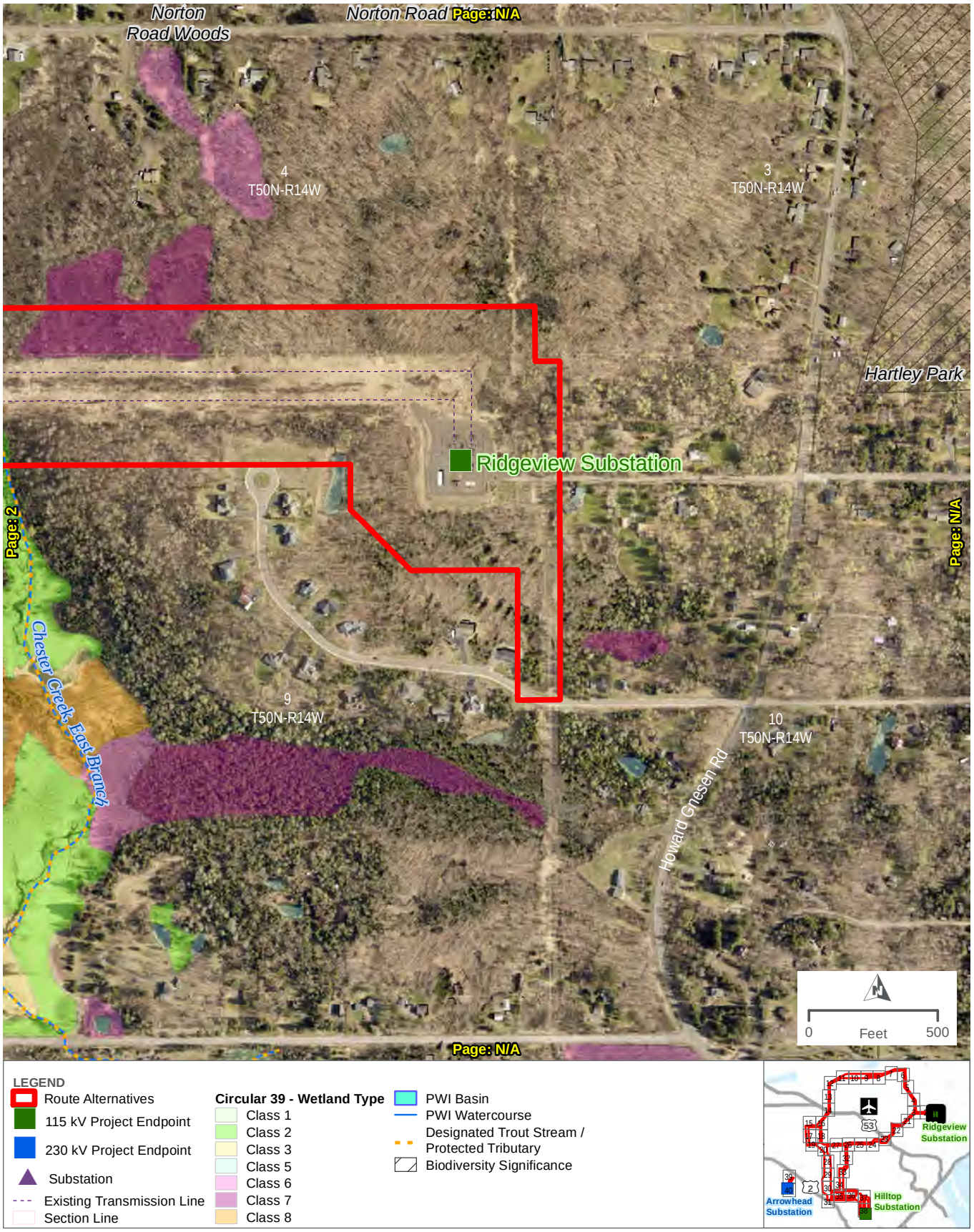

DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 1 OF 40

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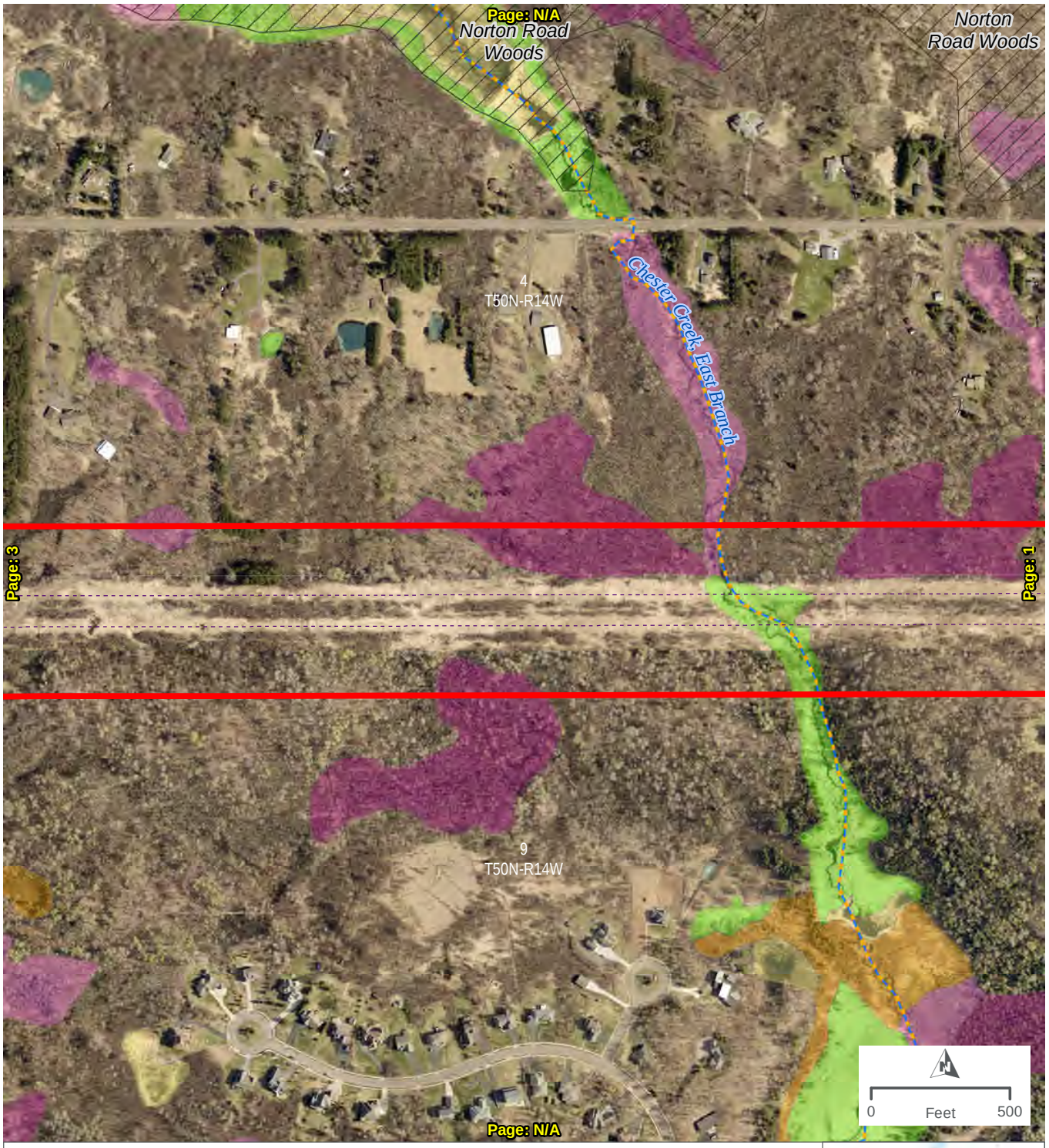

DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 2 OF 40

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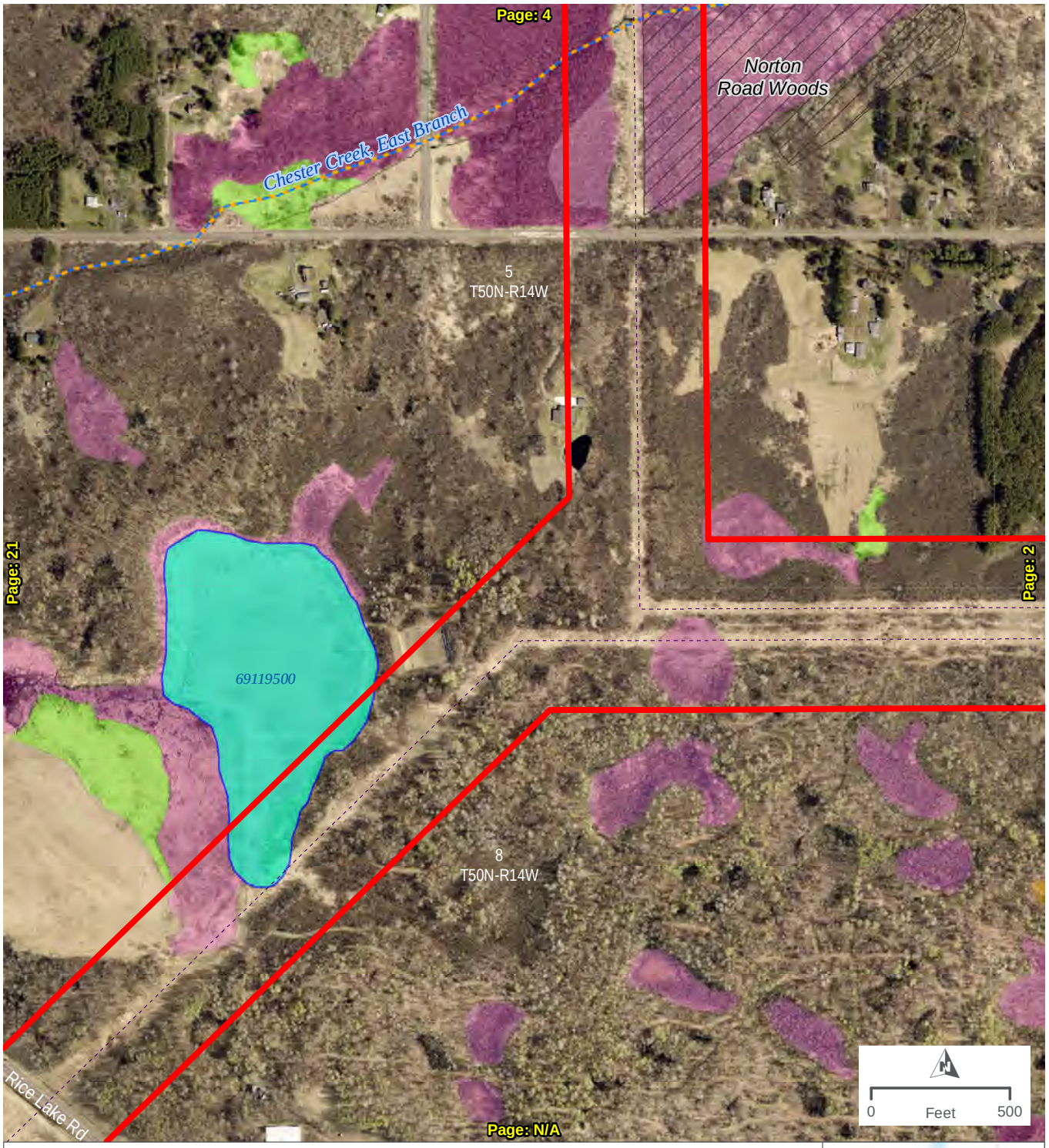

DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 3 OF 40

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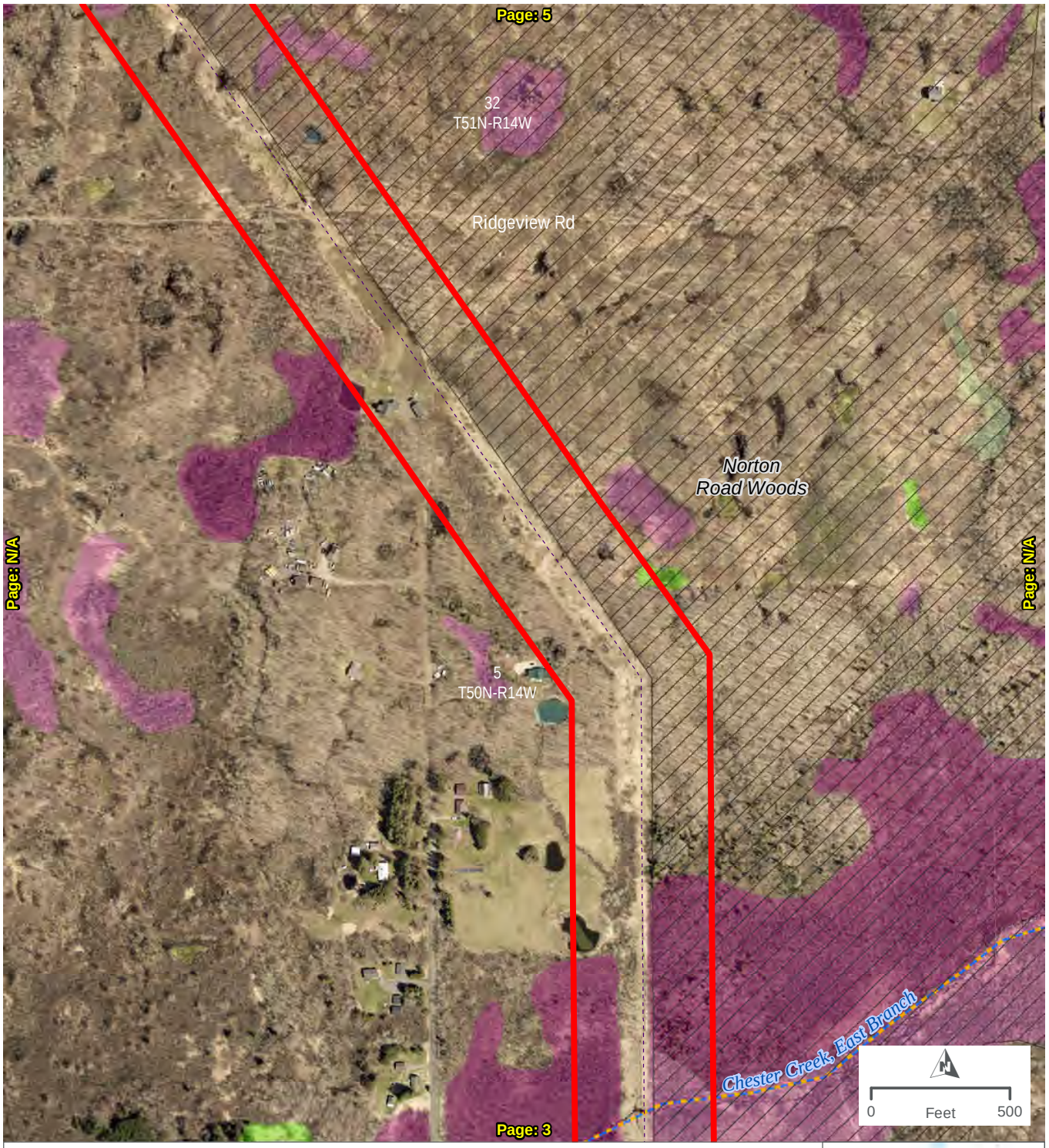

DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 4 OF 40

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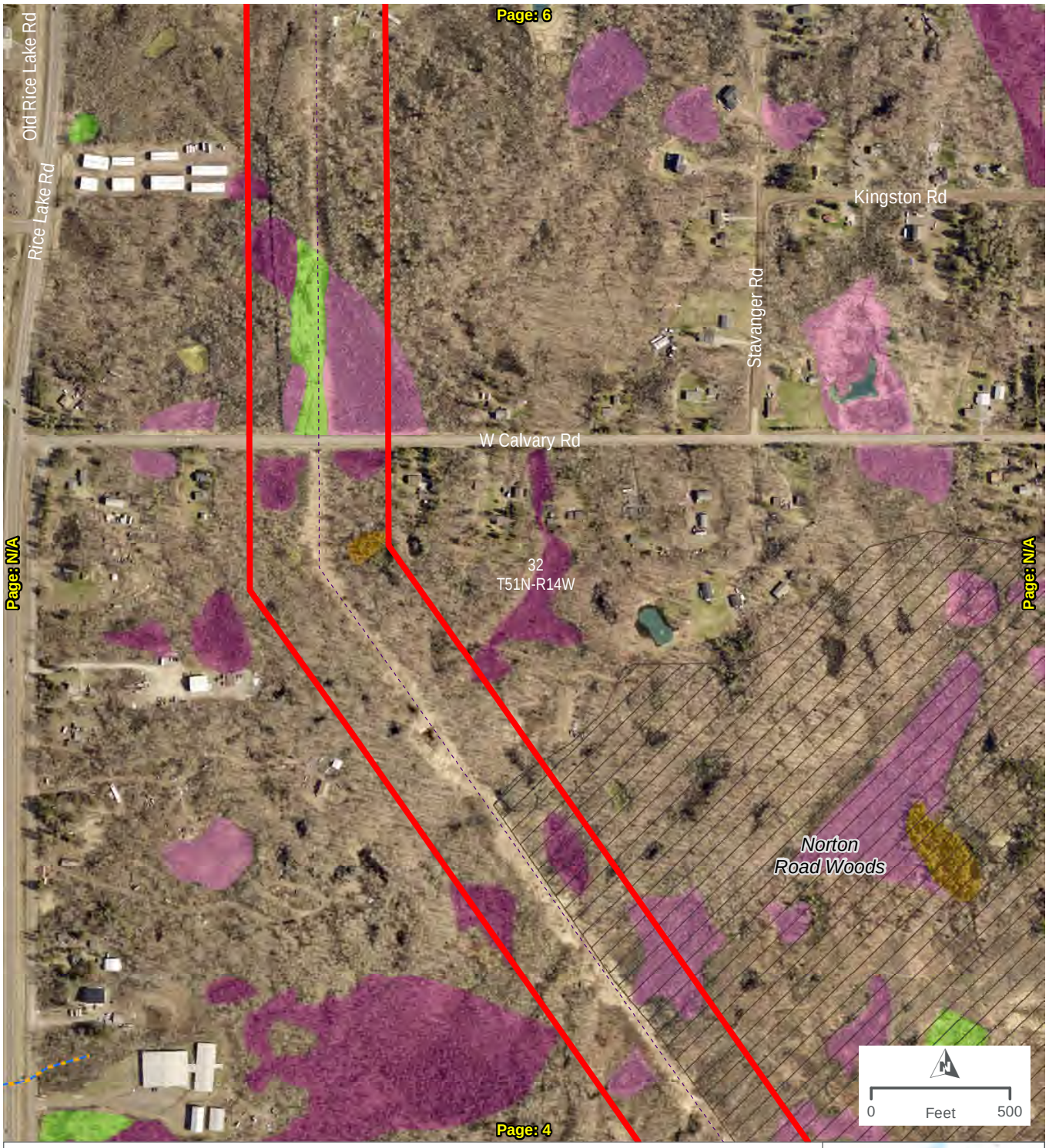


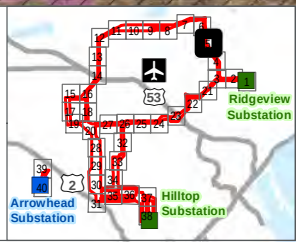
LEGEND

- Route Alternatives
- 115 kV Project Endpoint
- 230 kV Project Endpoint
- Substation
- Existing Transmission Line
- Section Line

Circular 39 - Wetland Type

- Class 2
- Class 3
- Class 4
- Class 5
- Class 6
- Class 7
- Class 8

- PWI Basin
- PWI Watercourse
- Designated Trout Stream / Protected Tributary
- Biodiversity Significance



DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 5 OF 40

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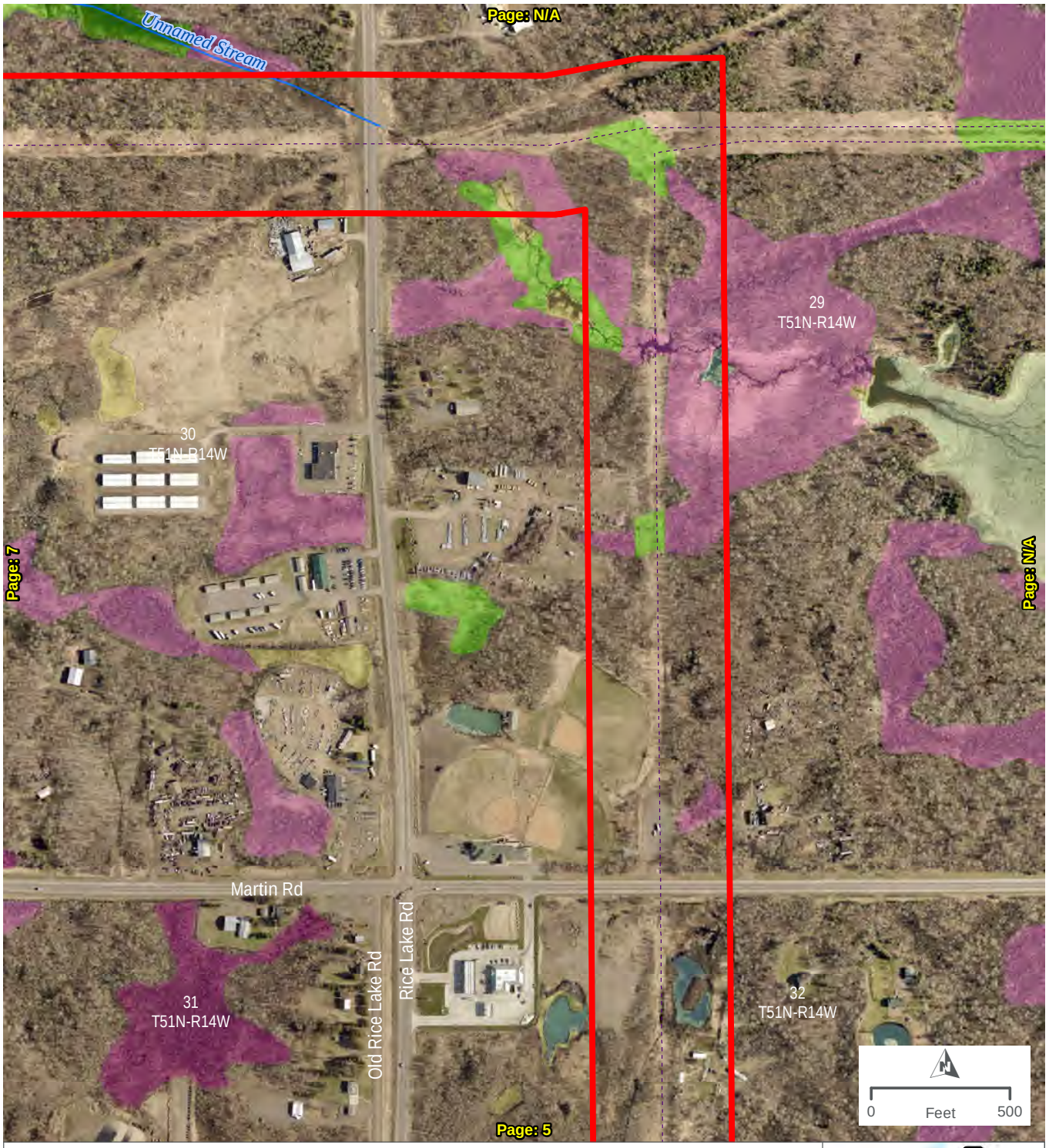

DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 6 OF 40

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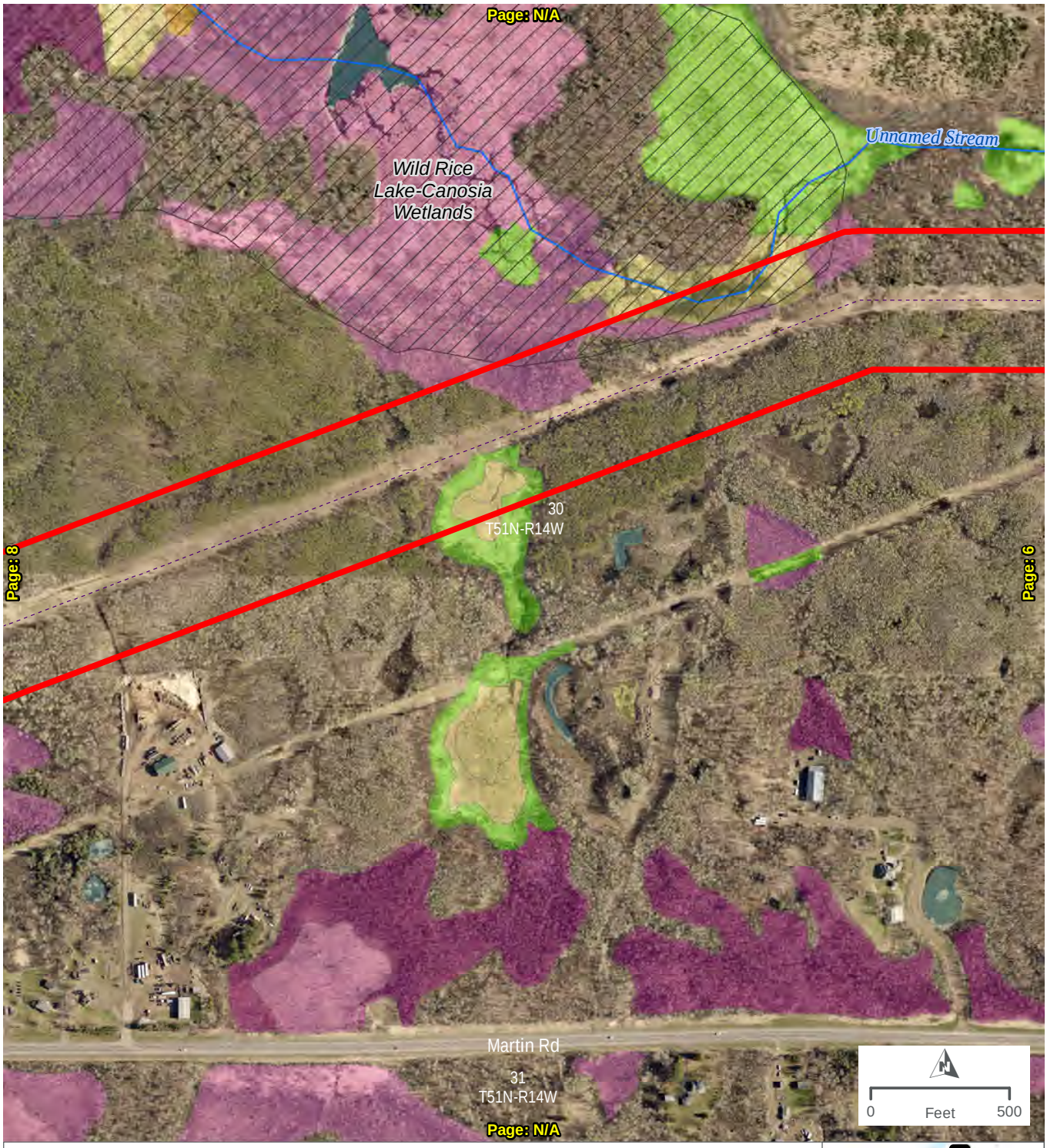
MN DNR NHIS REQUEST



LEGEND

- Route Alternatives
- 115 kV Project Endpoint
- 230 kV Project Endpoint
- Substation
- Existing Transmission Line
- Section Line

Circular 39 - Wetland Type

- Class 2
- Class 3
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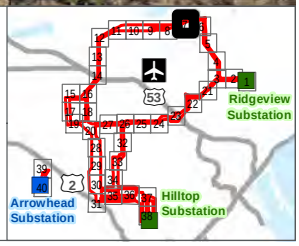
- PWI Watercourse
- Designated Trout Stream / Protected Tributary
- Biodiversity Significance



DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 7 OF 40

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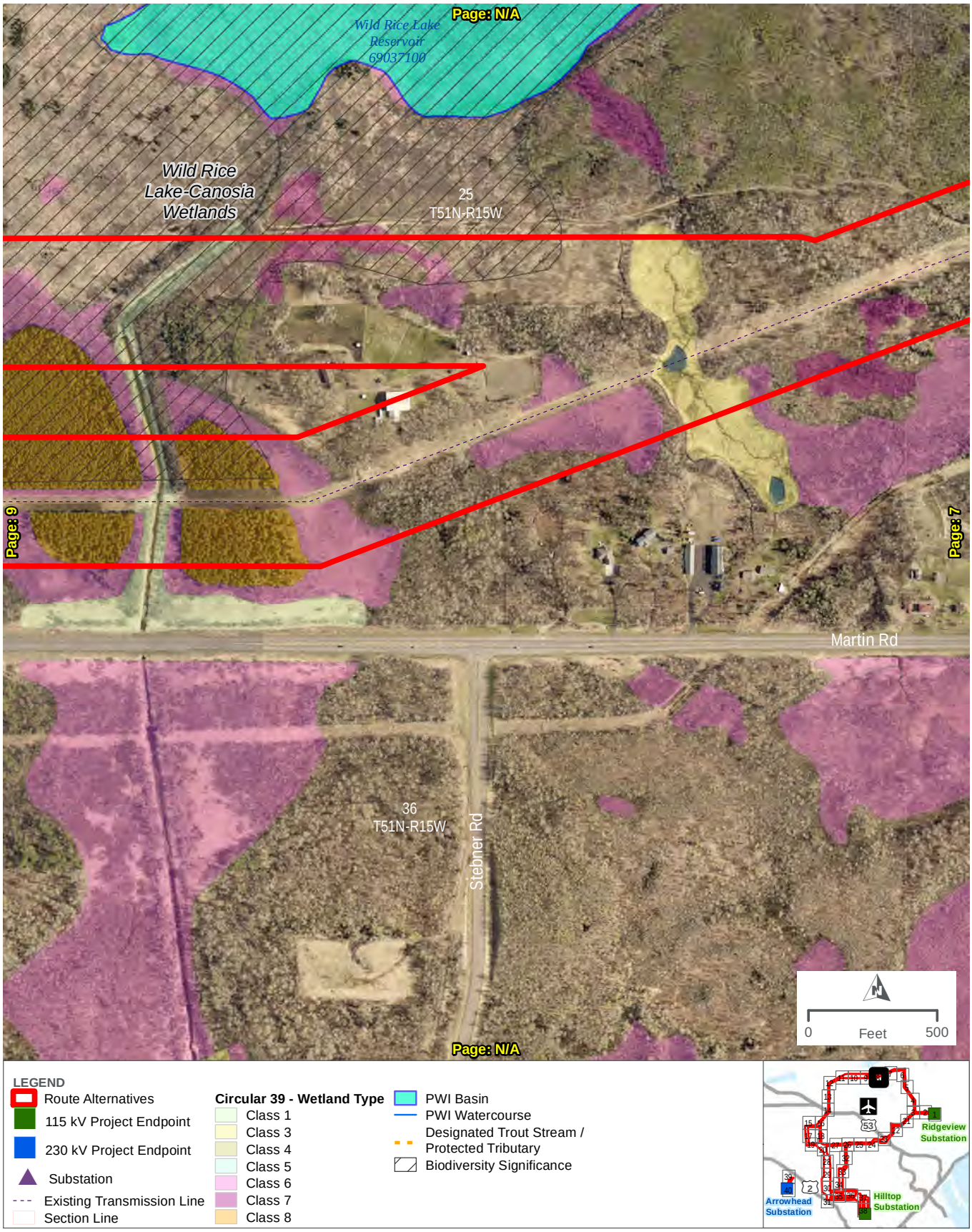
MN DNR NHIS REQUEST



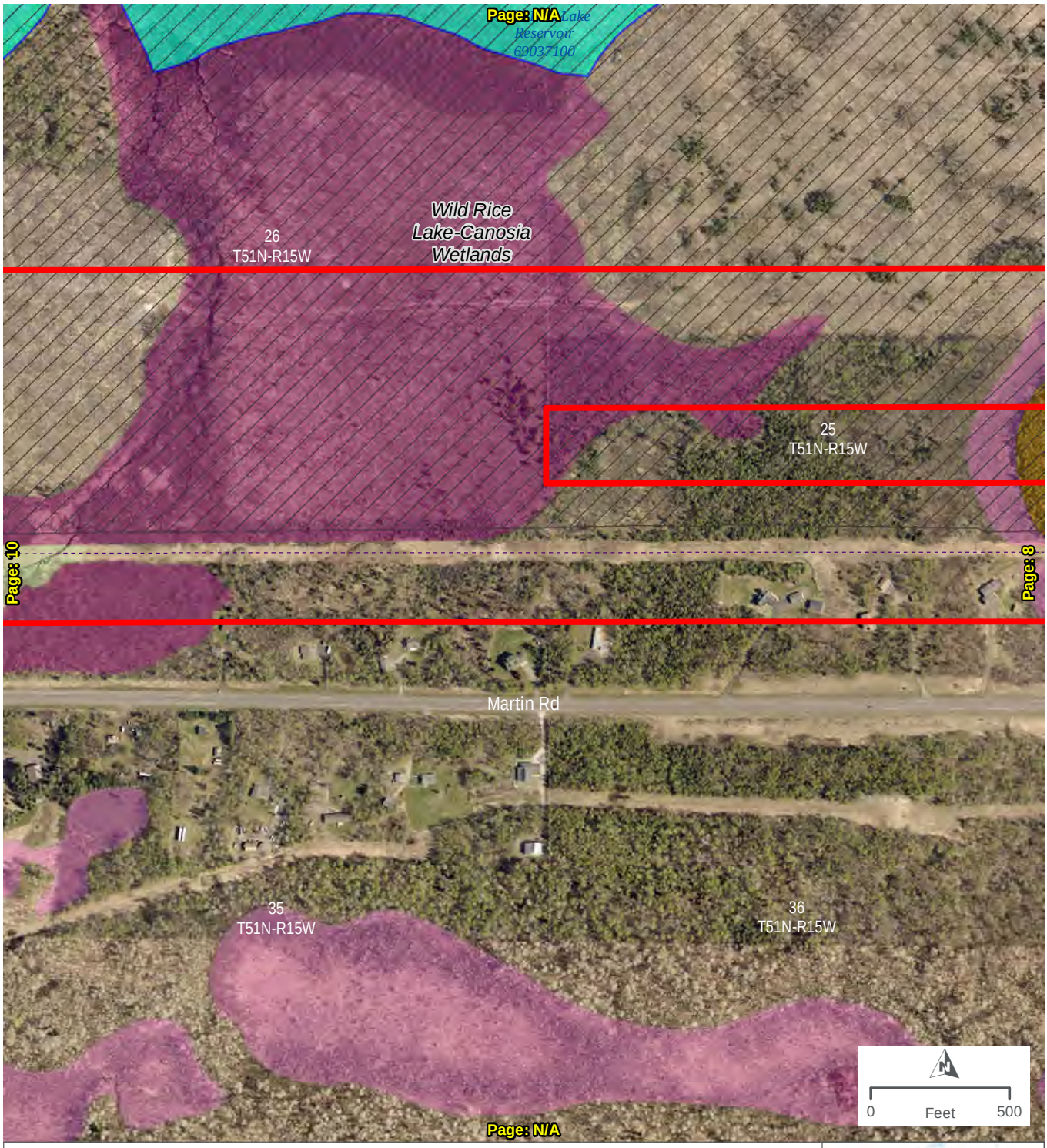
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 8 OF 40

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\10252320\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021

MN DNR NHIS REQUEST



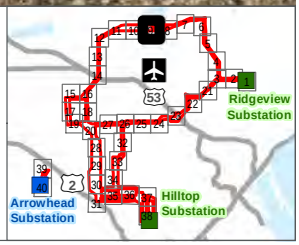
LEGEND

- Route Alternatives
- 115 kV Project Endpoint
- 230 kV Project Endpoint
- Substation
- Existing Transmission Line
- Section Line

Circular 39 - Wetland Type

- Class 1
- Class 6
- Class 7
- Class 8

- PWI Basin
- PWI Watercourse
- Designated Trout Stream / Protected Tributary
- Biodiversity Significance



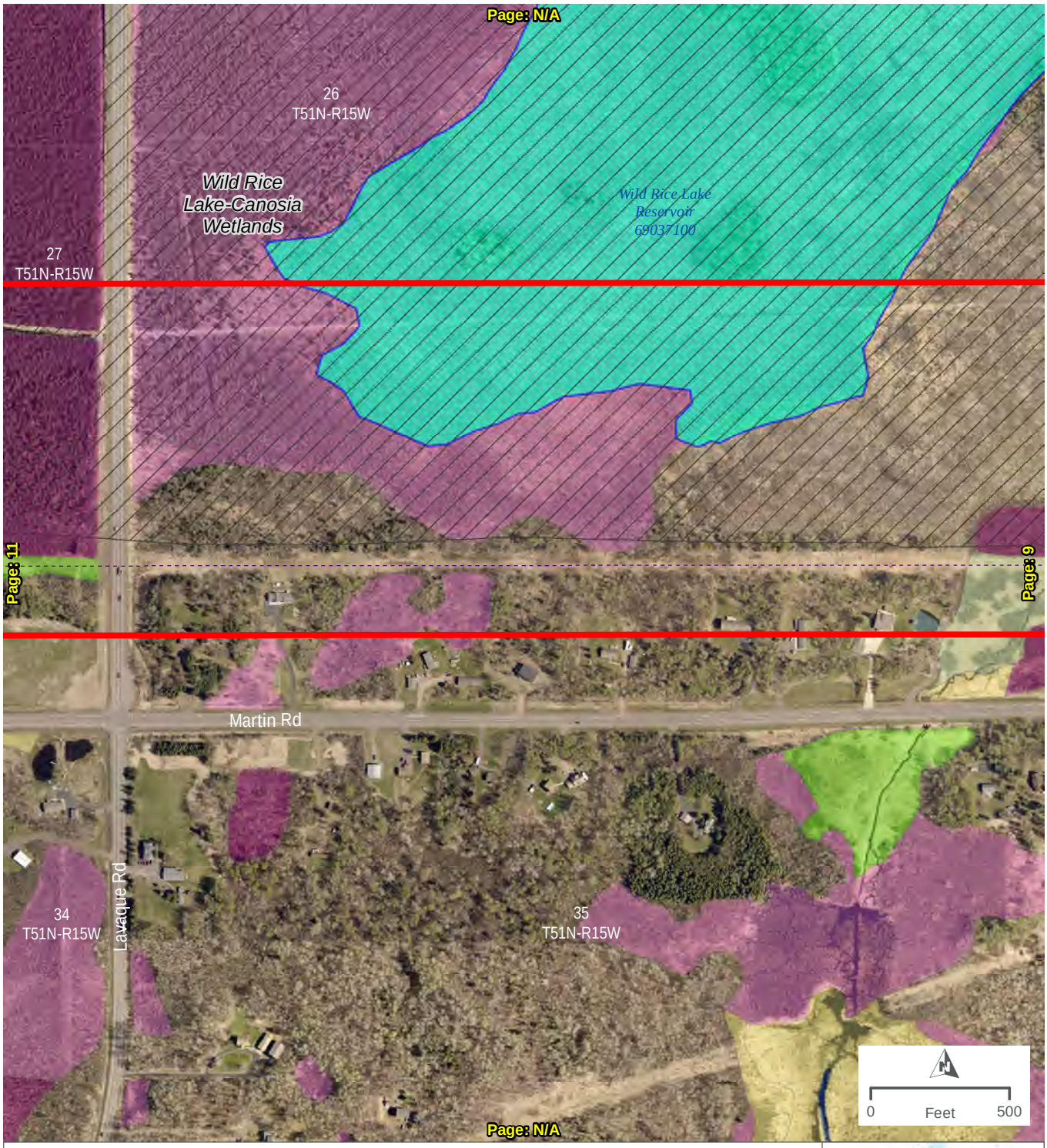
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 9 OF 40

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\10252320\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021

MN DNR NHIS REQUEST



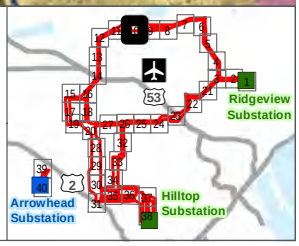
LEGEND

- Route Alternatives
- 115 kV Project Endpoint
- 230 kV Project Endpoint
- Substation
- Existing Transmission Line
- Section Line

Circular 39 - Wetland Type

- Class 1
- Class 2
- Class 3
- Class 5
- Class 6
- Class 7
- Class 90

- PWI Basin
- PWI Watercourse
- Designated Trout Stream / Protected Tributary
- Biodiversity Significance



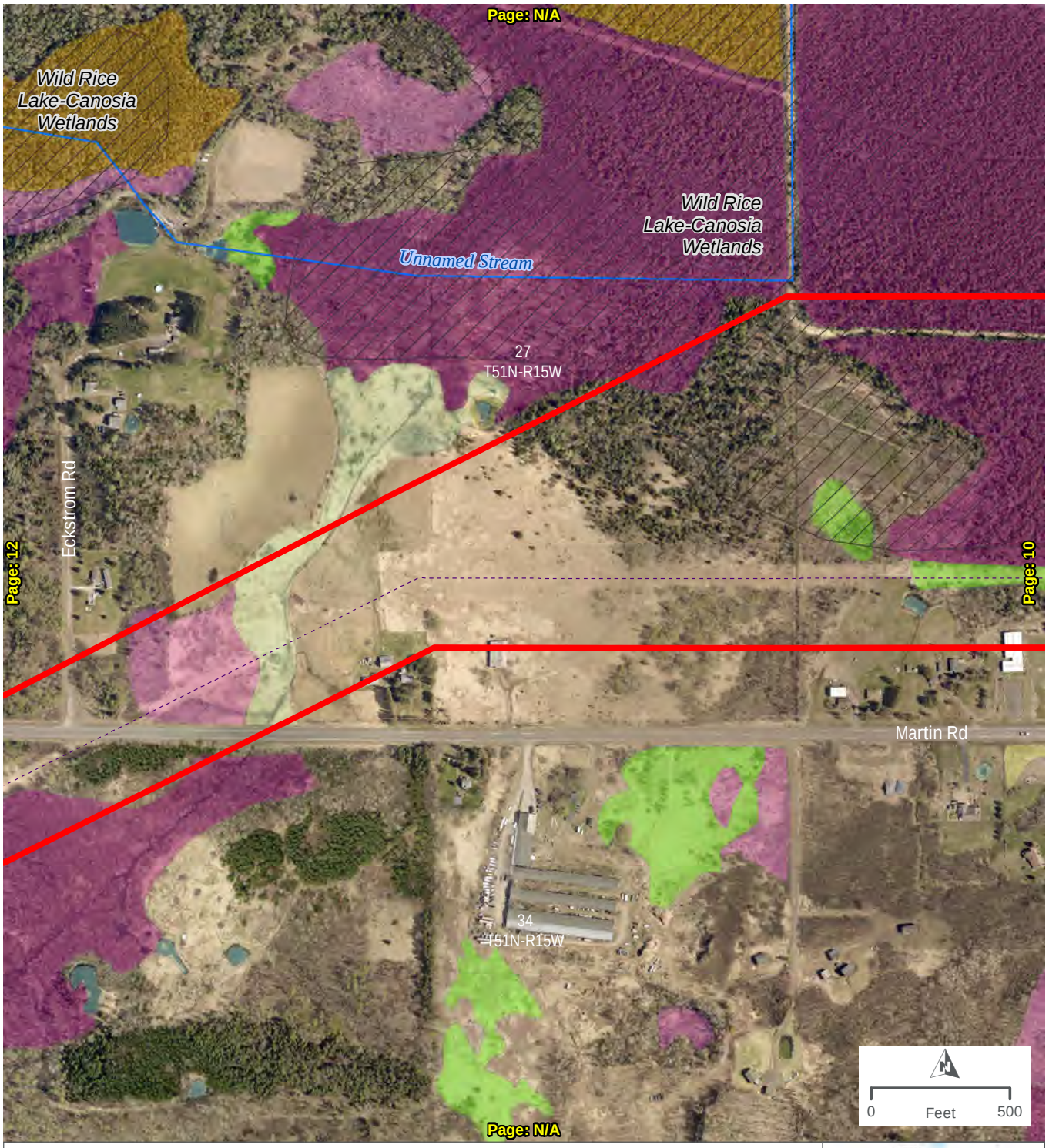
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 10 OF 40

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\10252320\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021

MN DNR NHIS REQUEST



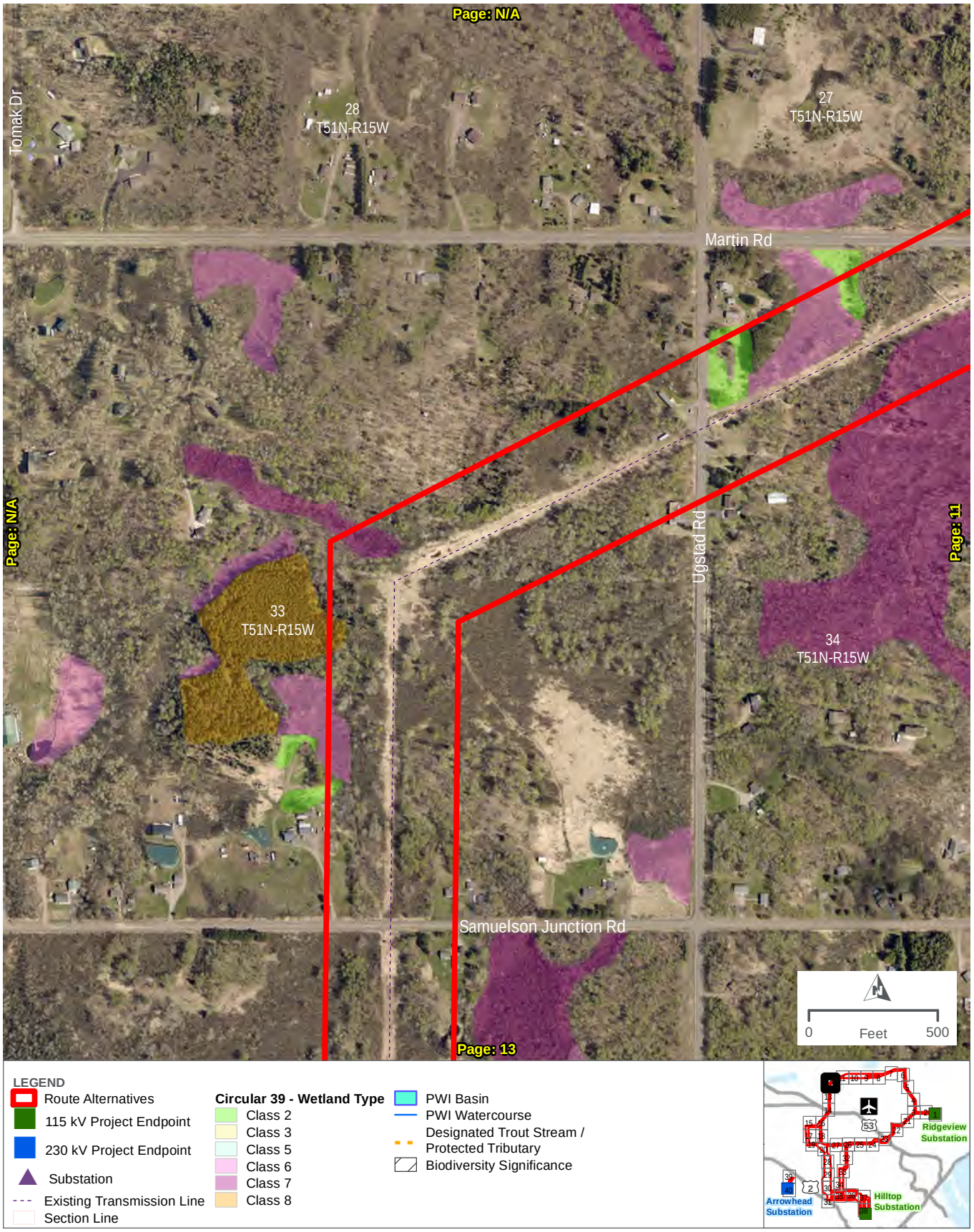
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 11 OF 40

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\10252320\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021

MN DNR NHIS REQUEST



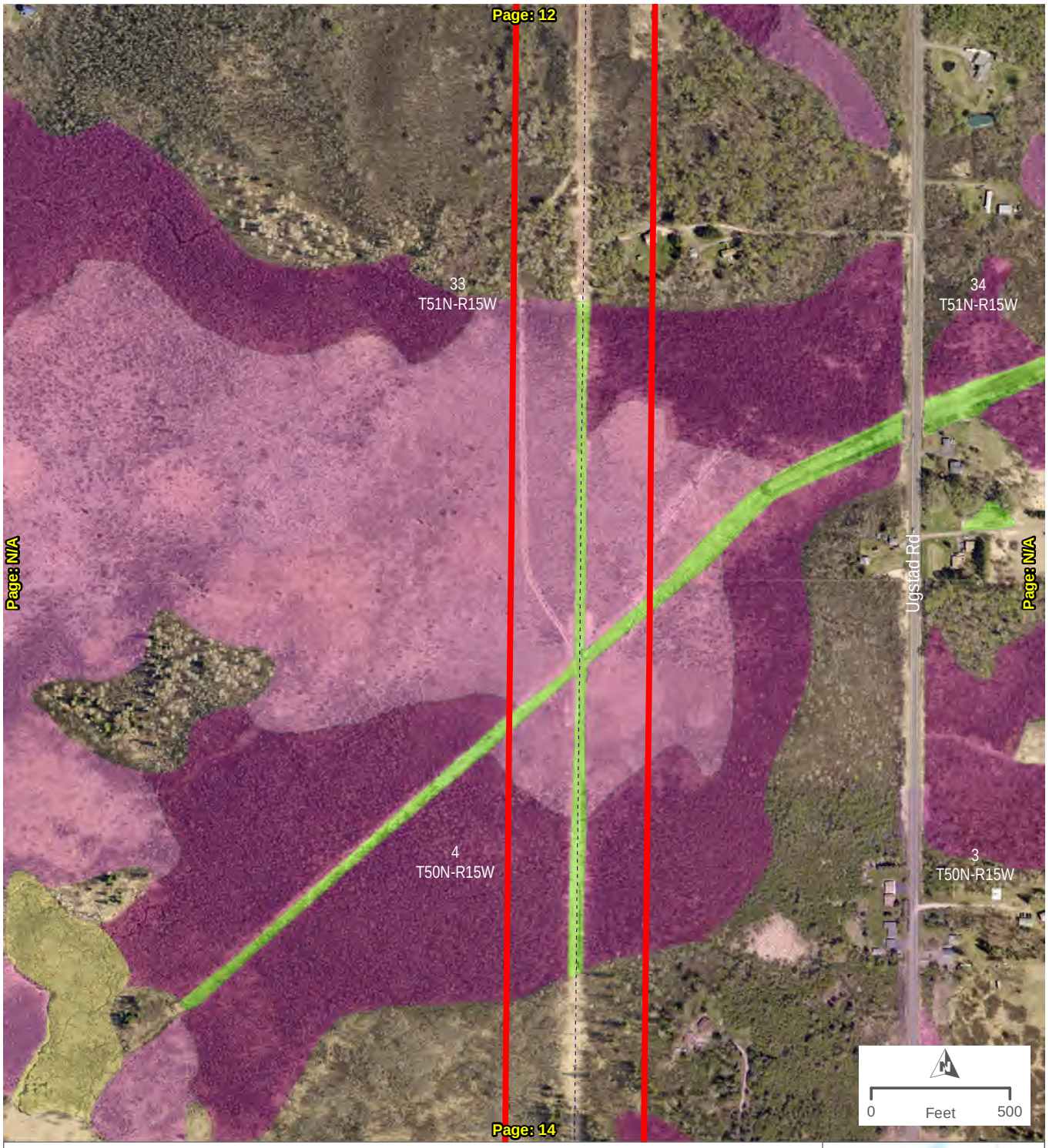
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 12 OF 40

MN DNR NHIS REQUEST

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\10252320\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021



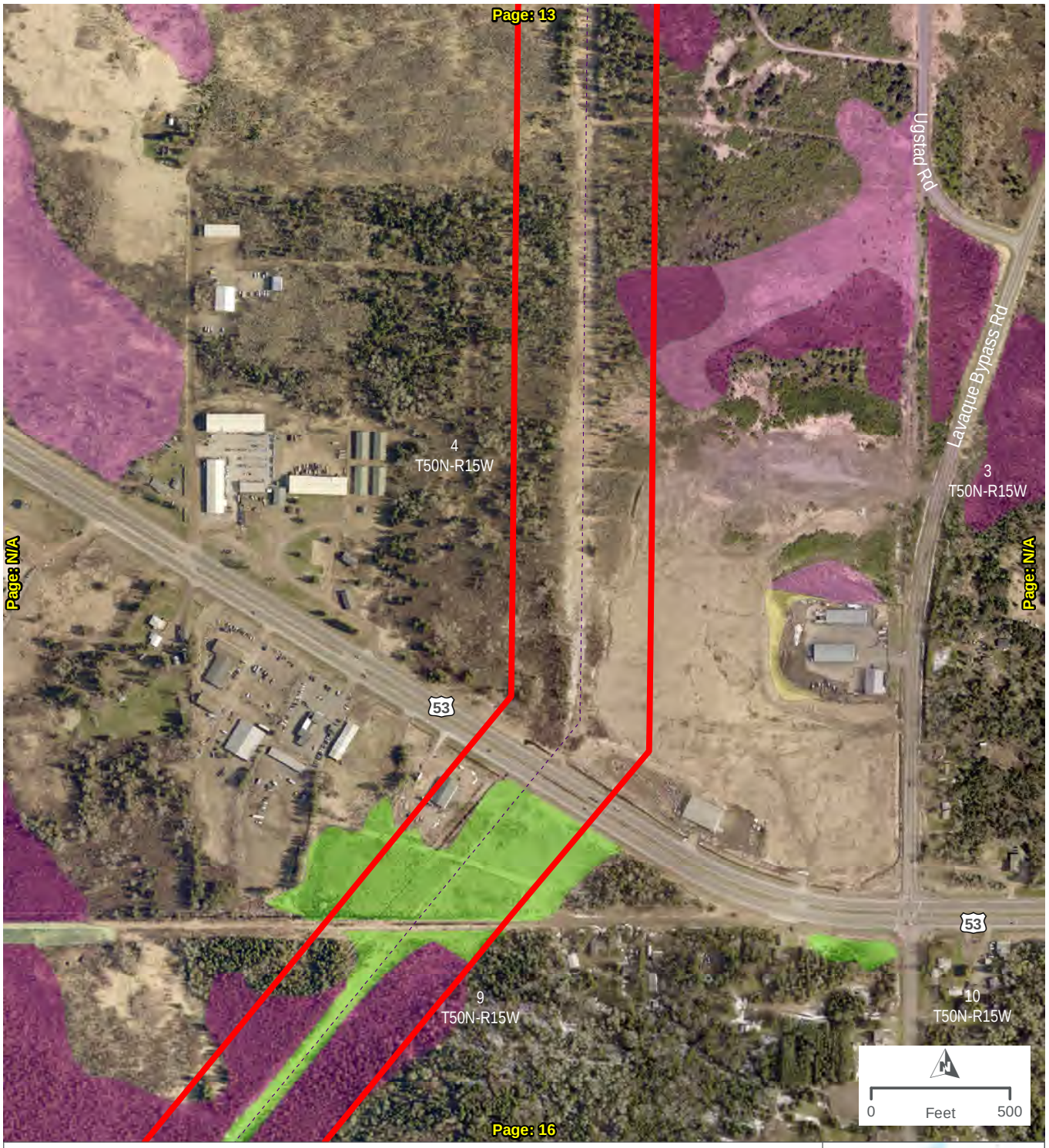
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 13 OF 40

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\10252320\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021

MN DNR NHIS REQUEST



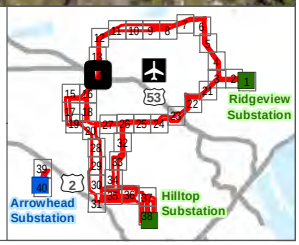
LEGEND

- Route Alternatives
- 115 kV Project Endpoint
- 230 kV Project Endpoint
- Substation
- Existing Transmission Line
- Section Line

Circular 39 - Wetland Type

- Class 1
- Class 2
- Class 3
- Class 6
- Class 7

- PWI Basin
- PWI Watercourse
- Designated Trout Stream / Protected Tributary
- Biodiversity Significance



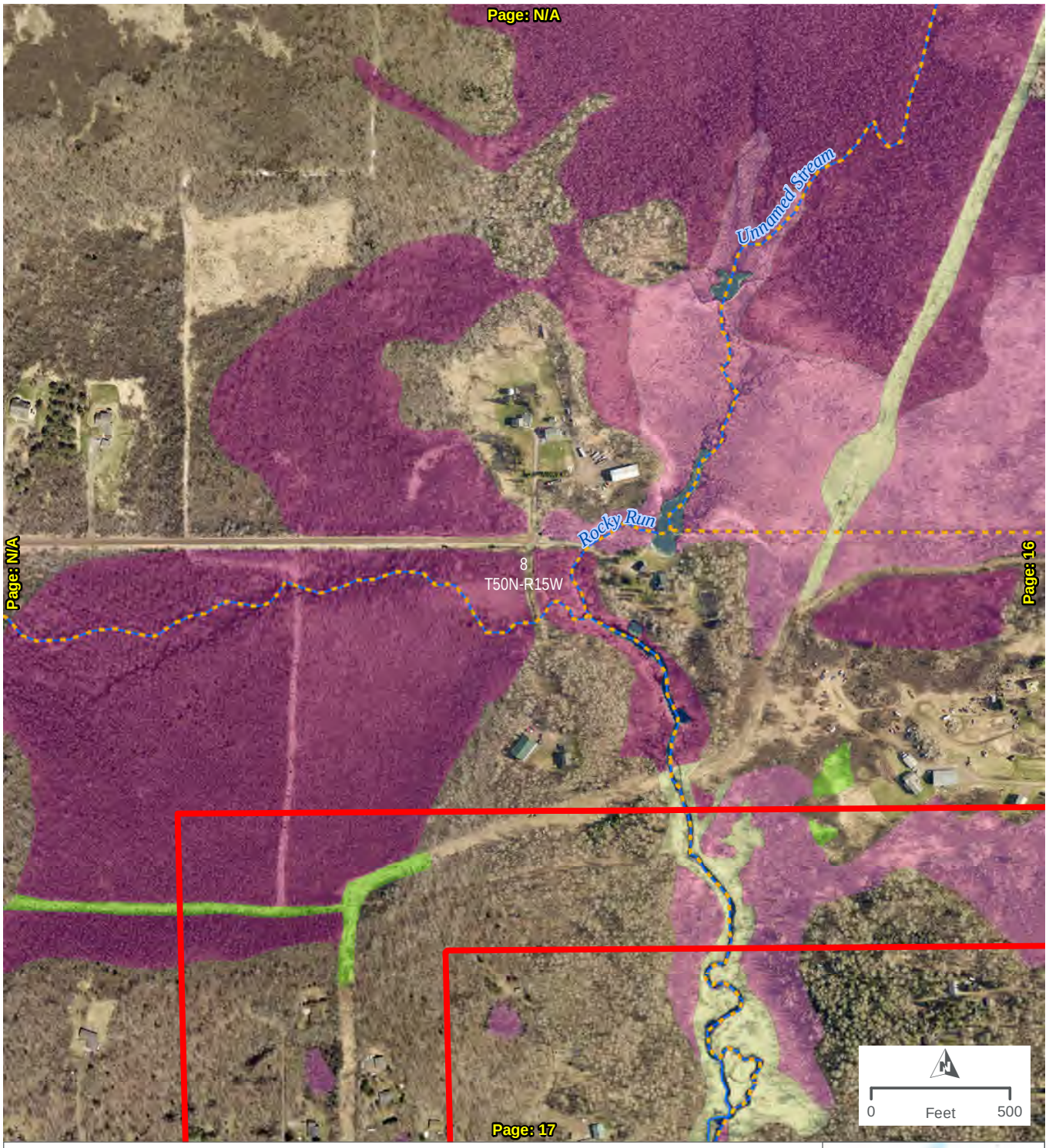
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 14 OF 40

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\10252320\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021

MN DNR NHIS REQUEST



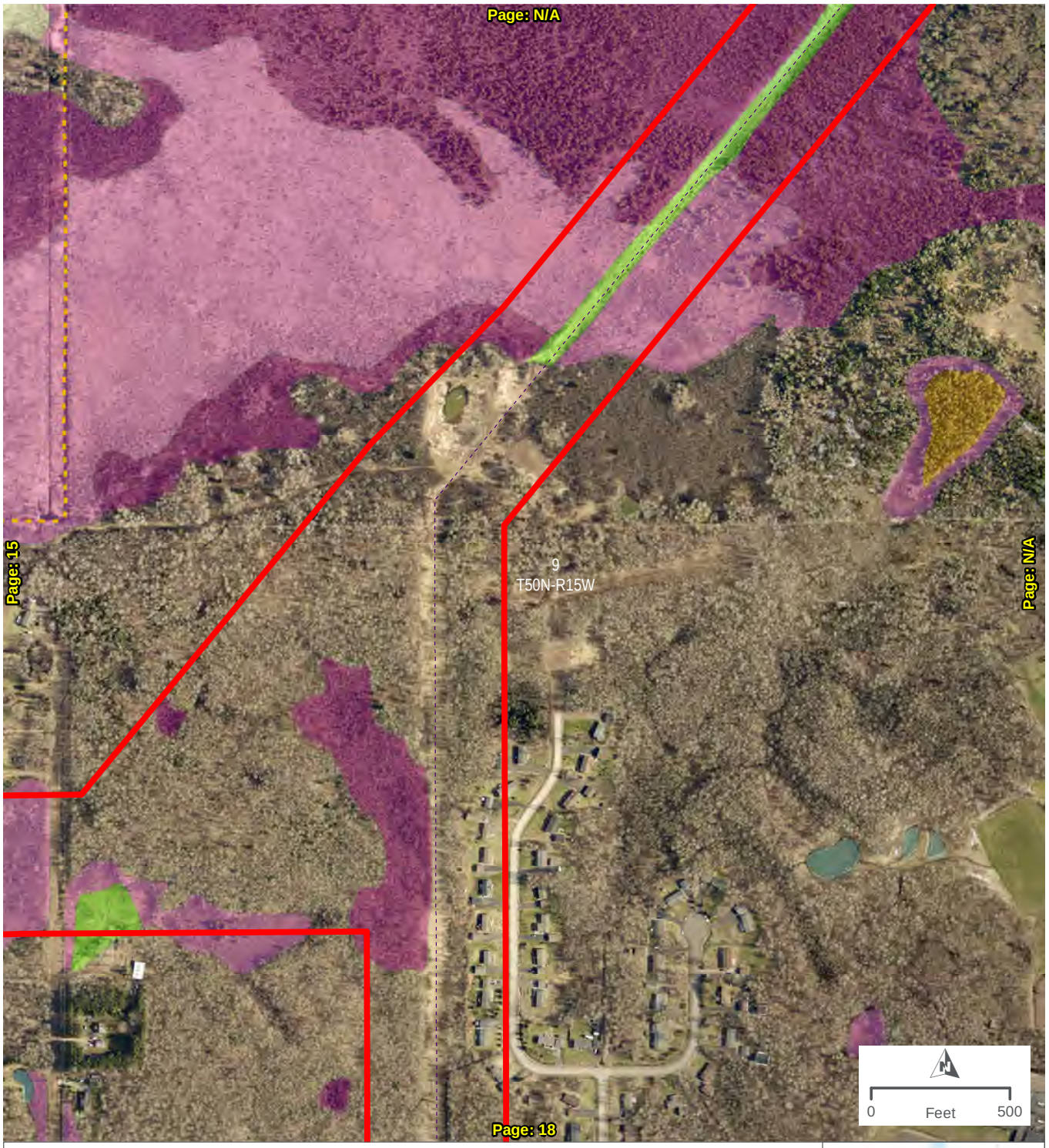
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 15 OF 40

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\10252320\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021

MN DNR NHIS REQUEST



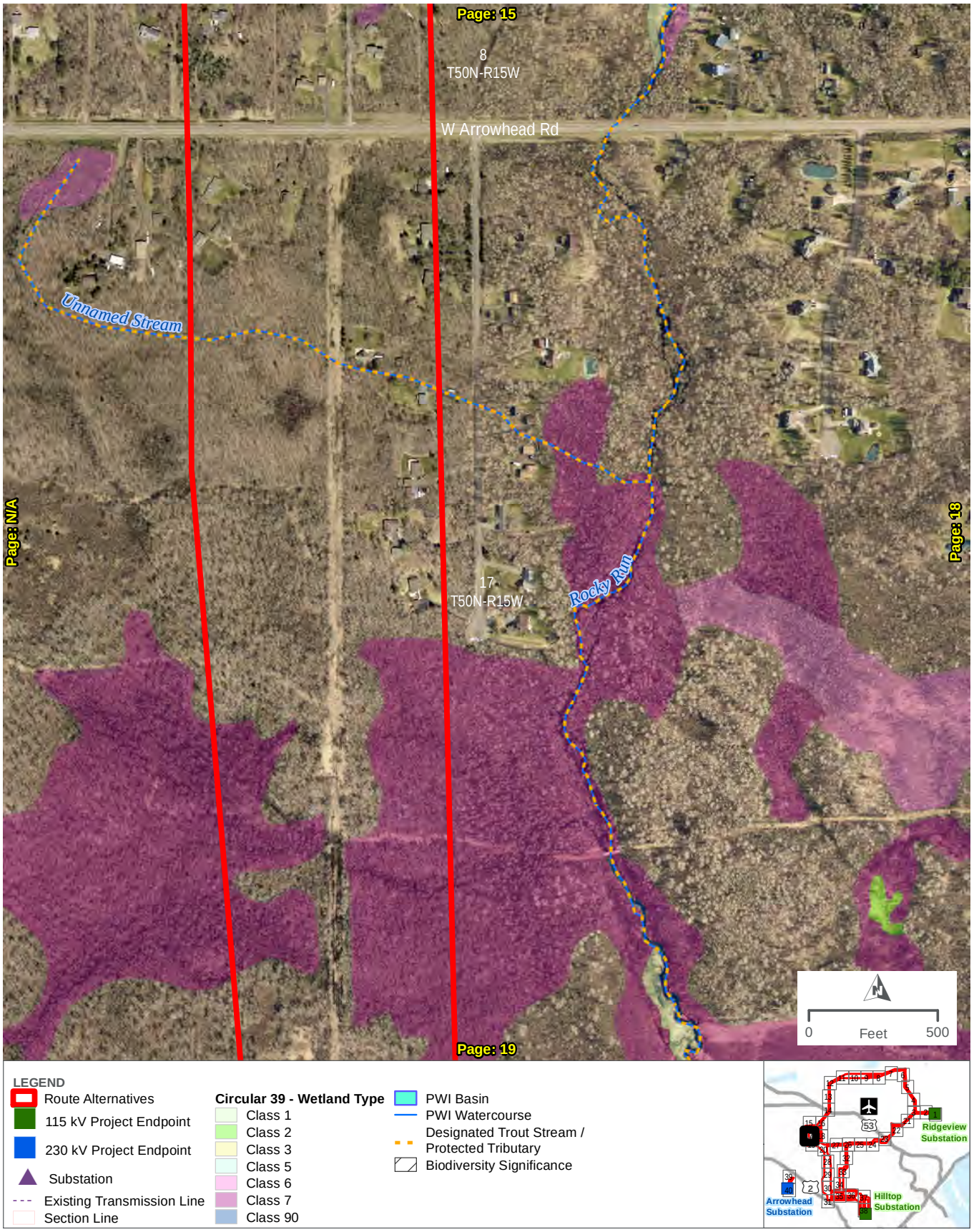
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 16 OF 40

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\10252320\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021

MN DNR NHIS REQUEST



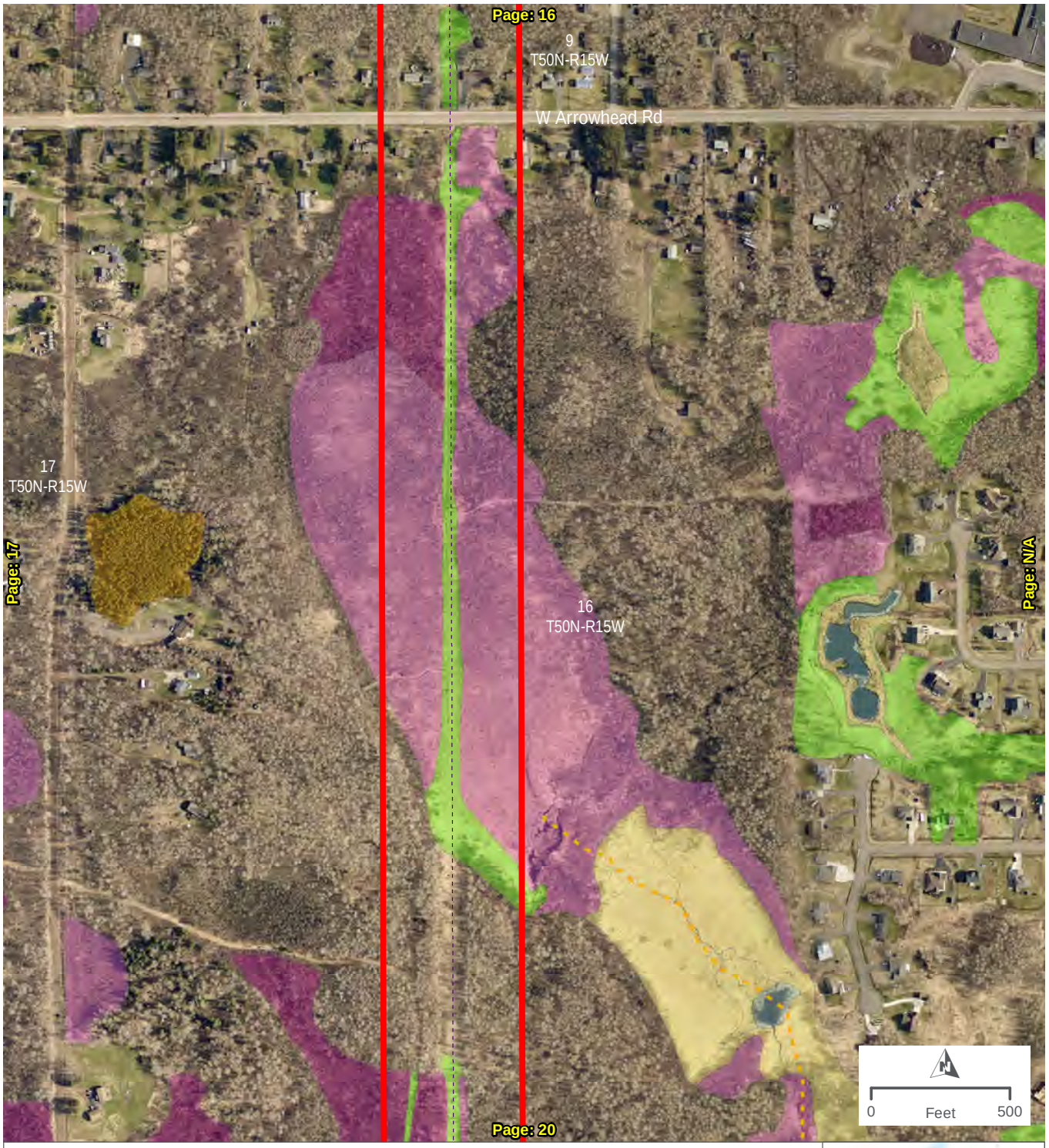
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 17 OF 40

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\102523201\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021

MN DNR NHIS REQUEST



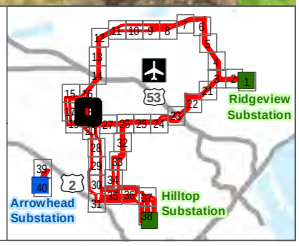
LEGEND

- Route Alternatives
- 115 kV Project Endpoint
- 230 kV Project Endpoint
- Substation
- Existing Transmission Line
- Section Line

Circular 39 - Wetland Type

- Class 2
- Class 3
- Class 5
- Class 6
- Class 7
- Class 8

- PWI Basin
- PWI Watercourse
- Designated Trout Stream / Protected Tributary
- Biodiversity Significance



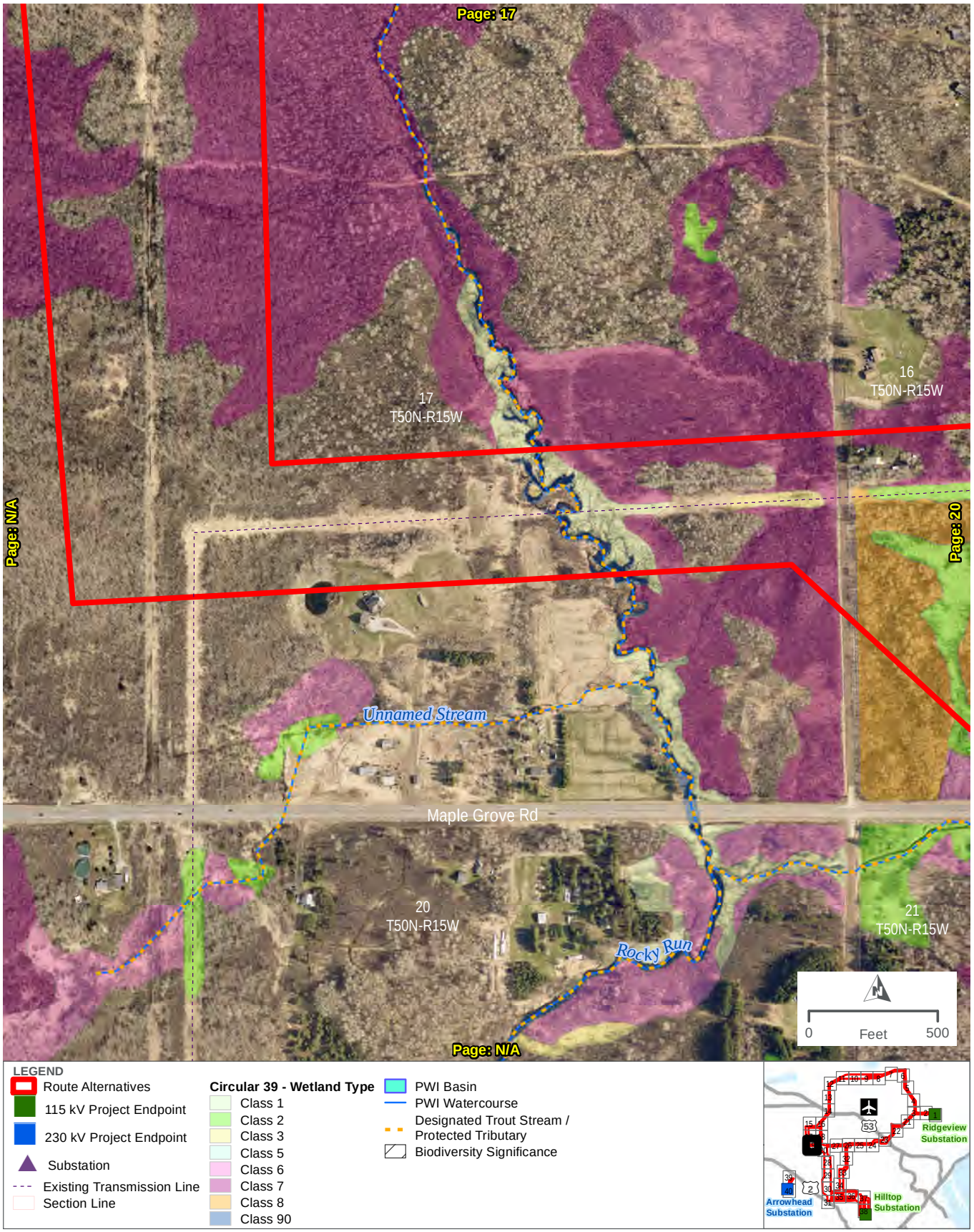
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 18 OF 40

MN DNR NHIS REQUEST

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\10252320\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021



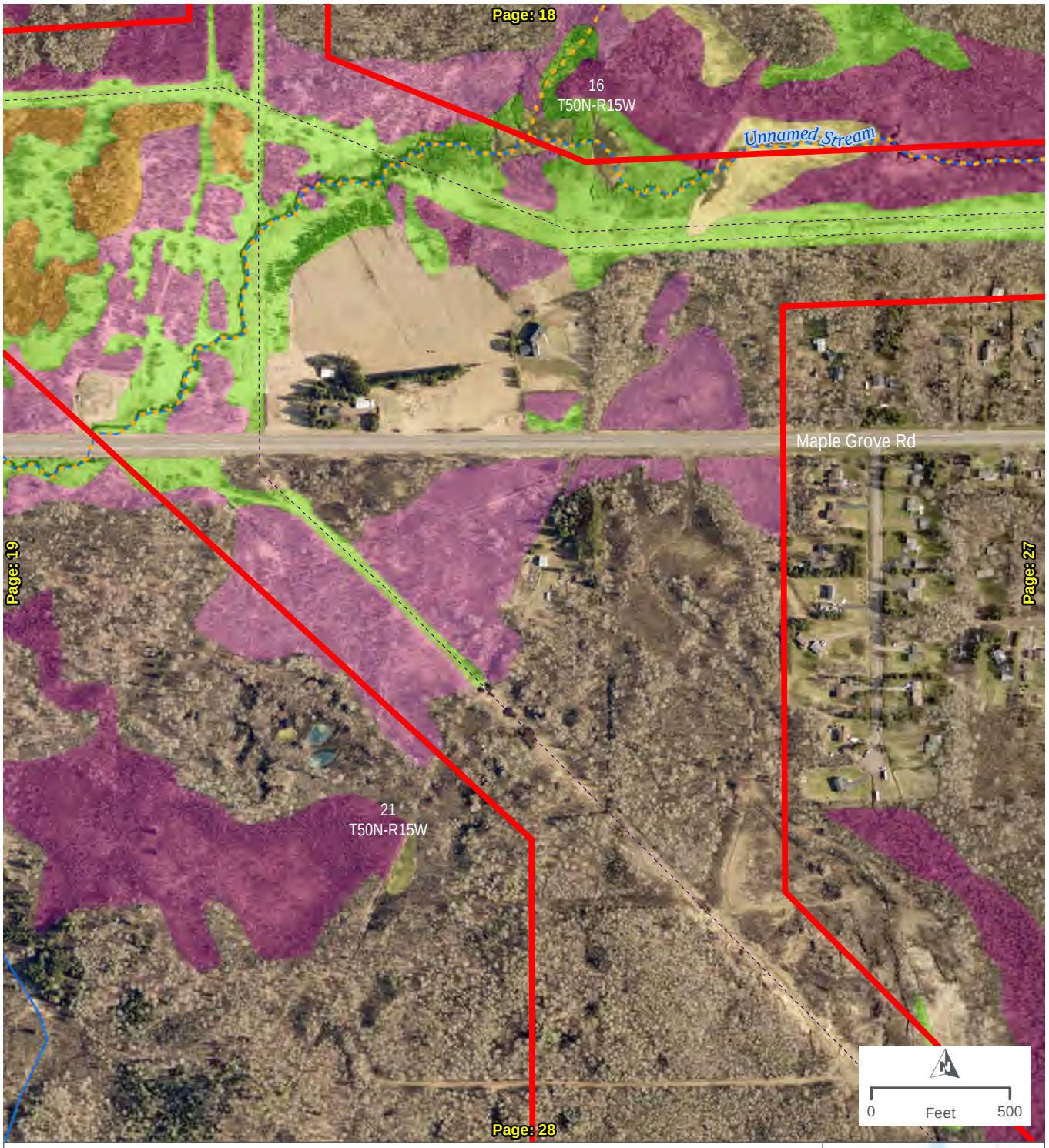
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 19 OF 40

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\10252320\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021

MN DNR NHIS REQUEST



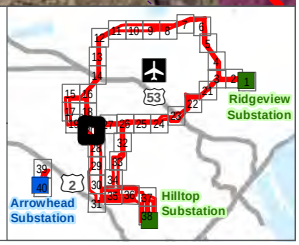
LEGEND

- Route Alternatives
- 115 kV Project Endpoint
- 230 kV Project Endpoint
- Substation
- Existing Transmission Line
- Section Line

Circular 39 - Wetland Type

- Class 2
- Class 3
- Class 5
- Class 6
- Class 7
- Class 8

- PWI Basin
- PWI Watercourse
- Designated Trout Stream / Protected Tributary
- Biodiversity Significance



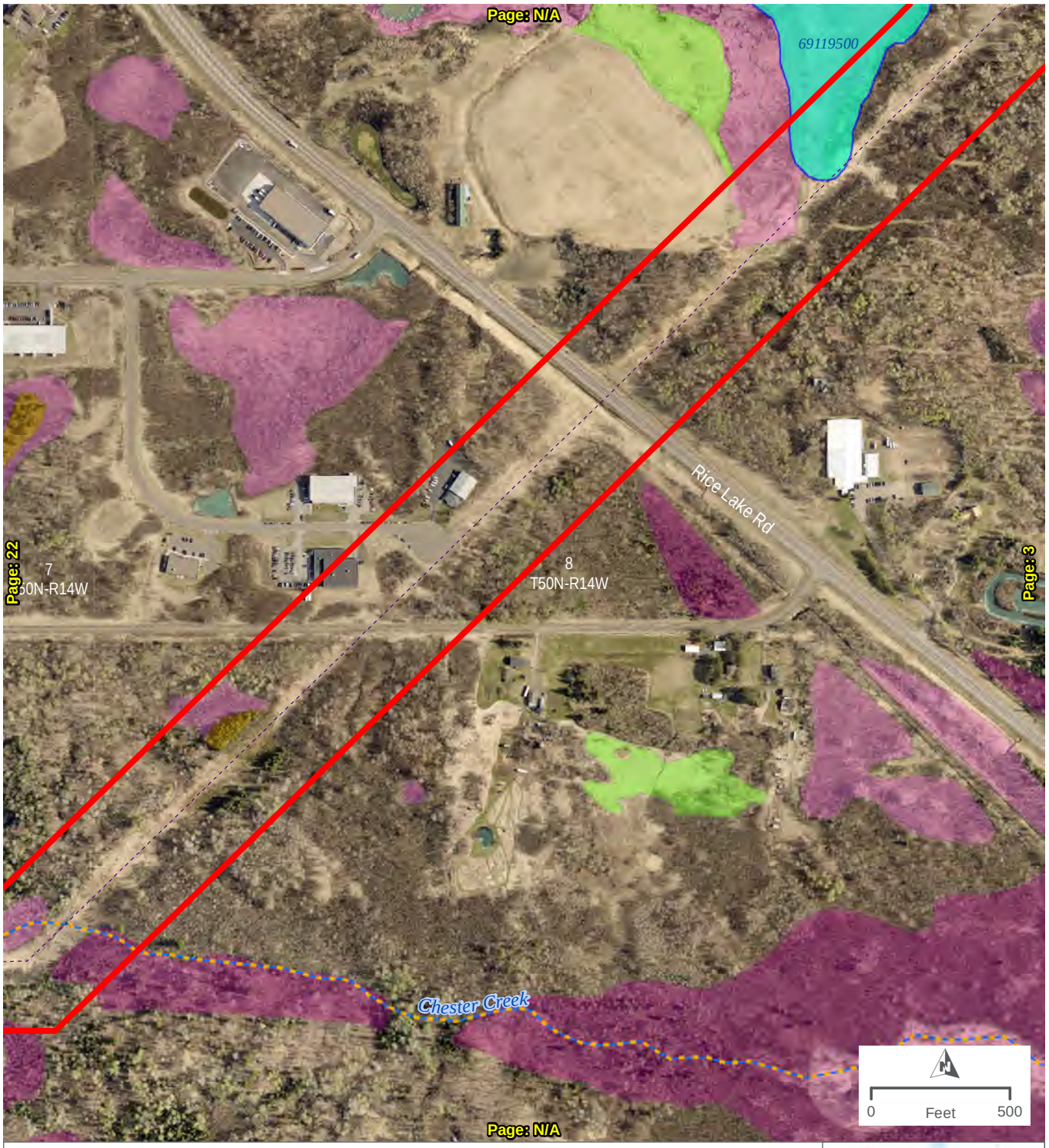
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 20 OF 40

MN DNR NHIS REQUEST

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\102523201\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021



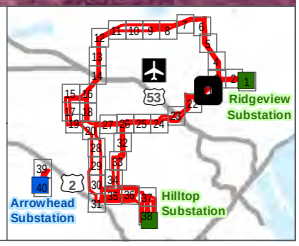
LEGEND

- Route Alternatives
- 115 kV Project Endpoint
- 230 kV Project Endpoint
- Substation
- Existing Transmission Line
- Section Line

Circular 39 - Wetland Type

- Class 2
- Class 3
- Class 5
- Class 6
- Class 7
- Class 8

- PWI Basin
- PWI Watercourse
- Designated Trout Stream / Protected Tributary
- Biodiversity Significance



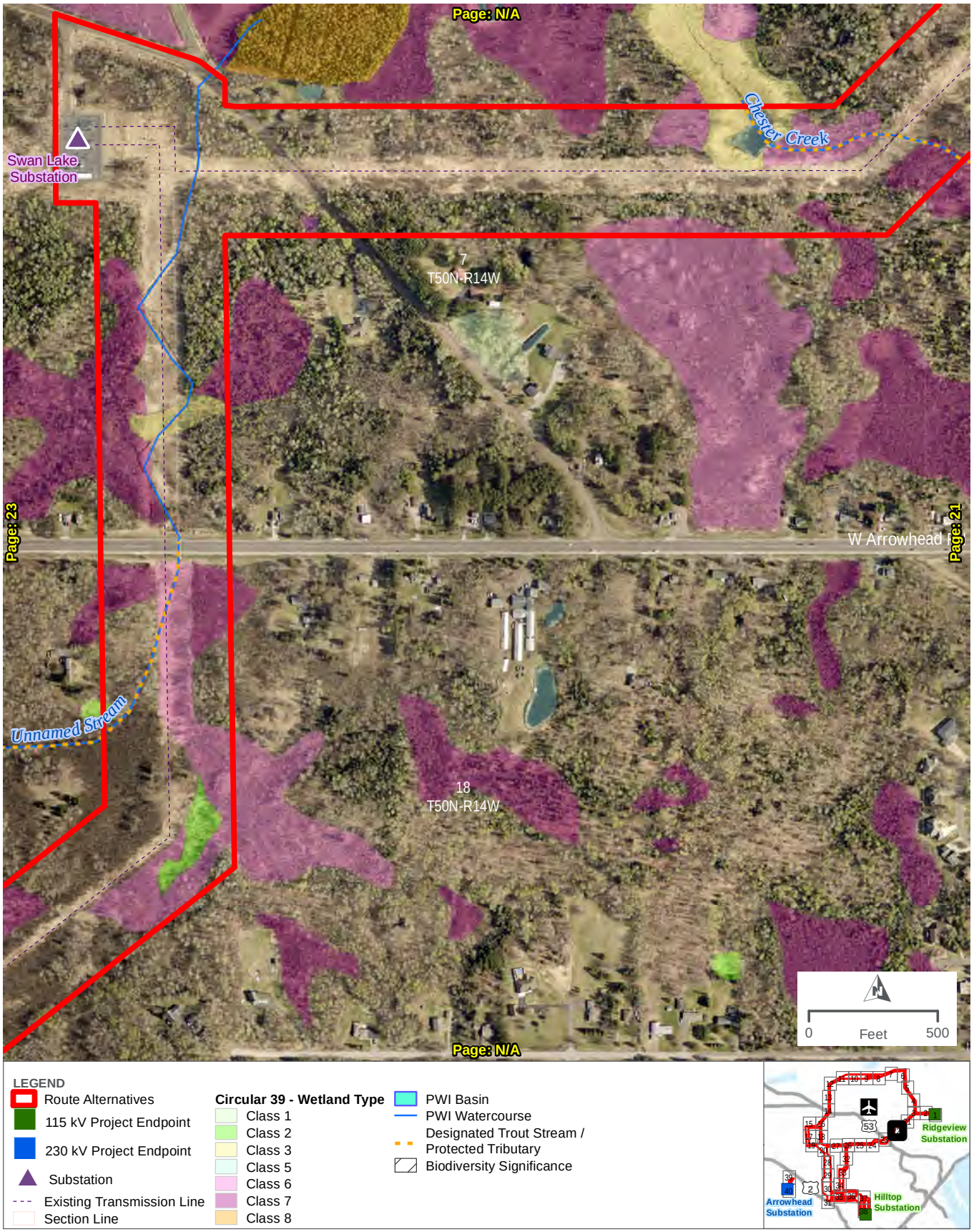
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 21 OF 40

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\10252320\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021

MN DNR NHIS REQUEST



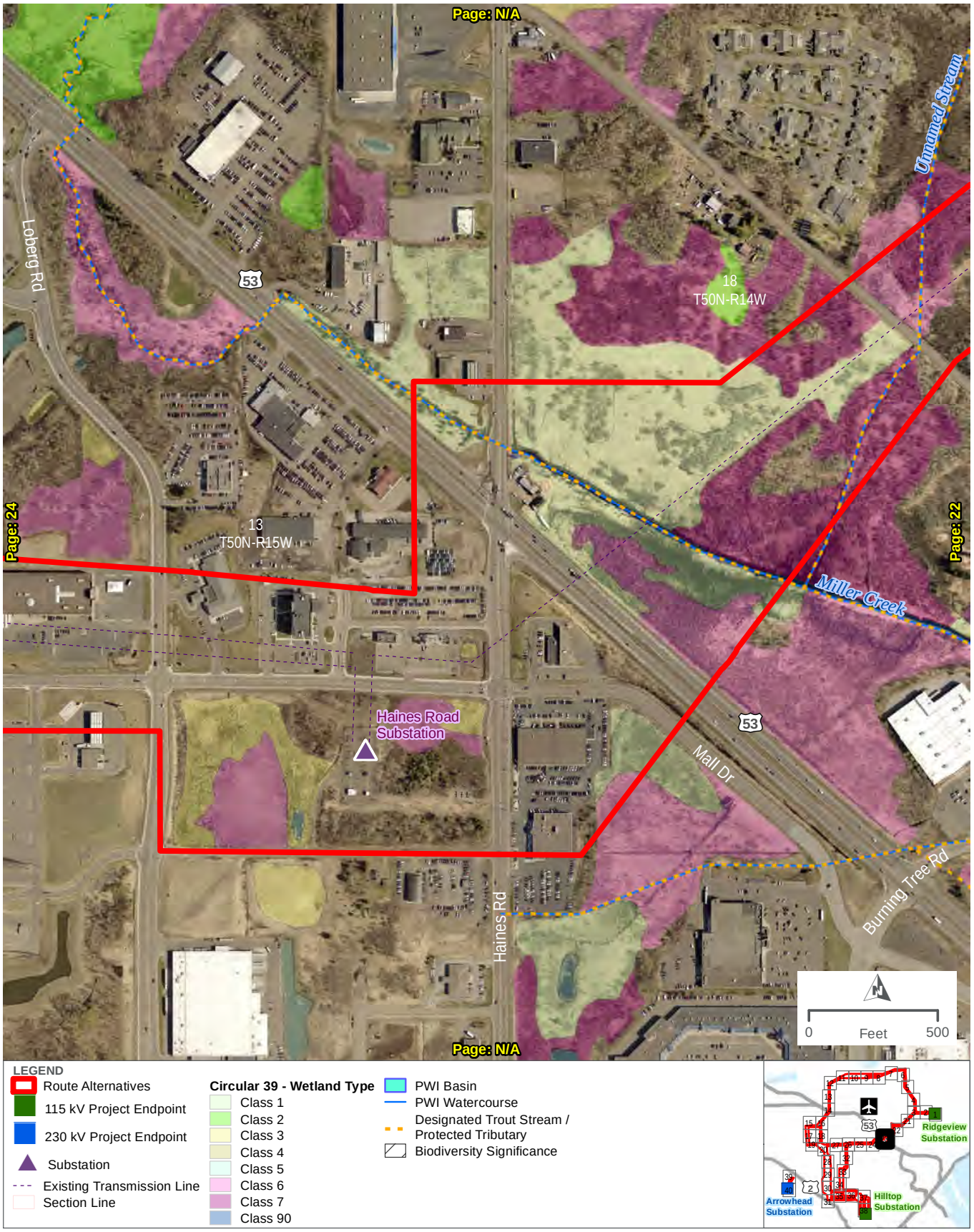
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 22 OF 40

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\10252320\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021

MN DNR NHIS REQUEST



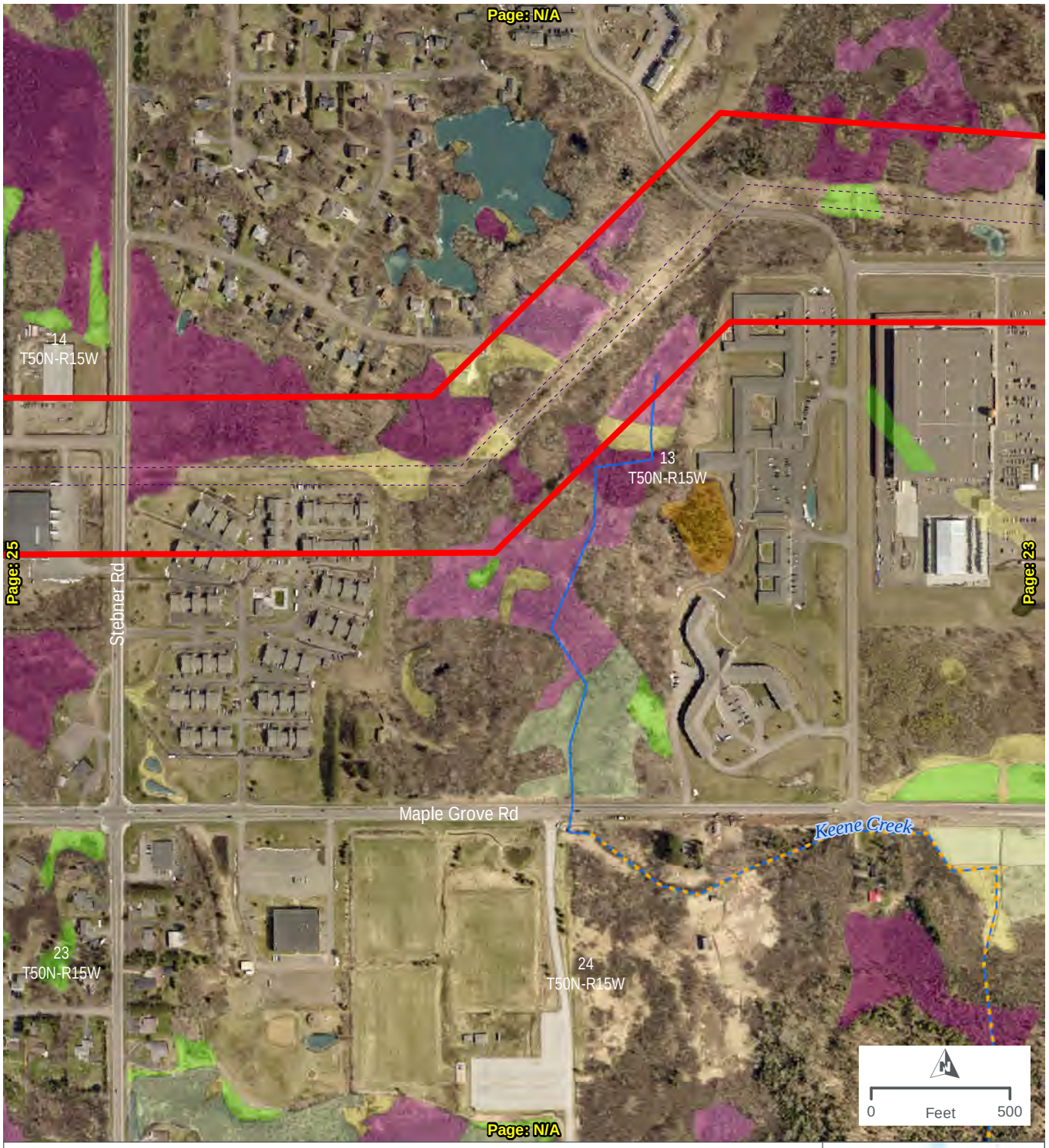
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 23 OF 40

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\10252320\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021

MN DNR NHIS REQUEST



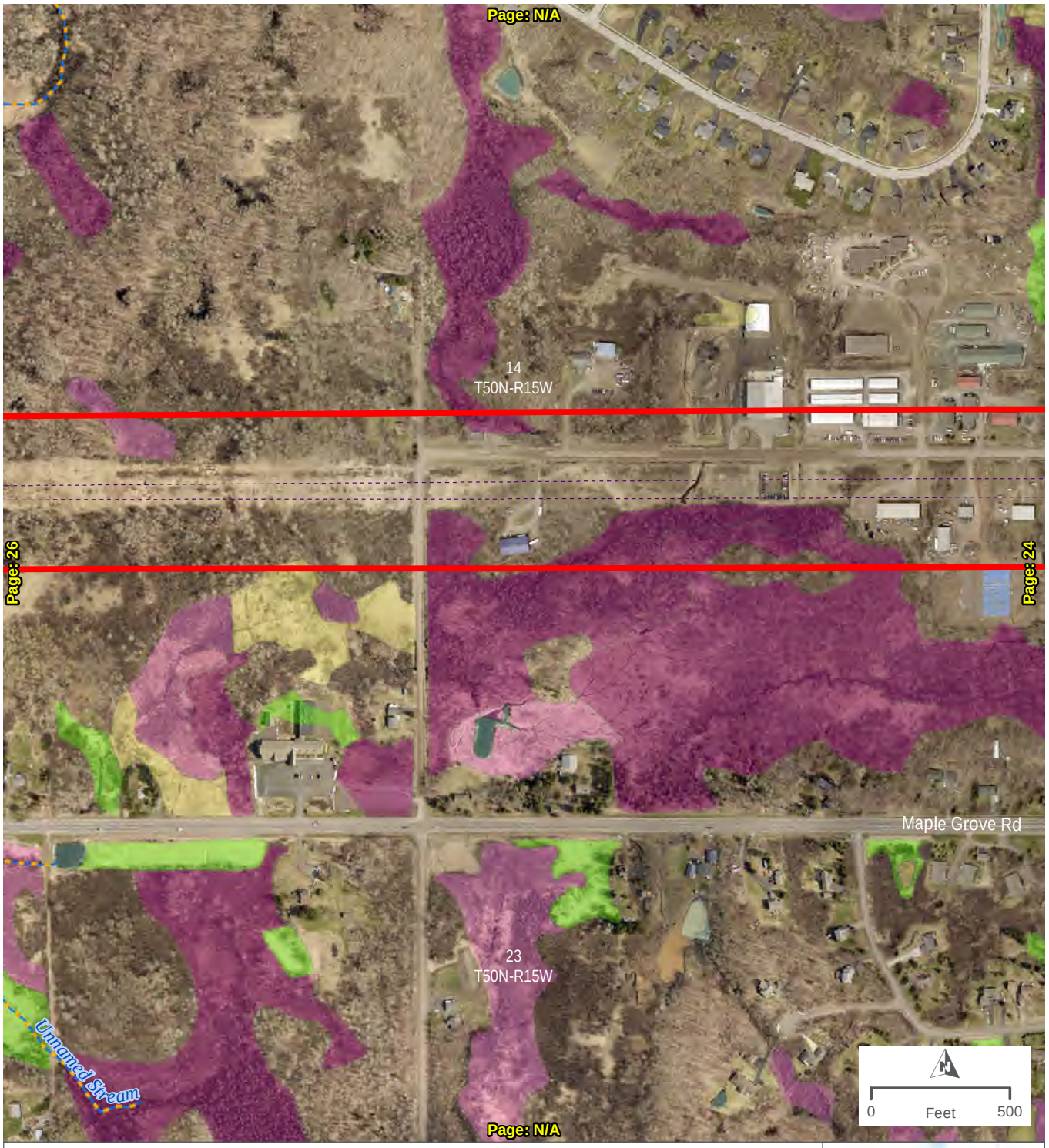
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 24 OF 40

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\10252320\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021

MN DNR NHIS REQUEST



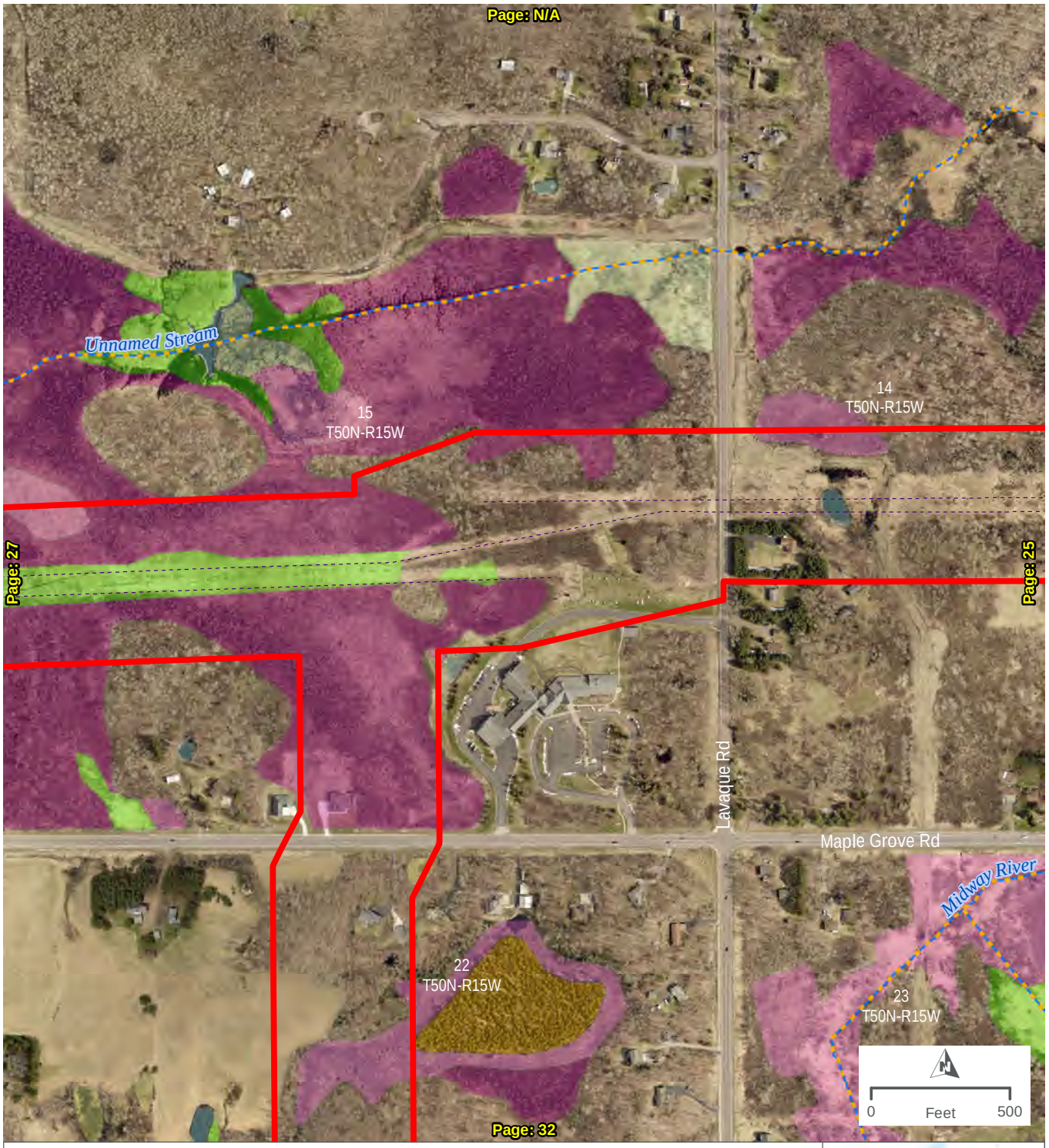
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 25 OF 40

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\10252320\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021

MN DNR NHIS REQUEST



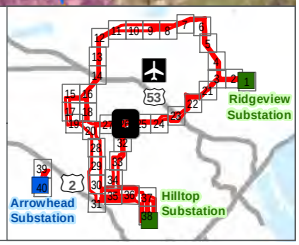
LEGEND

- Route Alternatives
- 115 kV Project Endpoint
- 230 kV Project Endpoint
- Substation
- Existing Transmission Line
- Section Line

Circular 39 - Wetland Type

- Class 1
- Class 2
- Class 3
- Class 5
- Class 6
- Class 7
- Class 8

- PWI Basin
- PWI Watercourse
- Designated Trout Stream / Protected Tributary
- Biodiversity Significance



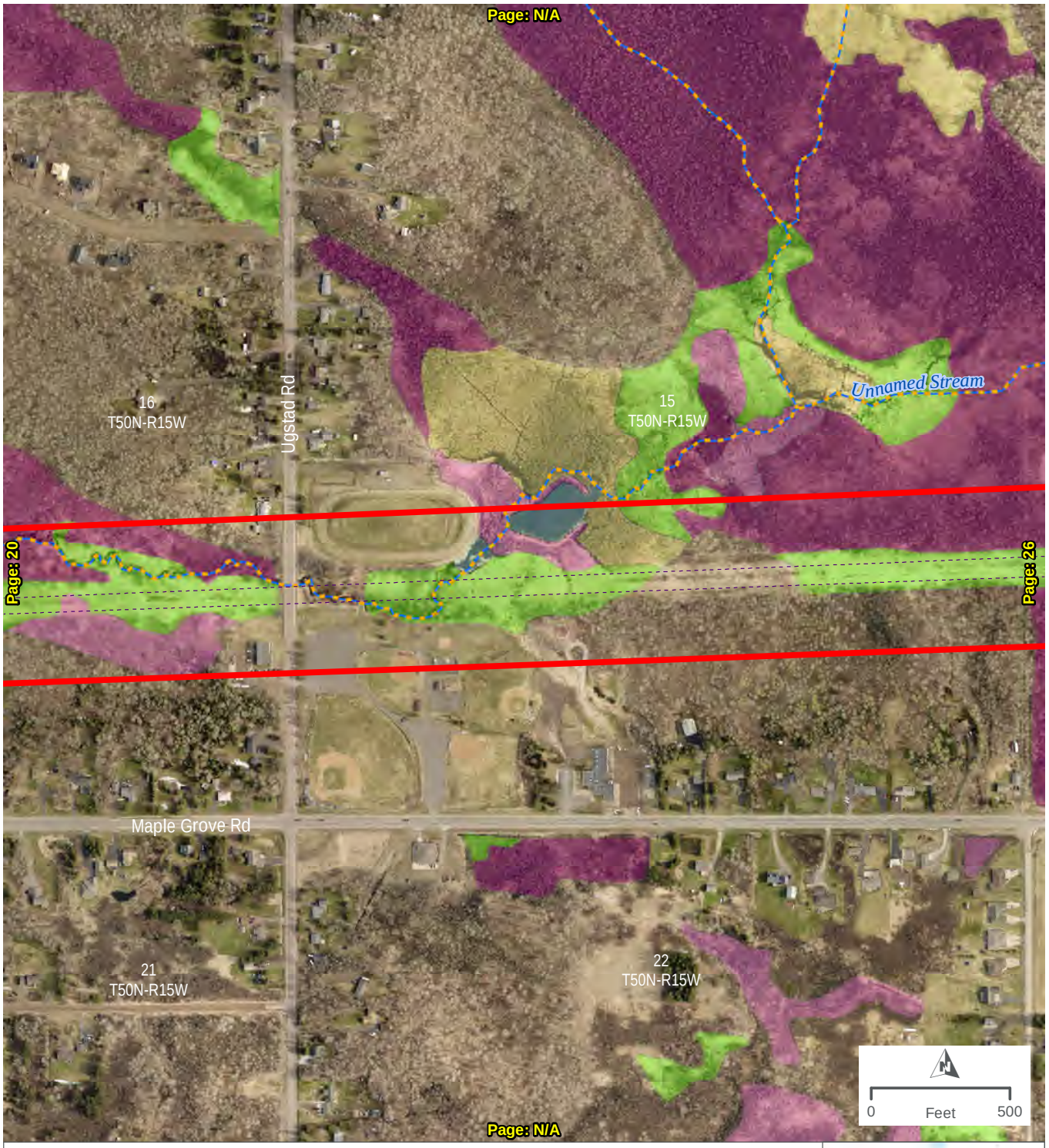
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 26 OF 40

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\10252320\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021

MN DNR NHIS REQUEST



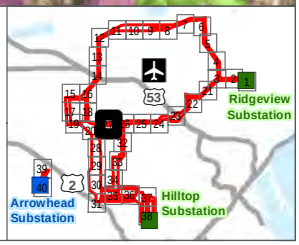
LEGEND

- Route Alternatives
- 115 kV Project Endpoint
- 230 kV Project Endpoint
- Substation
- Existing Transmission Line
- Section Line

Circular 39 - Wetland Type

- Class 2
- Class 3
- Class 5
- Class 6
- Class 7

- PWI Basin
- PWI Watercourse
- Designated Trout Stream / Protected Tributary
- Biodiversity Significance



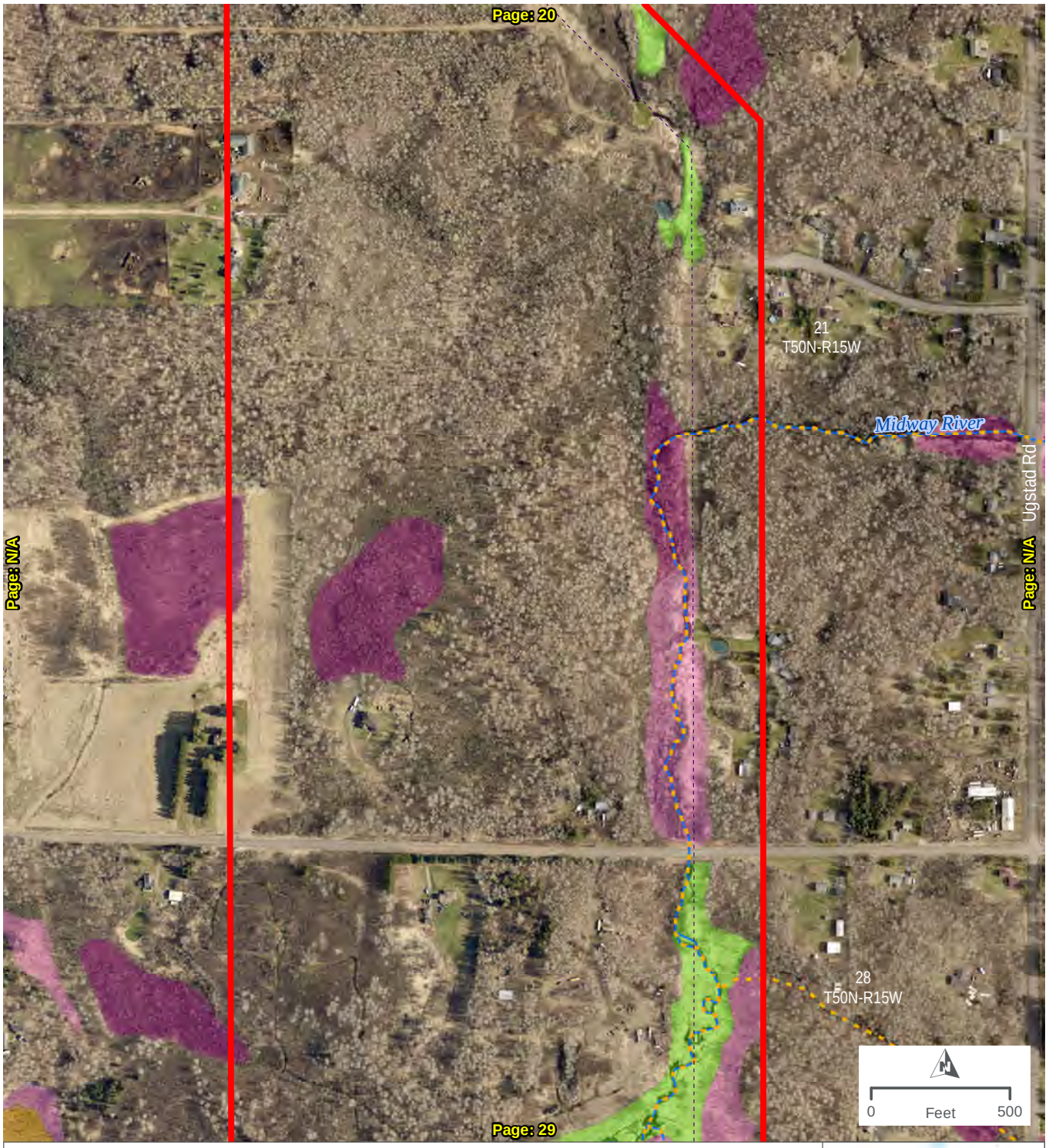
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 27 OF 40

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\10252320\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021

MN DNR NHIS REQUEST



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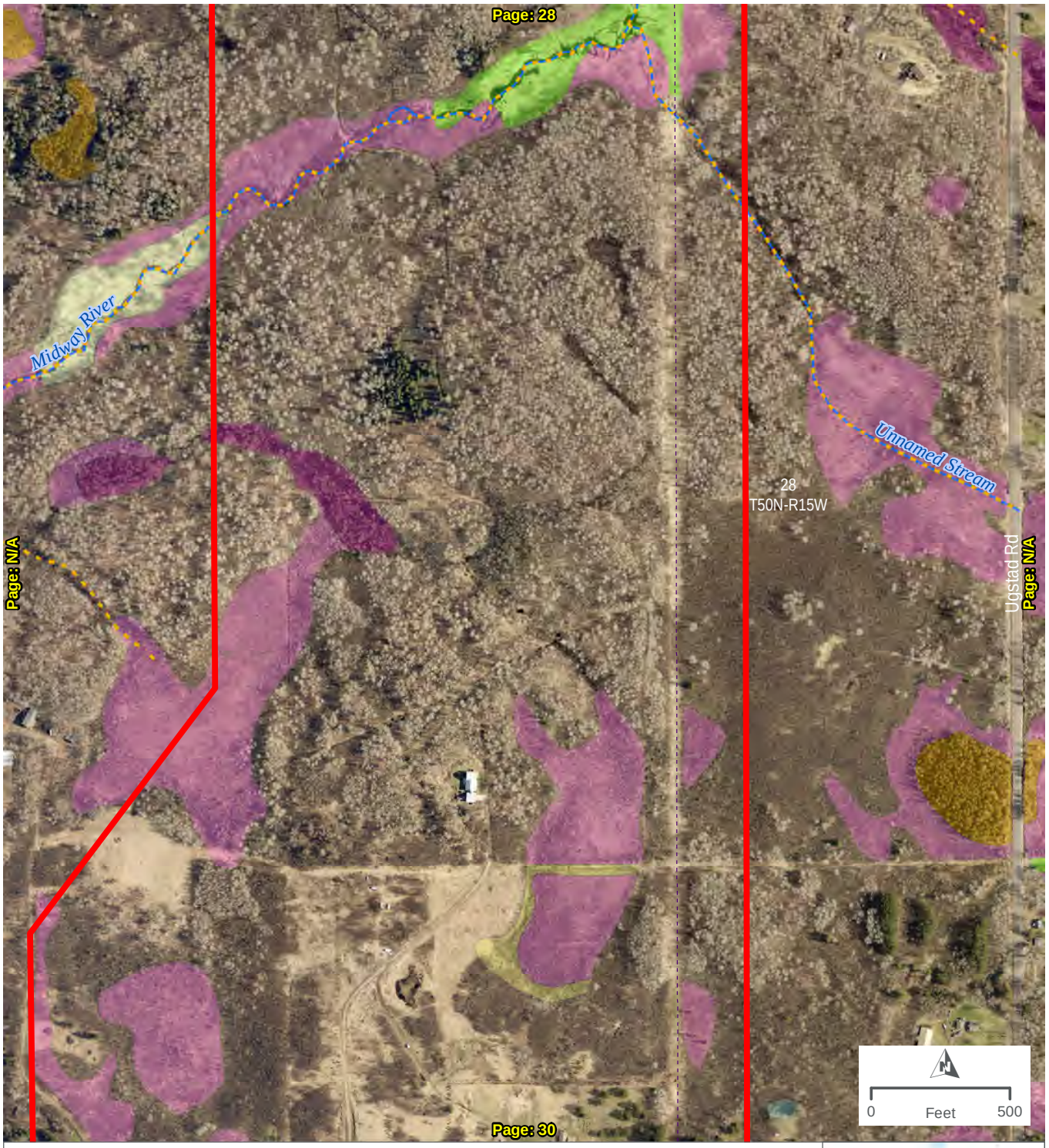
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 28 OF 40

MN DNR NHIS REQUEST



LEGEND

- Route Alternatives
- 115 kV Project Endpoint
- 230 kV Project Endpoint
- Substation
- Existing Transmission Line
- Section Line

Circular 39 - Wetland Type

- Class 1
- Class 2
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- Class 6
- Class 7
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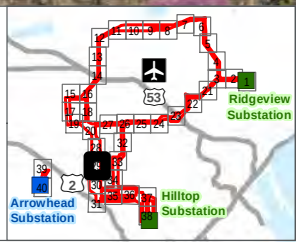
- PWI Basin
- PWI Watercourse
- Designated Trout Stream / Protected Tributary
- Biodiversity Significance



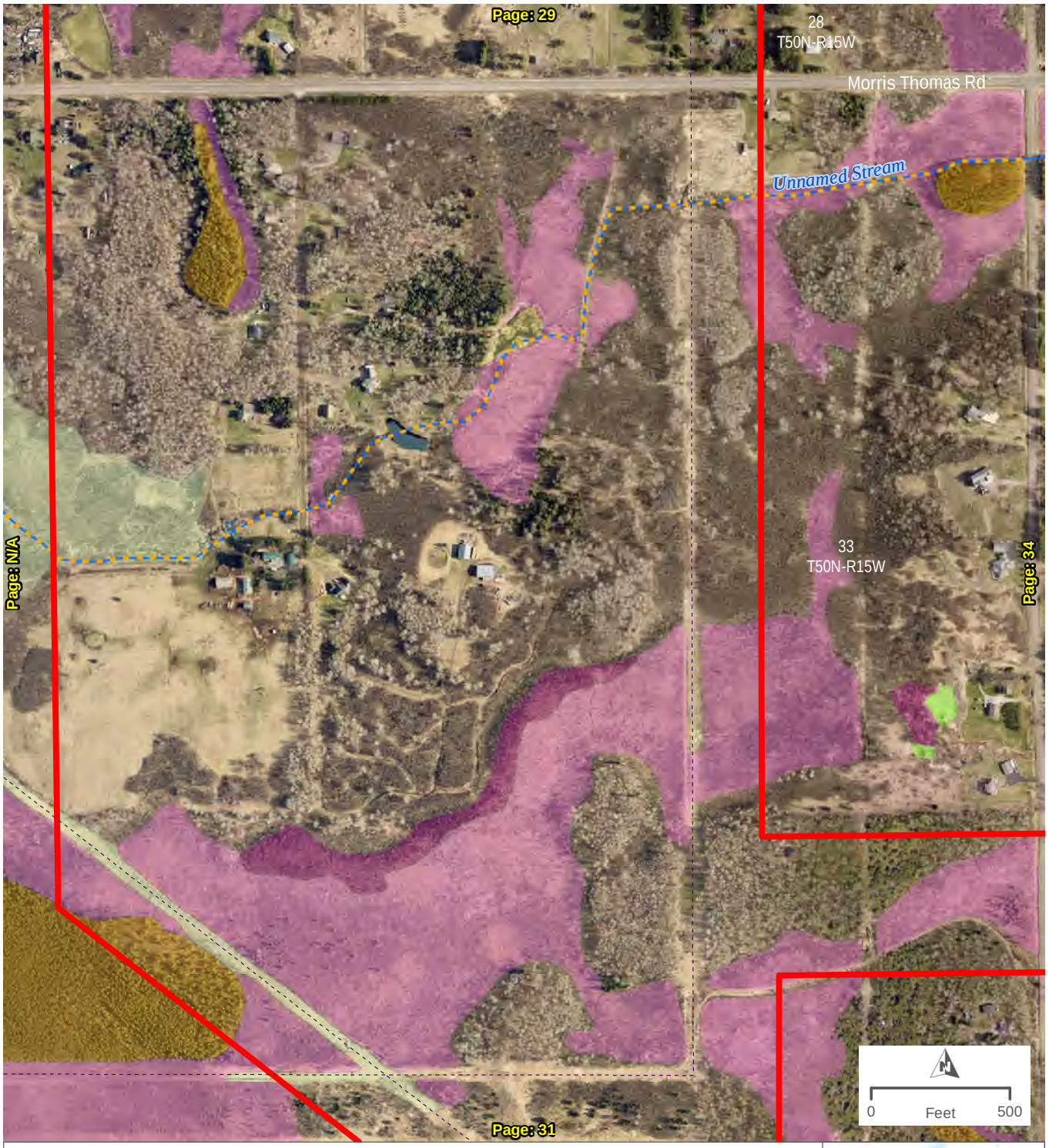
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 29 OF 40

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\10252320\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021

MN DNR NHIS REQUEST



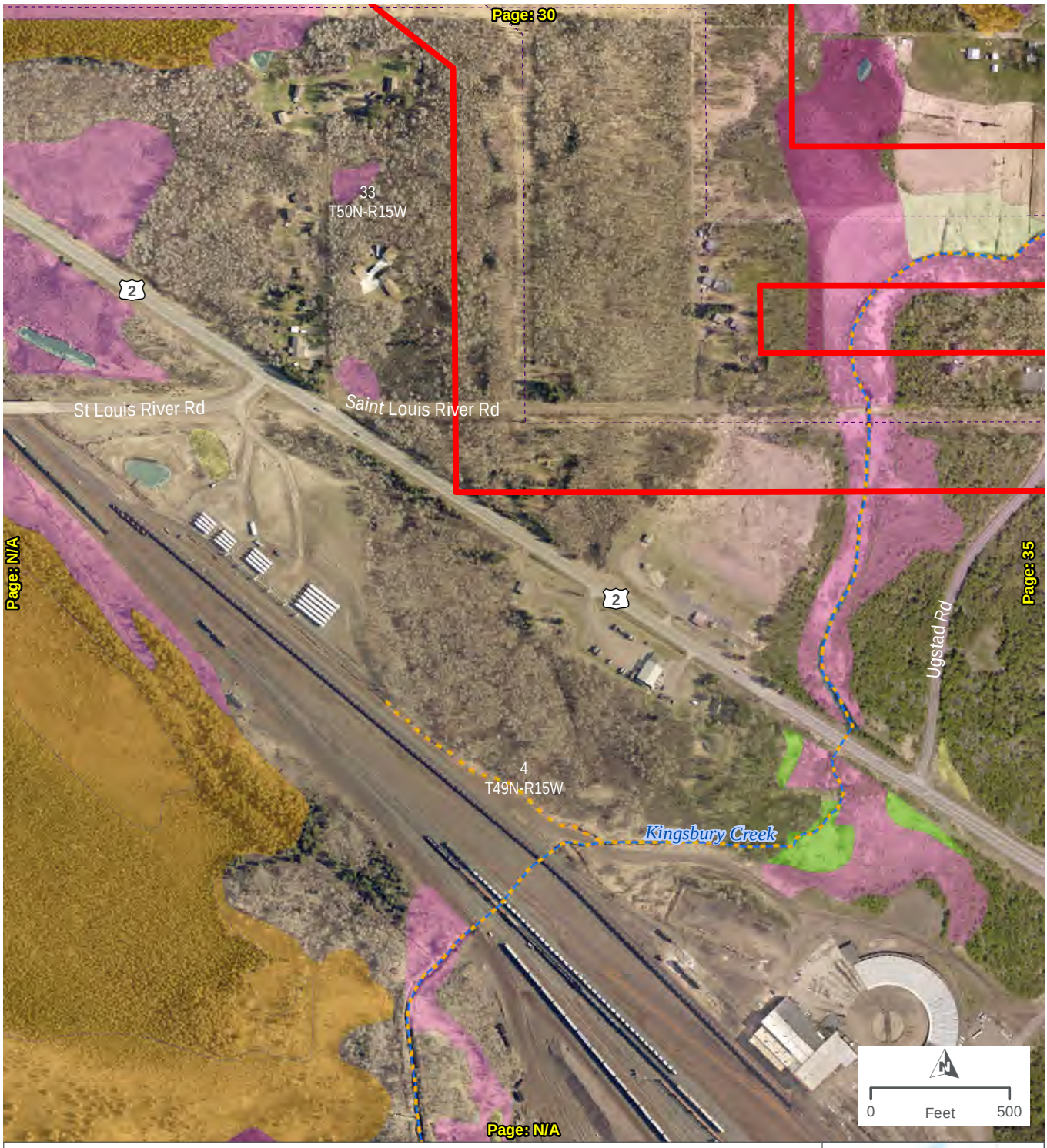
DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 30 OF 40

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\10252320\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021

MN DNR NHIS REQUEST



LEGEND

- Route Alternatives
- 115 kV Project Endpoint
- 230 kV Project Endpoint
- Substation
- Existing Transmission Line
- Section Line

Circular 39 - Wetland Type

- Class 1
- Class 2
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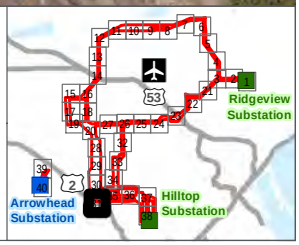
- Class 7
- Class 8
- Class 90

- PWI Basin
- PWI Watercourse
- Designated Trout Stream / Protected Tributary
- Biodiversity Significance



DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 31 OF 40

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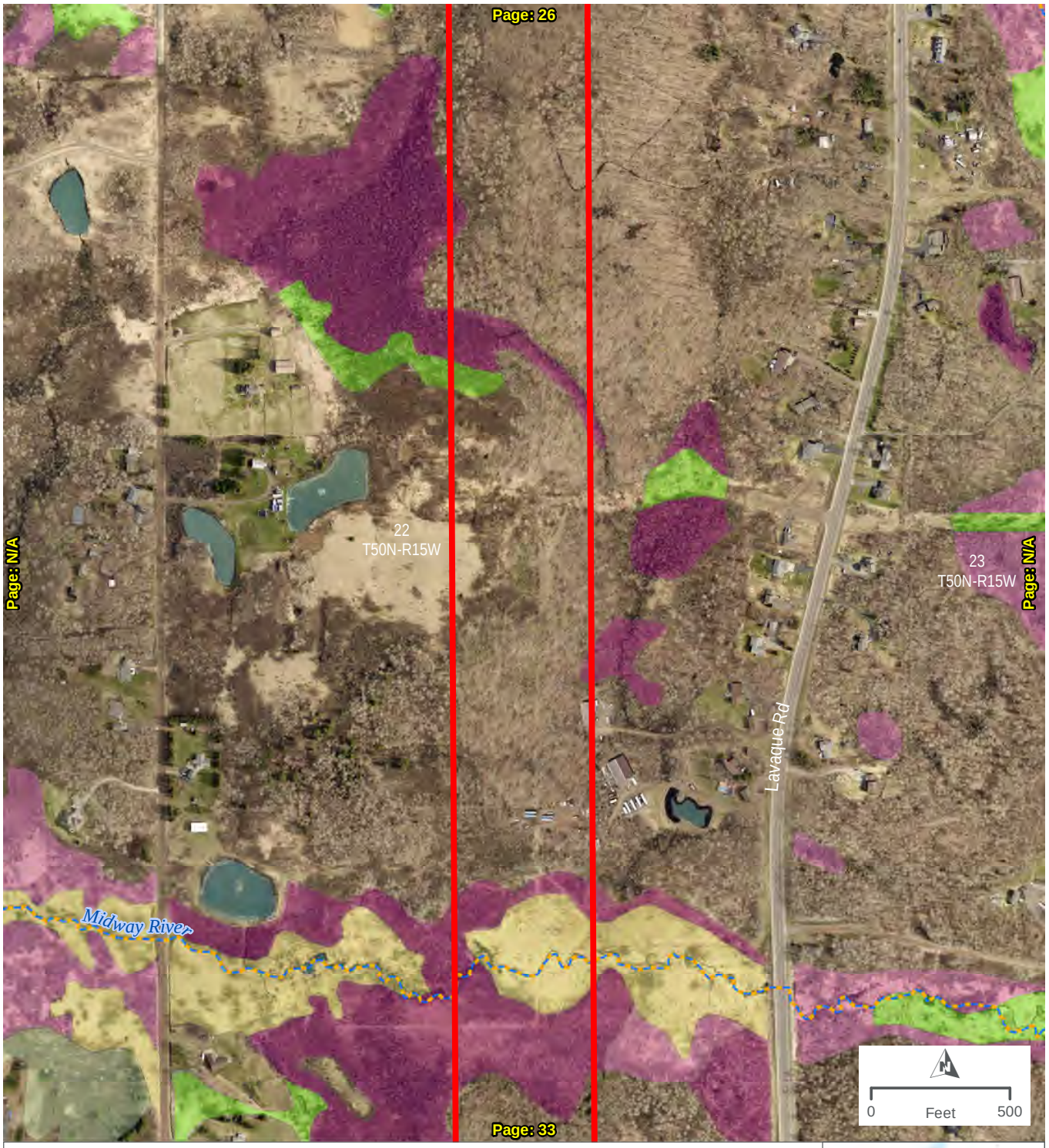
MN DNR NHIS REQUEST



DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 32 OF 40

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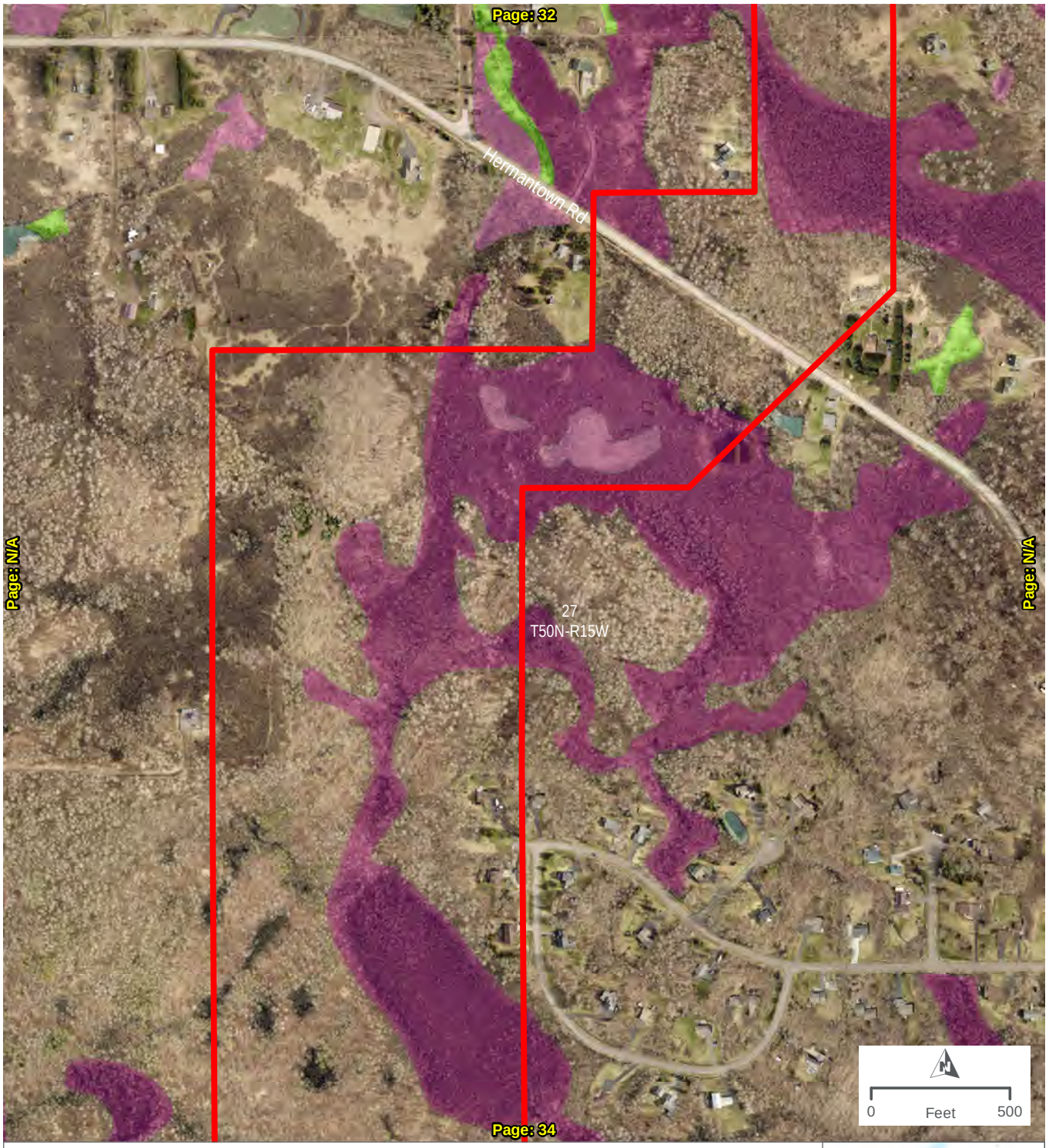
MN DNR NHIS REQUEST



DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 33 OF 40

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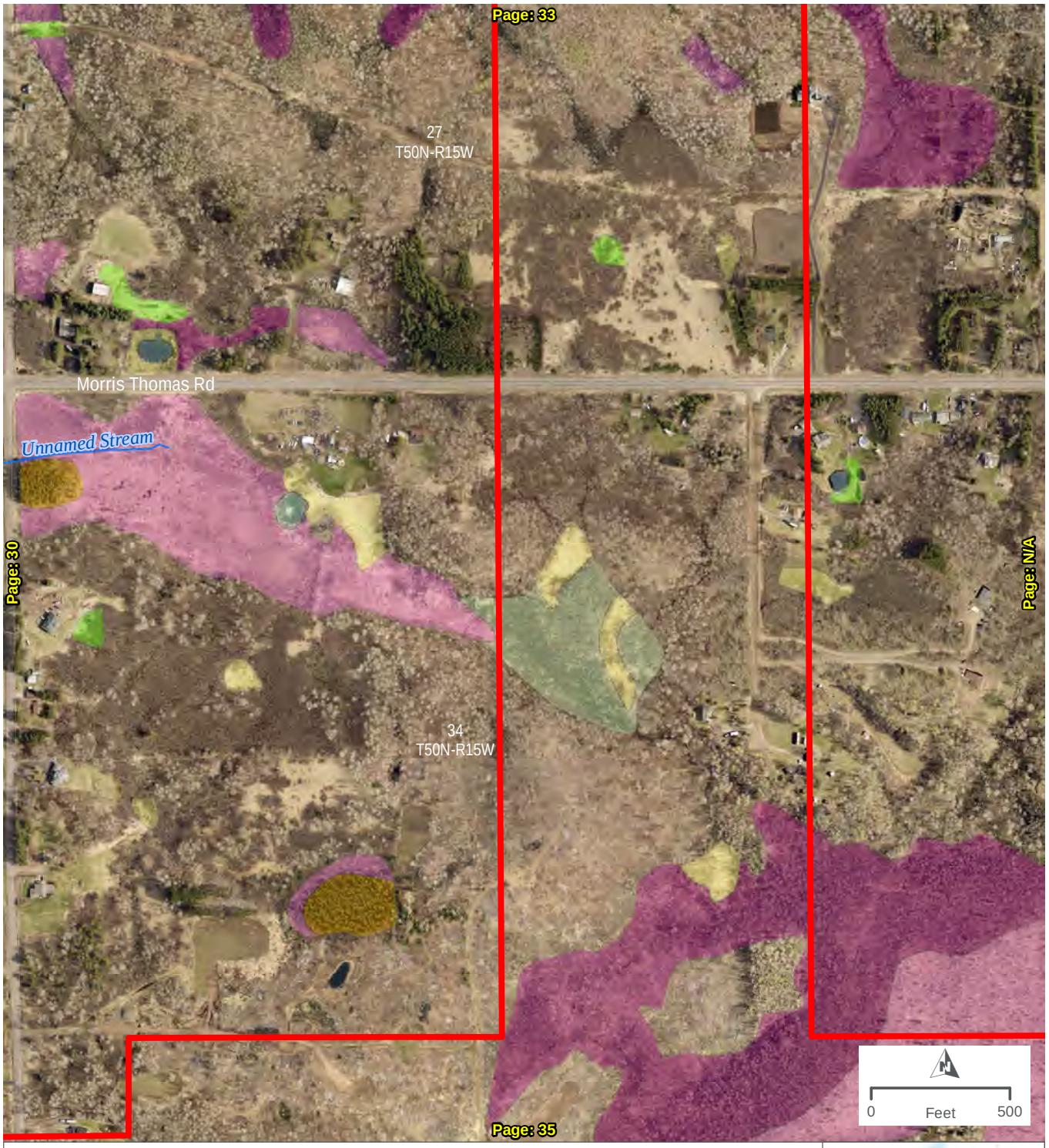
MN DNR NHIS REQUEST



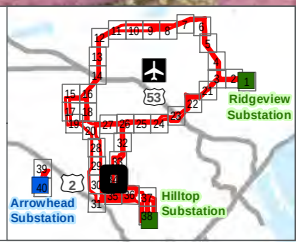
LEGEND

- Route Alternatives
- 115 kV Project Endpoint
- 230 kV Project Endpoint
- Substation
- Existing Transmission Line
- Section Line

Circular 39 - Wetland Type

- Class 1
- Class 2
- Class 3
- Class 5
- Class 6
- Class 7
- Class 8

- PWI Basin
- PWI Watercourse
- Designated Trout Stream / Protected Tributary
- Biodiversity Significance



DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 34 OF 40

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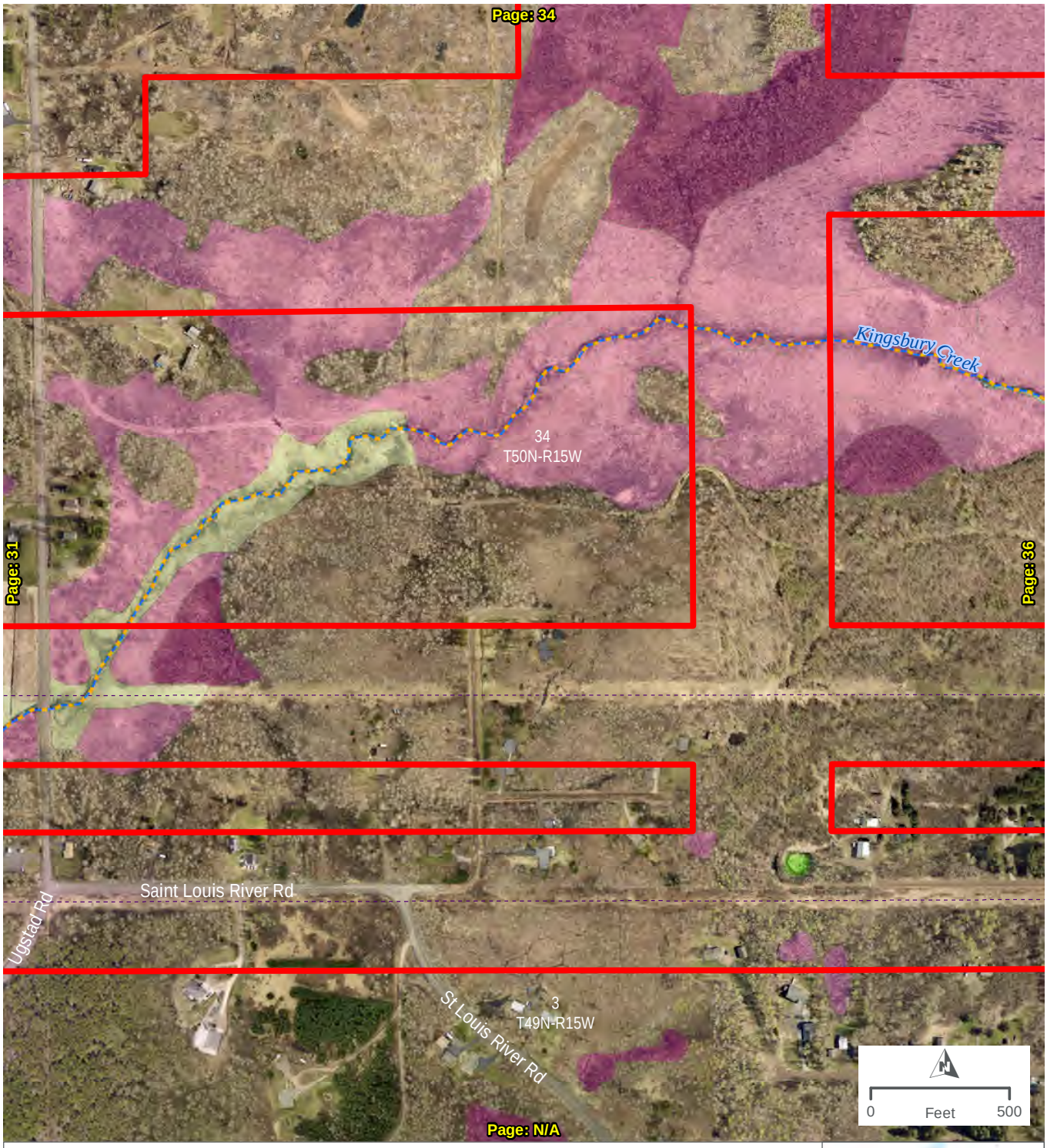
MN DNR NHIS REQUEST



DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 35 OF 40

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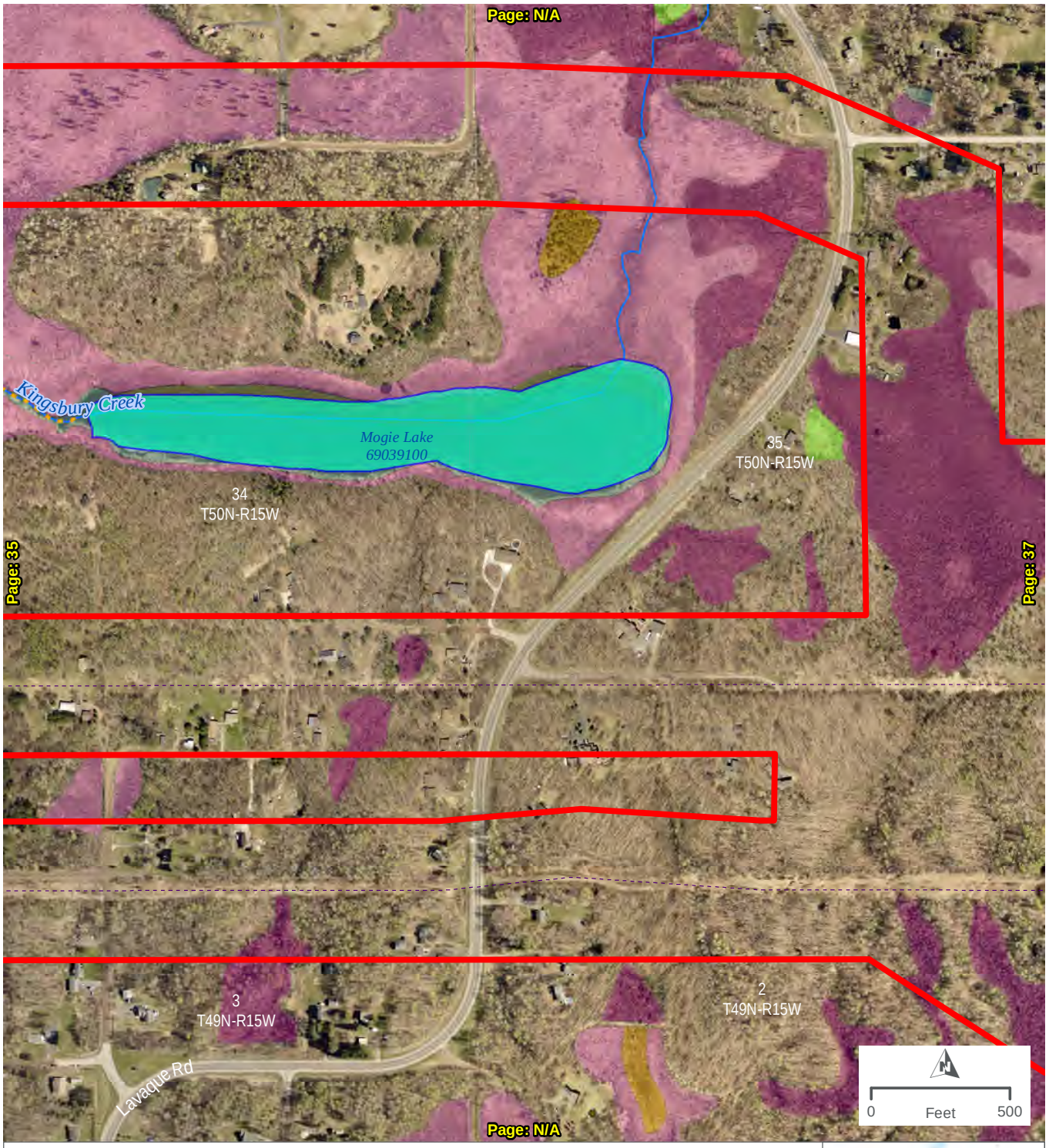
MN DNR NHIS REQUEST



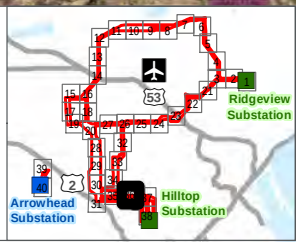
LEGEND

- Route Alternatives
- 115 kV Project Endpoint
- 230 kV Project Endpoint
- Substation
- Existing Transmission Line
- Section Line

Circular 39 - Wetland Type

- Class 2
- Class 3
- Class 5
- Class 6
- Class 7
- Class 8

- PWI Basin
- PWI Watercourse
- Designated Trout Stream / Protected Tributary
- Biodiversity Significance



DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 36 OF 40

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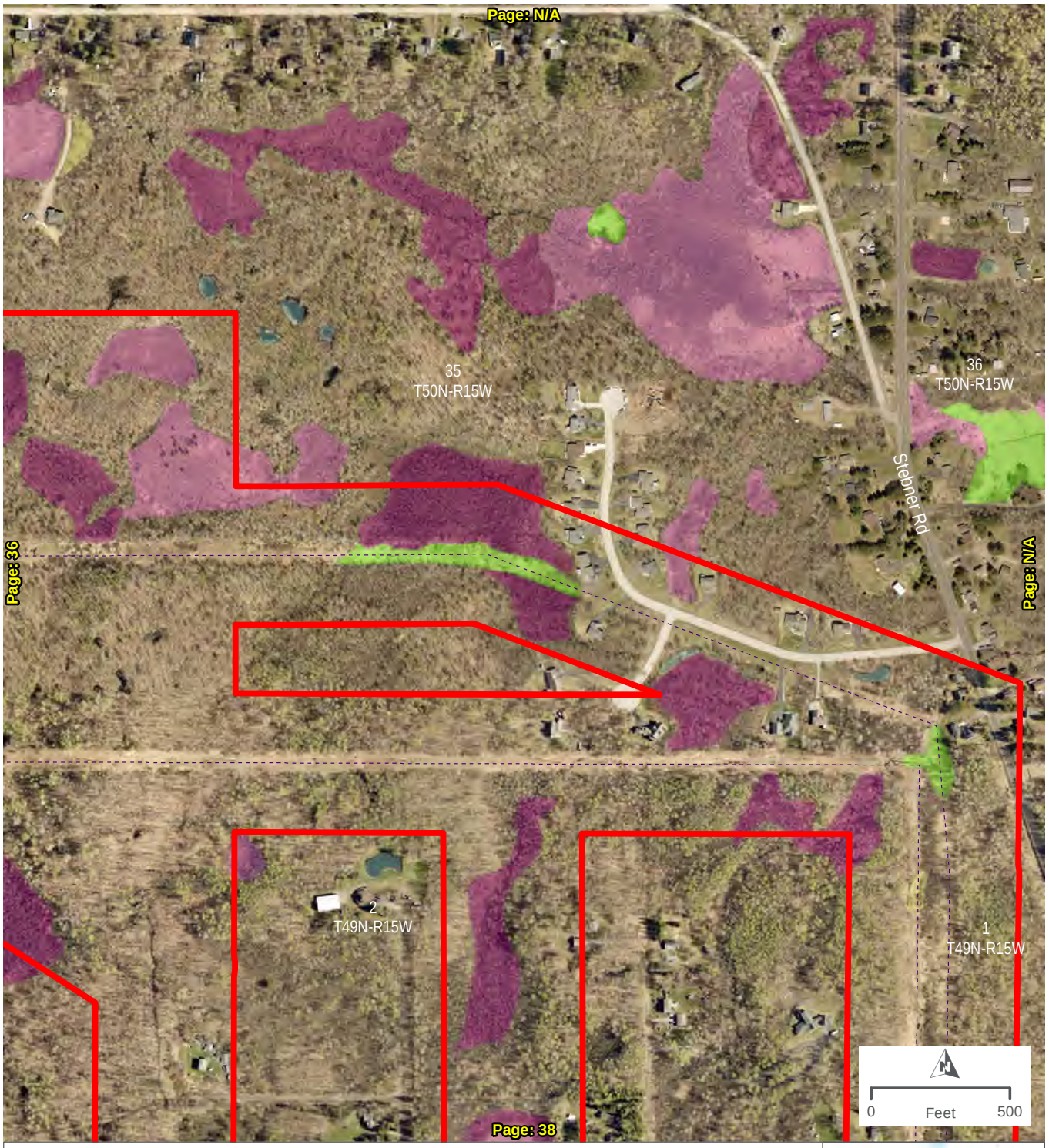
MN DNR NHIS REQUEST



DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 37 OF 40

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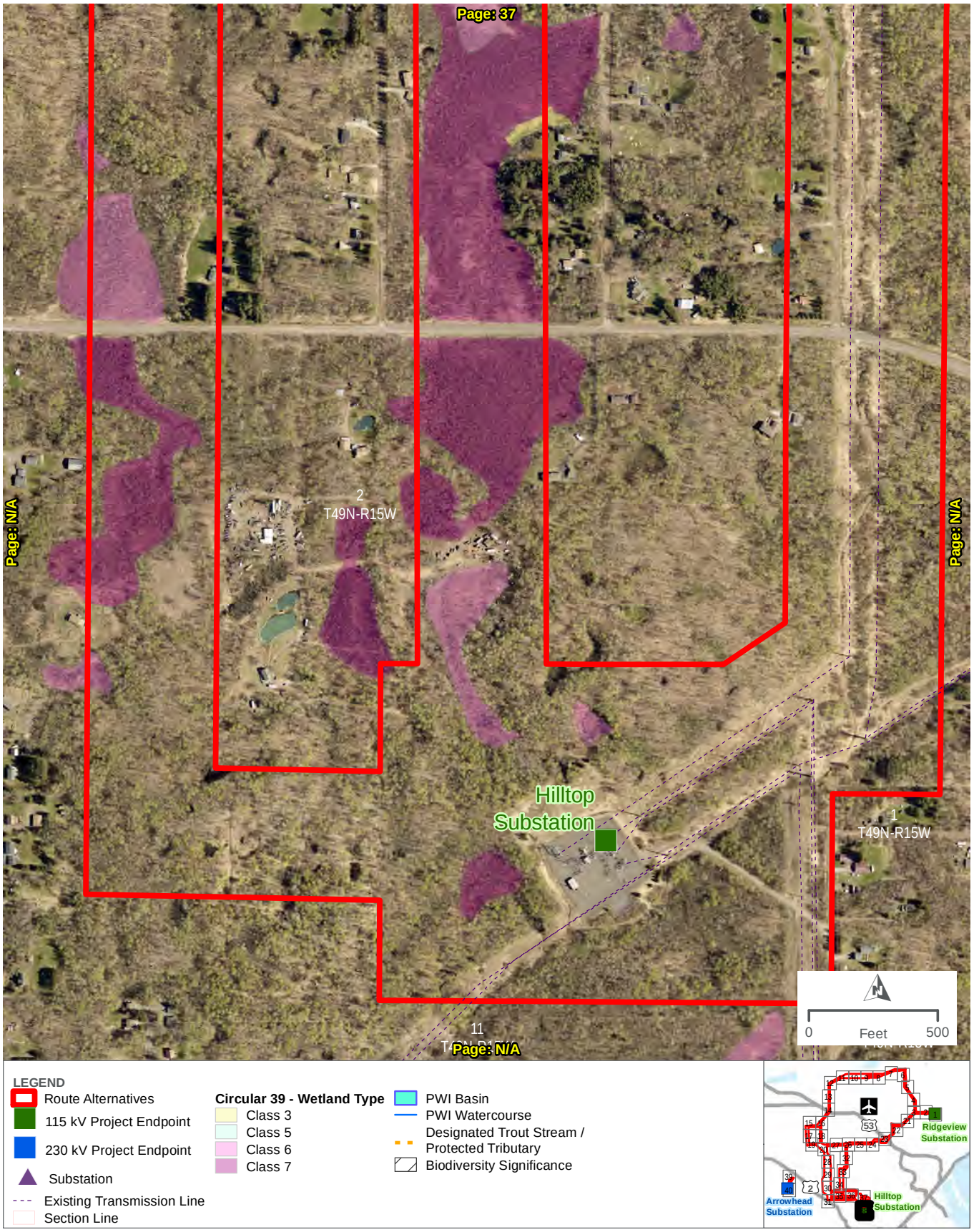

DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 38 OF 40

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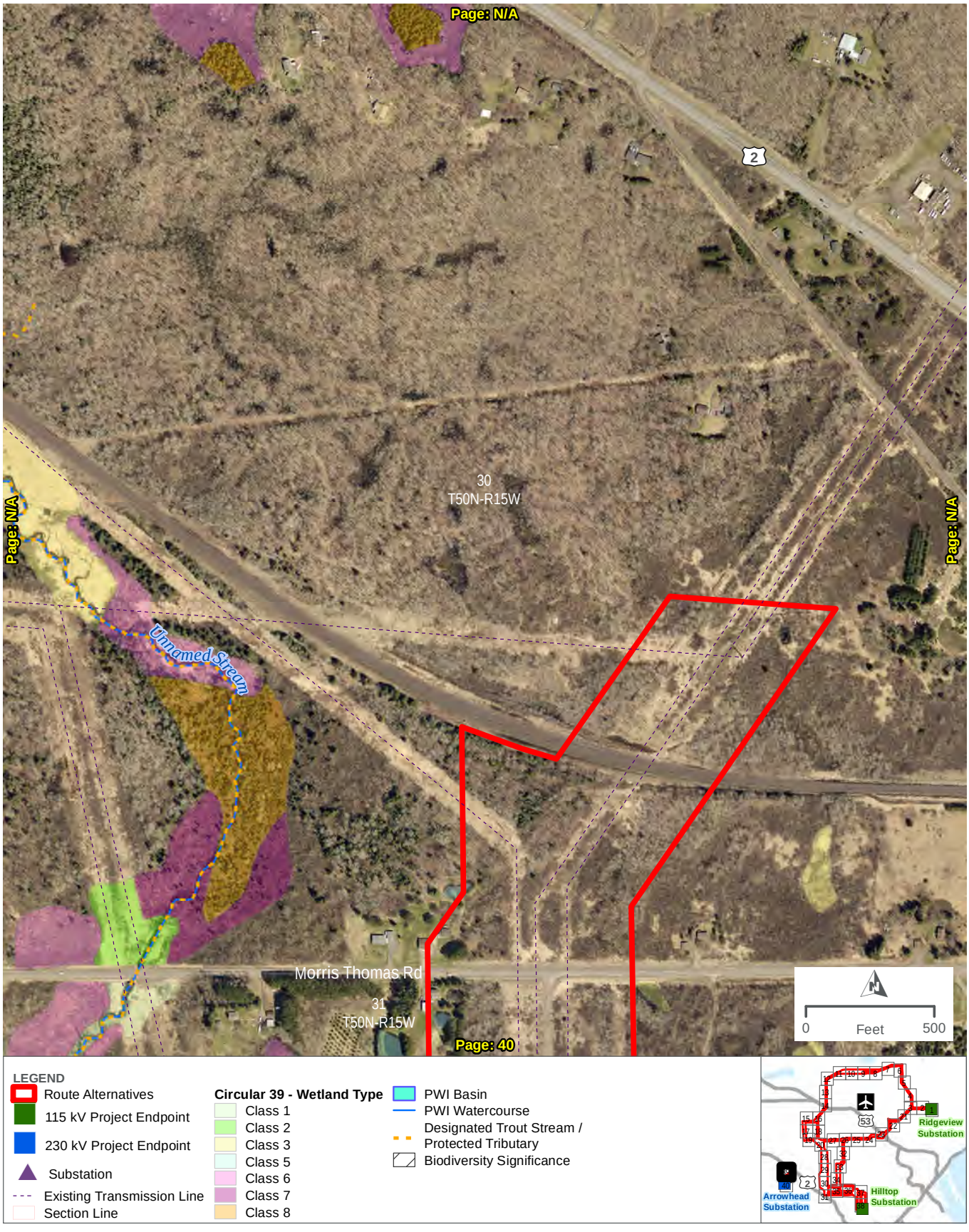
MN DNR NHIS REQUEST



DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 39 OF 40

PATH: \\MSPE-GIS-FILE\GISPROJ\MINNPOWER\10252320\7.2_WIP\MAP_DOCS\DRAFT\AGENCY\DNR\NHIS\MPIN_8X11P.MXD - USER: STUOHEY - DATE: 3/9/2021

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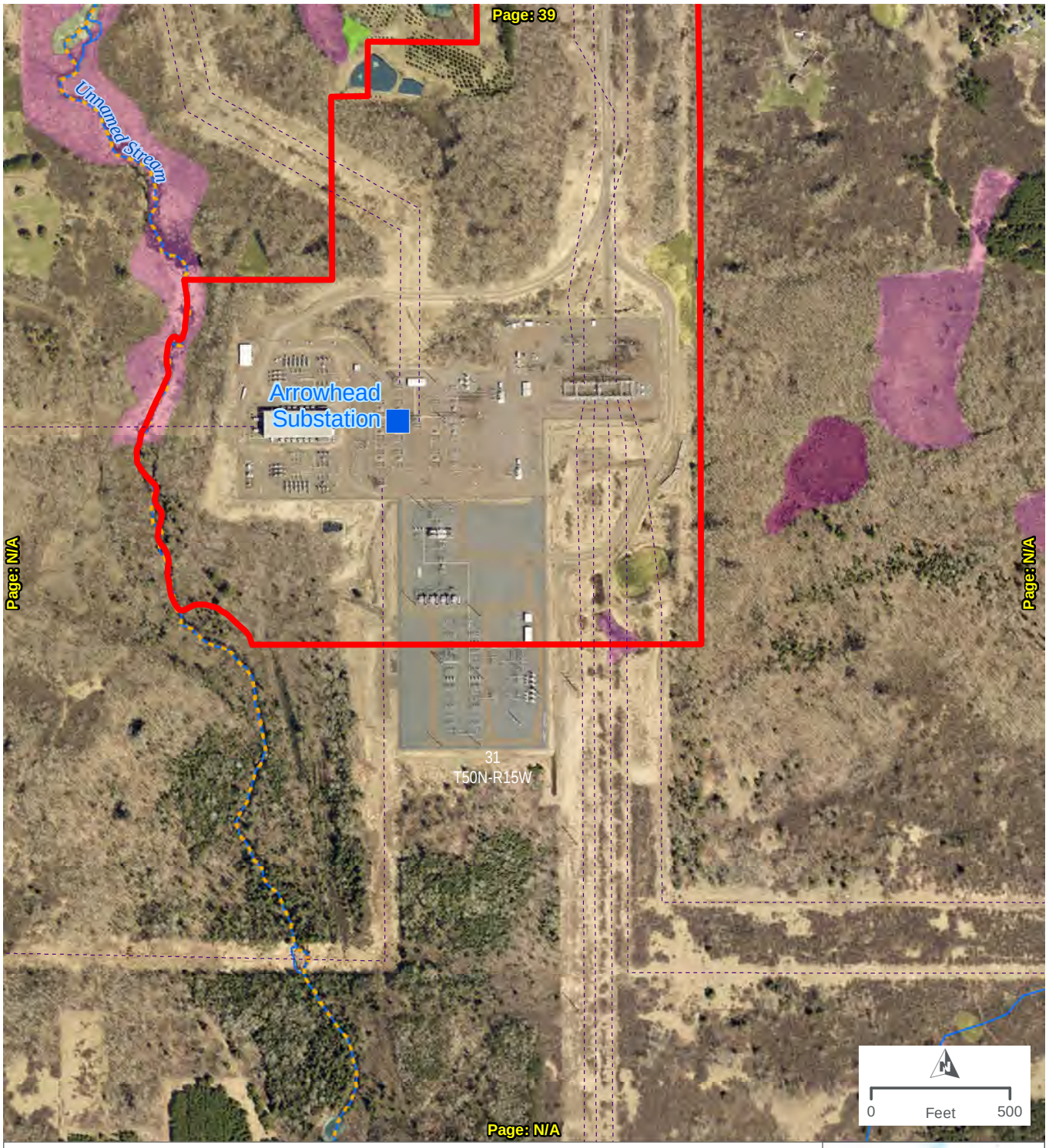

DULUTH LOOP RELIABILITY PROJECT

MINNESOTA POWER

FIGURE 3 - PAGE 40 OF 40

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MN DNR NHIS REQUEST

From: Bump, Samantha (DNR)
To: Hunker, Brian M.
Cc: Coyle, Margi (Anne) (DNR); Warzecha, Cynthia (DNR); James B. Atkinson (Jim) - (jbatkinson@mnpower.com); Schmidt, Dan; Terri Bagwell (MP); Kyle Larson (MP) (KPLARSON@mnpower.com)
Subject: RE: NHIS Review Request - Minnesota Power Duluth Loop Reliability Project
Date: Friday, July 9, 2021 5:56:23 PM
Attachments: image003.png
image004.png
image005.png
image002.png
DL.zip
DuluthLoopProject_NHIS_Request.pdf

Hi Brian,
I have reviewed the attached assessment of the potential for the Minnesota Power Duluth Loop Reliability project to impact rare features and concur with your assessment that negative impacts to known occurrences of rare features are not anticipated.

For additional information on Blanding's turtles, see the Blanding's turtle fact sheet, which describes the habitat use and life history of this species. The fact sheet also provides two lists of recommendations for avoiding and minimizing impacts to this rare turtle. **Refer to both lists of recommendations for your project.** The use of erosion control blanket shall be limited to 'bio-netting' or 'naturalnetting' types, and specifically not products containing plastic mesh netting or other plastic components. Also, be aware that hydro-mulch products may contain small synthetic (plastic) fibers to aid in their matrix strength. These loose fibers could potentially re-suspend and make their way into Public Waters. As such, please review mulch products and not allow any materials with synthetic (plastic) fiber additives in areas that drain to Public Waters. If Blanding's turtles are in imminent danger they must be moved by hand out of harm's way, otherwise, they are to be left undisturbed.

Please contact me if plans change and there will be impacts [redacted].

Thank you for notifying us of this project, and for the opportunity to provide comments.

Have a great day,
Samantha Bump
NHIS Review Specialist | Ecological & Water Resources
Minnesota Department of Natural Resources
Samantha.Bump@state.mn.us

From: Hunker, Brian M. <Brian.Hunker@hdrinc.com>
Sent: Tuesday, March 16, 2021 12:58 PM
To: Joyal, Lisa (DNR) <lisa.joyal@state.mn.us>; Bump, Samantha (DNR) <samantha.bump@state.mn.us>; MN_NHIS, Review (DNR) <Review.NHIS@state.mn.us>
Cc: Coyle, Margi (Anne) (DNR) <margi.coyle@state.mn.us>; Warzecha, Cynthia (DNR) <cynthia.warzecha@state.mn.us>; James B. Atkinson (Jim) - (jbatkinson@mnpower.com) <jbatkinson@mnpower.com>; Schmidt, Dan <Dan.Schmidt@hdrinc.com>; Terri Bagwell (MP) <TBagwell@mnpower.com>; Kyle Larson (MP) (KPLARSON@mnpower.com) <KPLARSON@mnpower.com>
Subject: NHIS Review Request - Minnesota Power Duluth Loop Reliability Project

Hello Lisa and Samantha –

HDR Engineering, Inc, respectfully submits the attached NHIS review request for Minnesota Power's Duluth Loop Reliability Project. Please find attached for your review is the NHIS request form with supplemental information and maps and a zip file containing the GIS shapefile of the route alternatives.

Please let us know of any question or needed information.

Thank you, Brian

Brian Hunker
Project Manager

HDR
1601 Utica Avenue South, Suite 600
St. Louis Park, MN 55416-3636
D 763.278.5927 **M** 763.218.9845
brian.hunker@hdrinc.com

hdrinc.com/follow-us

Phase Ia Cultural Resources Literature Search Duluth Loop Reliability Transmission Line Project Saint Louis County, Minnesota

April 7, 2021

Submitted to:

HDR Engineering, Inc.
1601 Utica Avenue South, Suite 600
St. Louis Park, MN 55416

Submitted by:

Michael Justin, M.S., RPA
Michael Justin Consulting, LLC
183 Goodrich Avenue, St Paul, MN 55102

Management Summary/Abstract

Minnesota Power proposes construction of the Duluth Loop Reliability Project (the Project or proposed Project), which includes new transmission line construction, substation upgrades, and associated system upgrades that will enhance reliability by building an additional transmission source to communities in and around Duluth and along the North Shore. The Project's Study Corridor, including a one-mile buffer, is located in Saint Louis and Carlton Counties, Minnesota and includes in part or in whole the sections in the following table. The Project's routing process defined a Study Corridor, the Study Corridor was narrowed into Route Alternatives based upon stakeholder and public input. In March, the Project will host a public meeting to gather input on the Route Alternatives, then a Preferred Route will be selected for the Certificate of Need and Route Permit Application to the Minnesota Public Utilities Commission.

Duluth Loop Reliability Project Study Corridor Legal Descriptions

Township	Range	Section
49	16W	1
49	15W	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11,12,
49	14W	6, 7
50	15W	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13,14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36,
50	14W	3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 18, 19, 20
51	14W	19, 20, 21, 28, 29, 30, 31,32, 33
51	15W	21, 22, 23, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36

The Project will require permits and approvals from local, state, and federal entities. As part of compliance with regulatory requirements that accompany these permits, this literature and archive review (Phase Ia Literature Search Report) was completed for the proposed Project by Michael Justin Consulting, Michael Justin, Principal Investigator in February and March of 2021. This Literature Search Report attempts to identify known recorded sites, buildings, structures and named places of historical interest that may be affected by the Project. The Project is located within the Lake Superior Shore (9n) and Central Lakes Coniferous (5e) Archaeological Resource regions as identified in the *SHPO Manual for Archaeological Projects in Minnesota* (Anfinson 2005).

This Phase Ia Literature Search Report investigation identified one known numbered archaeological site and four historic cemeteries within the Study Corridor and 17 previously recorded (numbered) sites, including two historic cemeteries, within a 1-mile buffer of the Study Corridor. [redacted]

The Phase Ia Literature Search Report identified 19 structures (houses, a church, bridges, commercial, military, and public works buildings) and two road segments within the Study Corridor, and 93 properties within the 1-mile buffer around the Study Corridor. There are two historic districts and three individually listed properties on the National Register of Historic Places within the Study Corridor and the 1-mile buffer around the Study Corridor. The Project will also intersect one linear resource (Miller Trunk Highway, aka Trunk Highway 53) at two locations. There are 32 structures that comprise a group of Works Progress Administration-era homes that are outside the Study Corridor, and within the 1-mile buffer. None of these appear to be within 500 feet of Study Corridor boundary.

As there are known resources near and within the Project study areas, formal Phase I inventories of archaeological and architectural properties are recommended. Also recommended is consultation with Native American tribes to identify properties of traditional religious and cultural significance.

Table of Contents

Figures

[redacted]

Tables

[redacted]

Introduction

The Duluth Loop Reliability Project (Project or proposed Project) includes new transmission line construction, substation expansions, and associated system upgrades that will enhance reliability by building an additional transmission source to communities in and around Duluth and along the North Shore (Figure 1). The Project is located in Saint Louis and Carlton Counties, Minnesota (Table 1). For the purposes of this report, the project study area includes a one-mile buffer of the Study Corridor limits. While all the proposed route alternatives are within St. Louis County, the one-mile buffer includes a small section of Carlton County. The Project is planned to be in service in 2025. The Project includes:

- Construction of a new 115 kV transmission line between the Hilltop and Ridgeview substations
- Extending an existing 230 kV transmission line approximately 1 mile from the Arrowhead Substation
- Upgrades to existing substations:
    - Expansion of the Hilltop and Ridgeview Substations to accommodate the new 115 kV Line
    - Reconfigurations of the existing 230 kV transmission line in the vicinity of the Hilltop Substation
    - Install line entrance equipment at Arrowhead Substation to connect existing 230 kV Line into substation
    - Install breaker at Haines Road Substation
    - Potential line reconfigurations near existing substations to accommodate new transmission construction

HDR, Engineering, Inc. (HDR) was retained in September 2020 to assist Minnesota Power in preparing a Certificate of Need and Route Permit Application to the Minnesota Public Utilities Commission for the Project. Michael Justin Consulting, LLC was retained by HDR in 2021 to provide a Phase Ia cultural resources survey to learn about known cultural and architectural resources in the Study Corridor to satisfy State's agency requirements. Information was sourced at the Minnesota State Historic Preservation Office (SHPO) located in St. Paul, Minnesota, as well as various public and private databases and online sources, to perform an assessment of cultural resources within and adjacent to the Project's Study Corridor. In addition to formal site records, General Land Office (GLO) maps, Trygg maps, and historic aerial maps where available, were accessed in February 2021 to identify potential historic-period cultural features in the Project's Study Corridor. The results of the literature search are used to generate the recommendations and conclusions contained in this report and conform to SHPO guidelines.

Figure 1. Project Location

Table 1. Duluth Loop Reliability Project Study Corridor Legal Descriptions, including a one-mile buffer of the study corridor.

Township	Range	Section
49	16W	1
49	15W	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11,12,
49	14W	6, 7
50	15W	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13,14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36,
50	14W	3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 18, 19, 20
51	14W	19, 20, 21, 28, 29, 30, 31,32, 33
51	15W	21, 22, 23, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36

The Study Corridor is located within the Lake Superior Shore (9n) and Central Lakes Coniferous (5e) Archaeological Resource regions as defined in the Minnesota Department of Transportation's (Mn/DOT) Mn/Model criteria (Anfinson 2005).

Defining the Study Area and Area of Potential Effect (APE)

Minnesota Power followed the standard guidelines set forth by the Minnesota Office of the State Archaeologist (OSA) and SHPO and defined a Study Corridor as the Project area plus a one-mile buffer surrounding the Study Corridor. Minnesota Power anticipates that upon consultation with federal agencies, the Area of Potential Effect (APE) will coincide with the construction limits and any temporary easements for archaeological properties, and that the APE for standing structures will fall within the one-mile buffer, but may be lessened, or increased, after consultation with interested parties.

Regulatory Framework

Currently, the Project is not considered to be a federal undertaking as defined by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations (36 CRF 800). Once federal permitting indicates the action is a federal undertaking, a lead federal agency will formally define the APE and initiate consultation with interested parties under Section 106 regulations, and this report may serve as a basis for additional study.

The Project anticipates local, state, and federal permits and approvals as shown in Table 2. Not all the permits listed below require adherence to historic preservation laws. Federal permits usually require Section 106 consultation as stated above; state permits may require adherence to the Private Cemeteries Act (Minnesota Statutes 307.08) along with Minnesota Field Archaeology Act (MS 138.31-138.42) and Minnesota Historic Sites Act (MS 138.661-138.669). In addition, some local communities may have historic preservation commissions that help enact local ordinances protecting historic resources.

Table 2. List of Possible Permits

Permit	Jurisdiction
Local Approvals	
Road Crossing/ROW Permits	St. Louis County; cities of Duluth, Proctor, and Hermantown; Canosia, Midway, Rice Lake, Solway townships
Lands Permits, Building Permits	St. Louis County; cities of Duluth, Proctor, and Hermantown; Canosia, Midway, Rice Lake, Solway townships
Overwidth Loads Permits	St. Louis County; cities of Duluth, Proctor, and Hermantown; Canosia, Midway, Rice Lake, Solway townships
Driveway/Access Permits	St. Louis County; cities of Duluth, Proctor, and Hermantown; Canosia, Midway, Rice Lake, Solway townships
Municipal Stormwater Permit	City of Duluth
Floodplain Permit	City of Duluth
Minnesota State Approvals	
Endangered Species Consultation	Minnesota Department of Natural Resources (DNR) – Ecological Services
Licenses to Cross Public Waters and Lands	DNR – Lands and Minerals
National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit	Minnesota Pollution Control Agency (MPCA)
Section 401 Clean Water Act Water Quality Certification	MPCA
Wetland Conservation Act (WCA)	Board of Water and Soil Resources, SWCD, County, City, Townships
Minn. Stat. Ch. 138 (Minnesota Field Archaeology Act and Minnesota Historic Sites Act)	SHPO and MNOSA
Driveway/Access Permits	MnDOT
Utility Accommodation on Trunk Highway ROW	MnDOT
Oversize and/or Overweight Permit	MnDOT
Federal Approvals	
Section 404 Dredge and Fill Permit[5]	United States Army Corps of Engineers (USACE)
Section 10 Rivers and Harbors Act	USACE
Endangered Species Consultation	United States Fish and Wildlife Service (USFWS)
Part 7460 Airport Obstruction Evaluation	Federal Aviation Administration /MnDOT
Other Approvals	
Crossing Permits/Agreements	Other Utilities such as Pipelines

Environmental History

Around 20,000 years ago, northeastern Minnesota was shaped by expanding and receding glacial ice, most recently by the Lake Superior Lobe of the Late Wisconsin glaciation period. A shift in climatic conditions that ended about 12,000 years ago resulted in warming of the area and melting of the glaciers. Runoff from the melting glacial ice deposited drift deposits that can be thin or absent as evidenced by exposed bedrock outcrops along the Lake Superior uplands within and near Study Corridor. The glacial drift deposits consist of sandy loamy till of the Cromwell Formation (Goebel and

others, 1983). The edges of the glaciers would first have been tundra that was succeeded by spruce and boreal forests. Grasslands receded and were overtaken by boreal forests and parkland. Pleistocene herbivores gave way to browsers in these areas. The current environment in the Study Corridor is a mix of developed urban land, forest, and shrub while wetland areas are dominated by marsh, lowland shrubs and lowland forests (Fitzpatrick and others 2006).

Cultural History

The human occupation of Northern Minnesota and the Study Corridor follows much of Minnesota. The earliest cultures belonged to the Paleoindian complexes from around 7,500 to 10,900 BC followed by the Archaic complexes (7,500 to 500 BC) and ending with Woodland complexes (500 BC to AD 1650) (Gibbon 2012). Each of these complexes are characterized by distinctive technologies and have been variously divided into substages of early, middle and late phases although they do not evenly share temporal distributions, and often overlap across the State.

Likely because of smaller populations and less permanent habitations, the evidence is scant for people of the Paleoindian cultures inhabiting the region. Only one excavated site within St. Louis County contains a verified artifact from this time period (Gibbon, 2012). [redacted] Many Paleoindian artifacts are single finds with unclear provenience (Gibbon 2012). The human population of the region at the time would have been required to shift from hunting the larger grazing species (i.e. Mastadon, mammoth) to other animals that had adapted better to the changing environment.

The Archaic period marks a shift in technology away from the distinctive fluted points of the Paleoindian cultures and includes additional technologies such as ground stone and copper tools. Many sites that are identified by lithic assemblages only, such as those found along the shore of Wild Rice Lake just north of the Study Corridor are often suggested to belong to the Archaic lifeway, but without corroborating datable evidence, these claims remain unconfirmed.

The Woodland period may be more represented by sites within the general region. Sites tend to be located along lakeshores riverbanks and overlooks. [redacted] indicates this type of environment played an important role for the people of the area throughout history.

The following historic background narrative of post-contact settlement of the area is summarized from a federally funded context study by Nancy Eubanks for the Duluth Heritage Preservation Commission in 1991 (*The Zenith City of The Unsalted Sea*).

Before Europeans settled in the vicinity, the French were trading in the Lake Superior region. In 1679 Daniel Greysolon Sieur du Lhut was one of the first Europeans to set foot in area. A fur trade post in present-day Superior was established in 1793 by Jean Baptiste Perrault, and by 1816 the American Fur Company had established a post on the north bank of the St. Louis River in Fond du Lac. In 1855 United States government ratified the Treaty of La Pointe with the Ojibwe Indians. This opened up the area for a rush of settlers and opportunists hoping to cash in on copper mining, and later lumbering

activities. The city of Duluth was platted in 1856 and incorporated in 1857. Settlement slowed somewhat during the Panic of 1857 but was again in full swing by the 1880s. Neighborhoods were developed, and Skyline Parkway became a popular route for scenic viewing. In the 1930s the Works Progress Administration (WPA) expanded and improved conditions along Skyline Parkway, notably for the current Project, an extension to the west to U.S. Highway 61.

During a conference call on January 14, 2021, SHPO informed Minnesota Power and HDR about a historic area with a series of historic homes [redacted]. In the 1930s, the Department of Interior's Division of Subsistence Homesteads and the WPA began a project known as The Duluth Homesteads, or the Jackson Project (Garvey 1978). One of about a hundred of such communities built as a remedy to the economic depression of the times, it was the hope that the Jackson Project, near present-day Hermantown, could provide individual homesteads with sufficient means for citizens to produce much of their own food. Sites were sold to prospective homesteaders with favorable loan rates. Originally to consist of 52 units on 400 acres of land, the project expanded so that by 1938, eighty-four homesteads were occupied. [redacted]

The Project components are proposed to be routed around the Duluth International Airport. The city of Duluth purchased 640 acres of land for the airport from Saint Louis County in 1929. By 1942, three 4,000-foot paved runways were operational. A terminal building with 280 parking spaces was added in 1954. One of the runways was closed after the construction of a new terminal building in 1971.

Records search results

On February 19, 2021 Michael Justin Consulting sent a request to the Minnesota SHPO for a list of recorded archaeological sites and inventoried historic structures within the proposed Study Corridor and including a one-mile buffer. Excel spreadsheets for both types of resources were returned in response. Results were also returned for a separate request for shapefiles for the historic structures. Location information for archaeological properties obtained from the recorded coordinates on individual site forms served as center points for mapping purposes. Because of restrictions in place to protect from the novel coronavirus, a visit to the SHPO files could not be conducted to obtain information on previous surveys that may intersect the area.

Archaeology Results

SHPO records show that 17 archaeological sites have been previously recorded within or near the Study Corridor plus a one-mile buffer. One of the recorded sites is within the Study Corridor and the remaining are within the one-mile buffer. Some appear to be adjacent to the Study Corridor boundary (Figure 2). None of the sites are currently listed on the National Register of Historic Places (NRHP), but most have not been formally evaluated for eligibility. The archaeological sites are included in Table 3 below.

[redacted]

[redacted]	[redacted]	[redacted]					[redacted]
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
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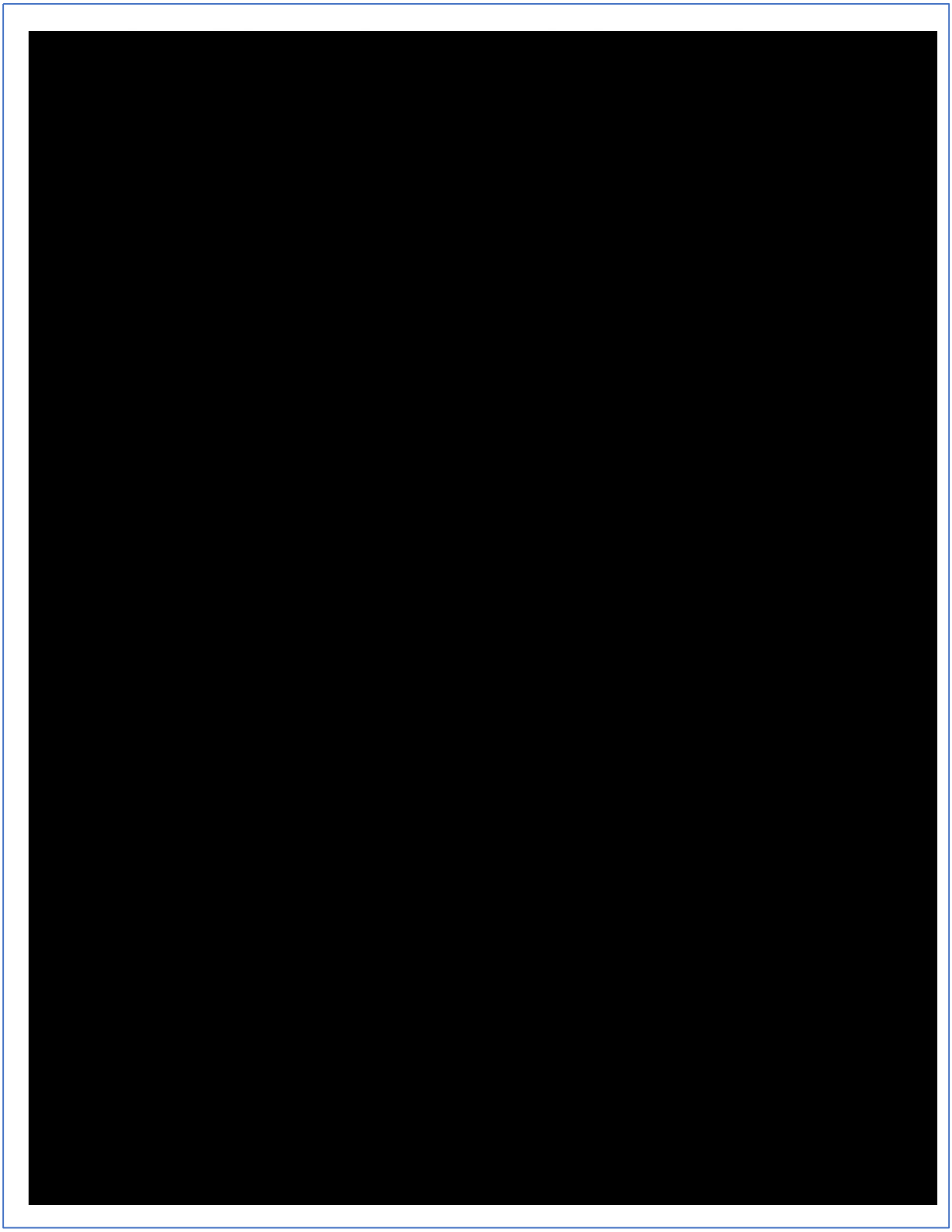

Architectural Results

The request resulted in 132 structures and linear historic features within the Study Corridor and one-mile buffer (Table 4 and Figure 3 below). (Note: The linear features are counted more than once and are assigned separate inventory numbers when they cross into a new township). There are two historic districts [redacted] and 3 individually listed properties on the NRHP [redacted], and 34 properties that have received enough scrutiny to be considered eligible for the NRHP, but are not yet listed. Other linear properties include [redacted].

Skyline Parkway was identified as a possible historic district in several studies in 1996 and 2011 (Nunnally 1996, Stark 2011). While the district boundaries generally conform to the roadway right-of-way, Stark outlined three situations where the boundary could be broadened.

> "1. The historic roadway right-of-way, where known, forms the minimal district boundaries.
> 2. Immediately adjacent properties may be included within the boundaries if they historically contribute to the recreational and scenic qualities that define Skyline Parkway.
> 3. Surrounding parks may be included within the district boundaries if the parkway forms an important and dominant feature of the park and if the establishment of the park and extant built features also date to the period of significance for the parkway" (Stark 2011).

Some properties in the Skyline Parkway district's *Western Extension Segment* (Lincoln Park Drive to Boundary Avenue*)* are within the Project's Study Corridor and/or one-mile buffer [redacted].

[redacted] there are a number of homes that were established in the 1930s as part of the New Deal Program from the WPA era that was known as the Jackson Project, as stated earlier. A total of 84 brick homesteads were constructed of varying sizes, some with barns. Thirty-two homes were identified and are not included in Table 4 below, as they do not have addresses associated with them and were not included in the inventory database provided by SHPO. Their general locations are depicted in Figure 4. These 32 properties are within the Study Corridor 1-mile buffer. Others may exist. The properties appear on historic aerial photographs from 1940 (Figures 5 & 6).

Twenty-one of the SHPO inventory properties intersect with the Study Corridor. These include 4 bridges, 1 public works building, 1 church, 1 military facility, 1 commercial building, 11 houses and 2 roadways. Most of the SHPO inventory properties lie outside the Study Corridor, but within the one-mile buffer. It is not known how many of these structures are extant, or if they have enough integrity to qualify for the NRHP.

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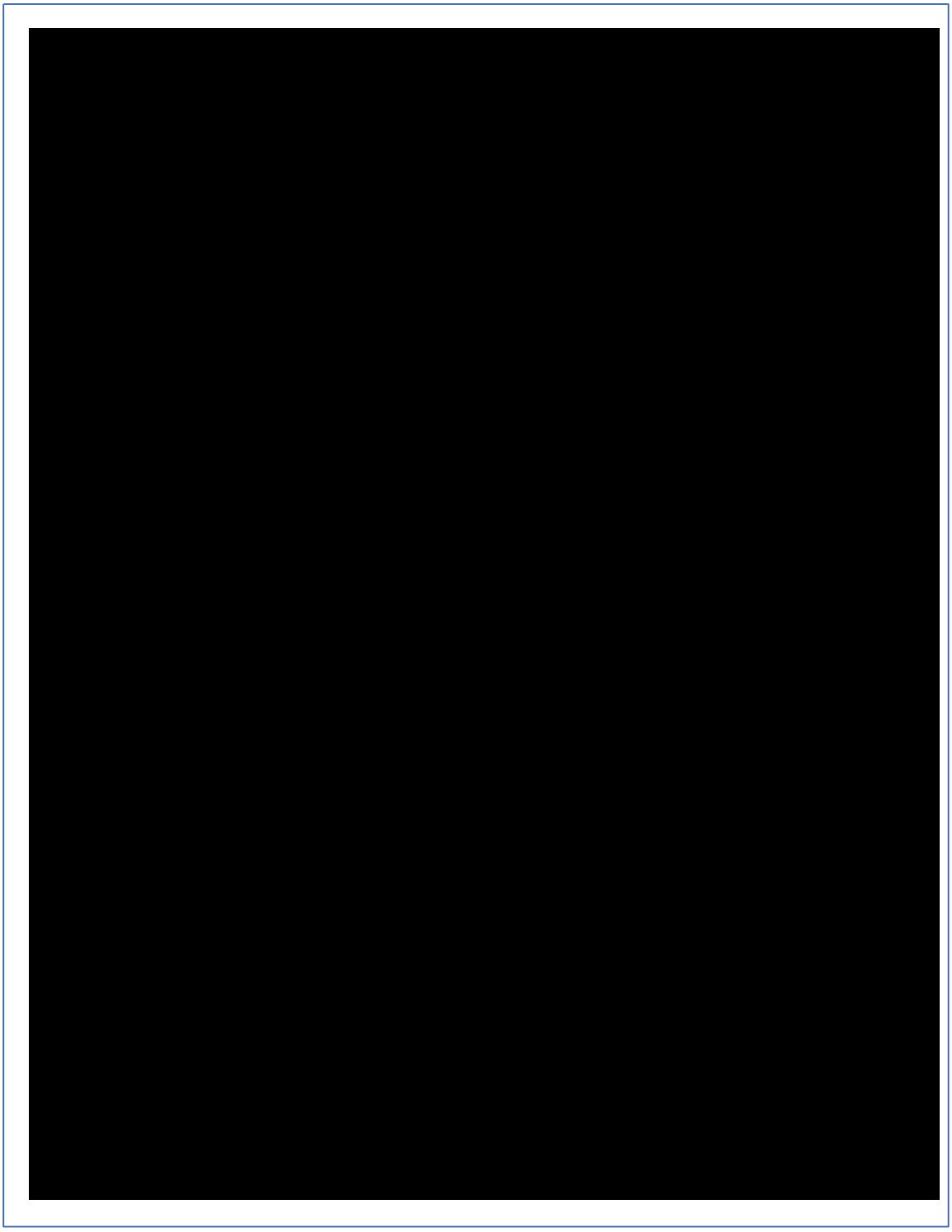
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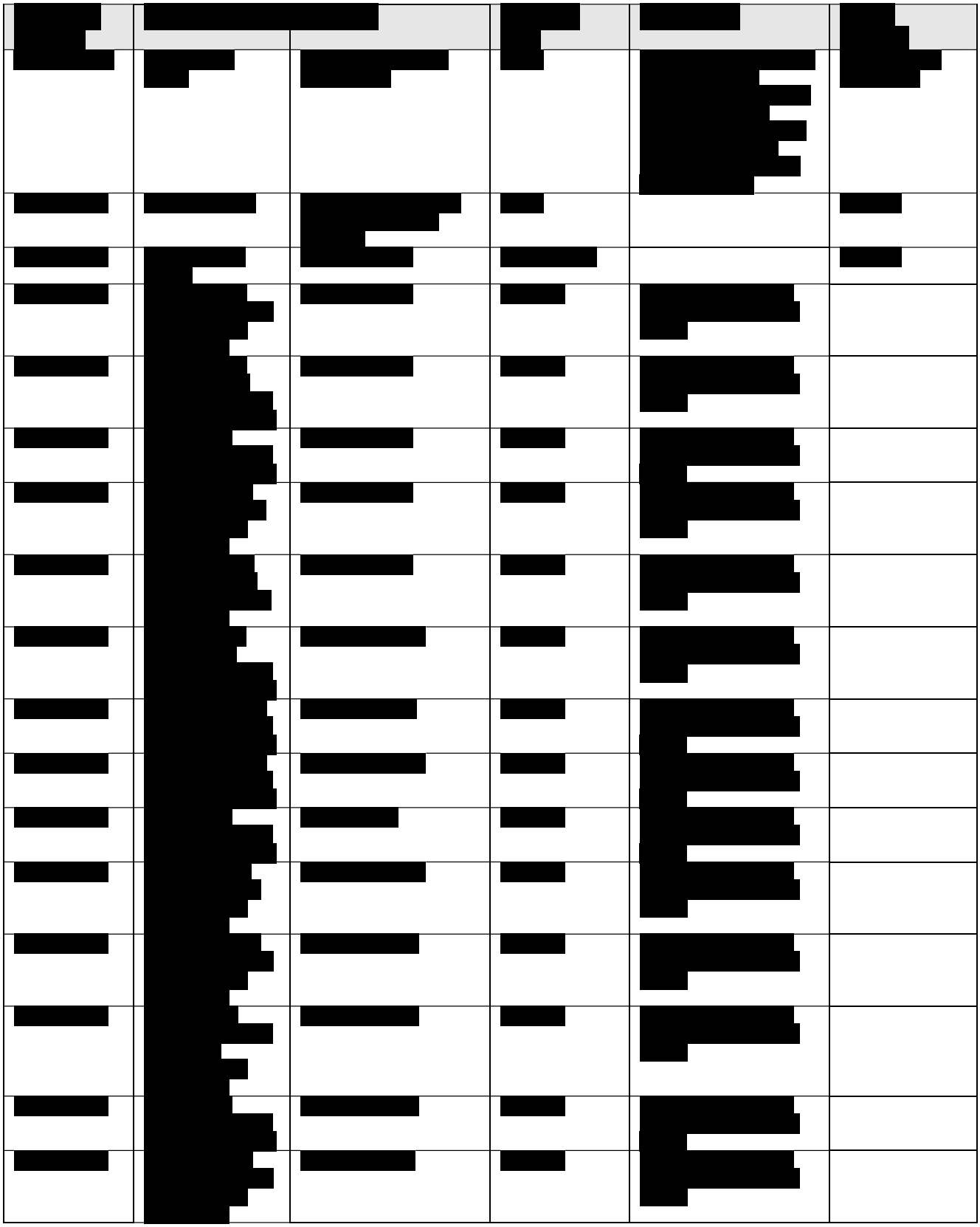

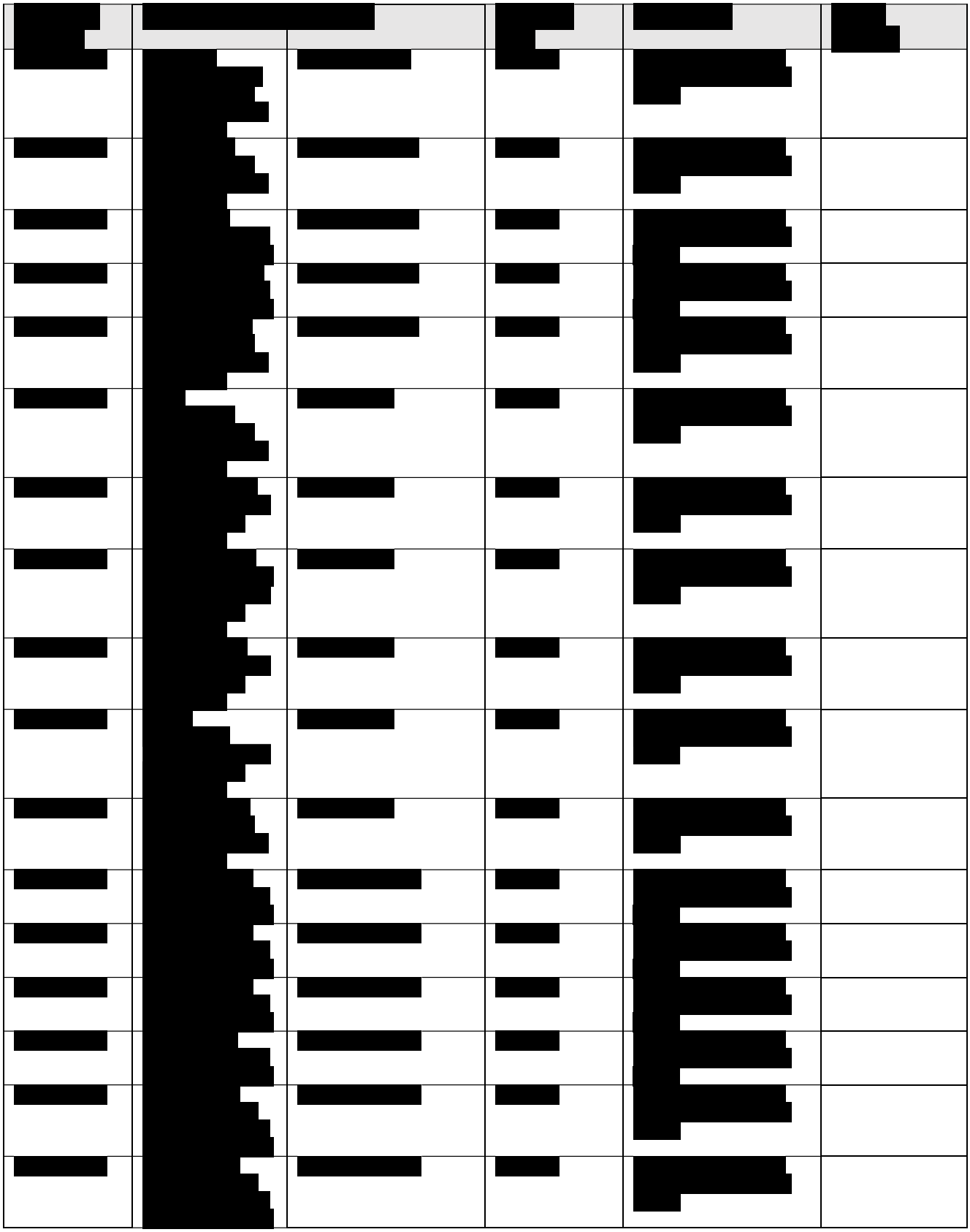

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GLO Results

Each section within the Study Corridor was checked for possible historic resources by using cached historic plat maps available from the OSA Portal. The Portal indicates that this layer shows georeferenced public land survey plat maps created between 1848 and 1907 provided by MnGEO. For more information see: https://gisdata.mn.gov/dataset/plan-glo-plat-maps-georef and http://www.mngeo.state.mn.us/glo/index.html.

Twenty-three resources were noted that intersect with the Study Corridor on the plats (Table 5). Features included trails and roads, houses, fields, and one sawmill. Six sections contain features intersecting with the Study Corridor. These sections contain portions of two historic trails, the “Wild Rice Lake Trail”, and the “Road from Lake Superior to the Mississippi River”. Some resources, [redacted]. All the features that intersect the Study Corridor are roads or trails.

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Unrecorded Historic Cemeteries

In addition to the three cemeteries recorded in the OSA database, the database also includes six unrecorded historic cemeteries that are not included as architectural features, nor archaeological sites. These may be cemeteries that are abandoned or are still in use and not considered part of the archaeological record and have not been formally recorded. A study in 2011 by Vermeer and Terrell included the following definition: "*an unrecorded cemetery is a cemetery for which an official record is not filed at the state or county level*" (Vermeer and Terrell 2011). As such, they do not have an official state inventory number associated with them, although they are often noted on historic maps. There are four cemeteries within the Study Corridor and two that are outside the Study Corridor but within the one-mile buffer (Figure 8). These all show on USGS topographical maps and are listed in Table 6. One cemetery, the Hermantown Cemetery, is within the boundaries of a proposed route.

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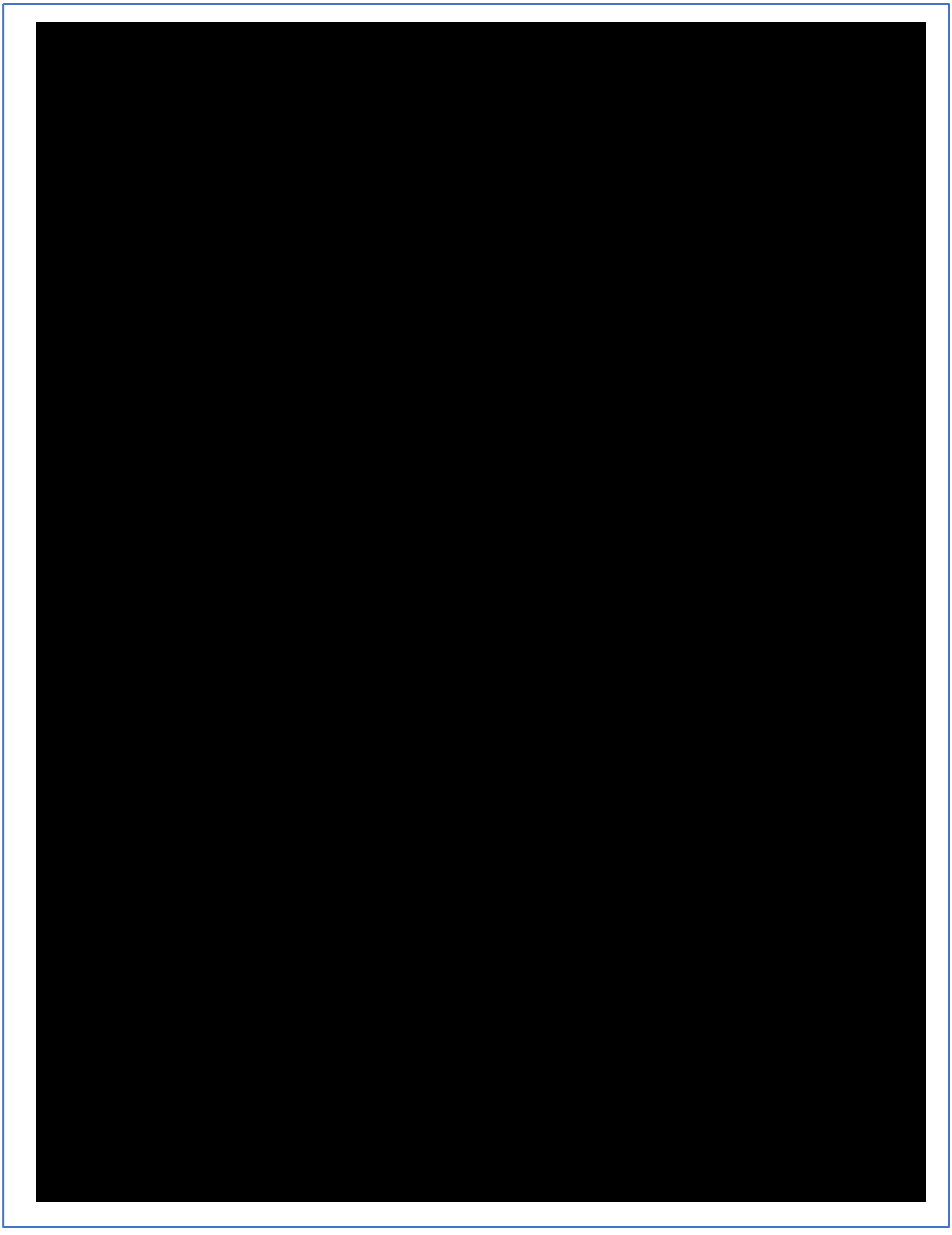
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Conclusions and Recommendations

The records and literature search shows that 17 previously recorded archaeological sites are within one mile of the Study Corridor. One of the 17 previously recorded archaeological sites is within the Study Corridor. The fact that sites do exist near and within one mile of the Study Corridor gives an indication that as yet unrecorded precontact use sites may be within a proposed route. Within the geographic area, sites may be found along the shores of lakes, rivers, and streams (Anfinson 1990).

The records search indicates that 21 architectural properties including two road segments exist within the Study Corridor, and that other architectural properties are within one mile. At least two historic districts, [redacted] are within or near the Study Corridor boundaries. The Study Corridor intersects with two historic trails and roads as shown on GLO maps dating between 1848 and 1907, and the Study Corridor crosses one inventoried linear feature [redacted]. It is unknown if any portions of these original trails and roads still exist or what condition they may be in. If they can be identified by a field visit, a review of their integrity by a professional historian is warranted. Special note should be taken of the historic Hermantown cemetery, which appears to be within a proposed Route Alternative.

Table 7 summarizes all the potential properties that are within the proposed route Study Corridor and excludes those in the one-mile buffer.

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A thorough field review of a proposed route should be conducted for potential archaeological and historic properties that the Project could adversely affect, either directly or indirectly, within the APE, unless they can be shown to have been adequately reviewed under previous surveys. Any historic property identified within the APE should be evaluated by looking at it within historic contexts as defined, described and developed by the SHPO. Appropriate prehistoric contexts should be used for any precontact archaeological site. For historic-era properties, some contexts might include, among others:

- Minnesota's Iron Ore Industry, 1880s-1945
- Northern Minnesota Lumbering, 1870-1930s
- Railroads and Agricultural Development, 1870-1945
- Shipping, 1870-1940
- The Fur Trade Around Western Lake Superior, 1650-1840
- Early Settlement, pre-1870
- Industry and Commerce, 1870-1940
- Community Institutions, 1870-1940
- Neighborhoods, 1870-1940
- Minnesota Farms 1820-1960”

Other contexts could be developed as needed, particularly when addressing the WPA-era homes [redacted], or linear properties. When dealing with historic cemeteries, National Register Bulletin Number 41, “Guidelines for Evaluating and Registering Cemeteries and Burial Places” (Potter and Boland 1992), should be consulted.

Additional investigations to identify archaeological sites, and to verify NRHP-eligible architectural properties is recommended. Consultation with SHPO and other state and federal agencies, tribes and historic organizations is recommended to define an appropriate APE for the project.

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