US Army Corps of Engineers
St Paul District

APPLICANT: Myron Jesme
Red Lake Watershed District

Public Notice

ISSUED: January 15, 2014
EXPIRES: February 14, 2014

REFER TO: 2012-05389-CLJ

SECTION:404 - Clean Water Act

1. APPLICATION FOR PERMIT TO discharge dredged and fill material into 50.52 acres of the Brandt Channel and 0.42 acres of wetlands adjacent to the Brandt Channel for the purpose of increasing the capacity of the Brandt Channel in Polk County, Minnesota.

2. SPECIFIC INFORMATION.

APPLICANT'S ADDRESS: Myron Jesme
Red Lake Watershed District
1000 Pennington Avenue South
Thief River Falls, Minnesota 56701

AGENT: Nate Dalager, HDR Engineering, Inc.

AGENT'S ADDRESS: 324 2nd Street East
Thief River Falls, Minnesota 56701

PROJECT LOCATION: The project site is located in:

T. 152N., R. 47W., Sections 5, 6, 8, 9, 10, 11
T. 153N., R. 47W., Sections 30, 31, 32
T. 153N., R. 48W., Sections 25, 26, 27, 28

The approximate decimal degrees for this site begin at Latitude 48.050 and Longitude -96.825 and end at Latitude 47.999 and Longitude -96.654.

BACKGROUND: The Brandt Channel proposal is a component of a multi-faceted plan for the Grand Marais Creek watershed. The overall plan, Project 60, concept includes retention, channel improvements, and environmental restoration to address flooding related issues in the Grand Marais Creek Watershed. The flood damage reduction goals for Project 60 include 100 year, 24-hour flood protection for structures and 10 year, 24-hour protection for agricultural operations as outlined in the Flood Damage Reduction Mediation Agreement. In addition to flood damage reduction, Project 60 incorporates outlet stabilization and channel restoration. To date, three elements of the Project 60 plan have received CWA Section 404 authorizations and have been constructed or are in the process of being constructed. These elements include: Grand Marais Creek Cut-Off channel stabilization (2012-00440-CLJ), Grand Marais Creek Restoration (2012-00427-CLJ), and the Brandt Impoundment (2005-06616-WAB). The Brandt Channel/Red Lake Watershed District (RLWD) Ditch #15 proposal is another component to help reach the goals of Project 60.

DESCRIPTION OF PROJECT: The Brandt Channel is a natural watercourse that has been straightened and channelized to increase drainage in the area. Currently, the Brandt Channel conveys a 2-year flow event before the water overtops the banks and disperses into the adjacent area. Much of the area where the water flows is through agricultural fields and results in damage to agricultural fields and potential crop loss. As a result, landowners with property adjacent to the Brandt Channel have filed a petition in accordance with Minnesota State Statute 103E for the Red Lake Watershed District (RLWD) to consider the establishment of RLWD Ditch #15 and increase the hydraulic capacity of the Brandt Channel /RLWD Ditch #15 to contain flows within the channel from a 10-year, 24-hour rain event (3.5 inches) occurring downstream of the Brandt Impoundment.

The applicant has determined that increased drainage can be achieved by widening the channel bottom, flattening the side slopes, lowering the channel bottom, and addressing culvert deficiencies. To achieve the increase in channel capacity and contain flows from a 10-yr, 24-hr rain event occurring immediately downstream of the Brandt Impoundment, the applicant is proposing to construct a channel with a 15-foot wide bottom, 3:1 (H:V) side slopes, and construct berms in the upland areas. The project would also include channel realignment at 2 locations, installation of side inlet structures at major field drainages entering the Brandt Channel/RLWD Ditch #15, and establishment of a 20-foot vegetated permanent buffer on each side of the channel. No berms would be constructed in wetlands abutting the channel except where required for the side inlet structures. The project would begin in Polk County Ditch 2 (CD 2) near 360th Street and continue through the Brandt Channel east to Highway 75. The total project length is approximately 7.95 miles.

The proposed project is located approximately 2 miles downstream of the Brandt Impoundment which was constructed to provide flood damage reductions to areas downstream of the impoundment. The impoundment does provide a reduction in flows through the Brandt Channel; however, the impoundment does not mitigate flows through the Brandt Channel should a 10 year, 24-hour rain event occur in the Brandt Channel drainage area, approximately 17 square miles, below the impoundment.

QUANTITY, TYPE, AND AREA OF FILL: Approximately 0.42 acres of wetland would be filled as a result of installing 10 side inlet structures and placement of rock riprap at the outlet of the side inlet structures. Construction of the side inlet structures would include placing fill material in wetlands to construct a berm over the top of a pipe and installing rock riprap at the outlet of the pipe to reduce potential erosion. Realignment of the channel at 2 locations would result in fill being placed in approximately 1.37 acres and 1.65 acres of the existing channel at the northern realignment and southern realignment, respectively. Fill placed in the existing channel would be taken from the excavated area for the 2 realignments.

The project would also include the redeposit of dredge material as a result of constructing a wider channel. Shaping of the channel would occur along the entire length of the existing Brandt Channel except at the two locations which would be completely filled as a result of the realignments. On average, the existing channel is approximately 50-feet wide from the top of bank to top of bank. Redeposition of dredge material would occur in approximately 47.5 acres of the Brandt Channel.

In total, the project proposes to discharge dredged and fill material into 50.94 acres of aquatic resource.

VEGETATION IN AFFECTED AREA: Vegetation in the Brandt Channel is generally composed of cattails species, arrowhead, bulrushes, and other emergent aquatic macrophytes typical of an intermittent waterway. Seasonally flooded (Type 1) and fresh wet meadow (Type 2) wetlands within the project corridor are dominated by Reed Canary Grass,

SOURCE OF FILL MATERIAL: Fill material will either be purchased from a licensed contractor or will consist of material excavated at the project site.

SURROUNDING LAND USE: Land use adjacent to the project corridor is dominated by agricultural operations.

DESCRIPTION OF DREDGING OR EXCAVATION: Excavation will be conducted along approximately 7.95 miles of the Brandt Channel and CD 2 combined to increase the dimensions of the channels. Excavation required for increasing the capacity of the channel will result in approximately 10 additional acres of Brandt Channel/RLWD Ditch #15.

ALTERNATIVES: The applicant evaluated a number of alternatives to the proposed project. Alternative 1 (no action alternative) would result in leaving the existing channel as is. Under this alternative, the adjacent agricultural fields would be subject to current levels of flooding. Alternative 2 is the applicant's preferred alternative as described above. Alternative 3 is similar to Alternative 2, but would incorporate a 20-foot wide ditch bottom instead of a 15-foot wide ditch bottom. Alternative 3 was dismissed due to the additional cost of constructing a larger channel. Alternative 4, which includes full channel restoration, two stage ditch design, and setback levees, was evaluated and dismissed due to additional land acquisition required resulting in additional costs.

The agent specifically assessed a the two-stage ditch design alternative and determined this alternative would typically increase the cost of the project by 25% when compared to the traditional trapezoidal ditch design due to additional engineering, project administration, excavation, extended project timelines, and additional right-of-way required for implementation. The agent also discussed dismissal of the two-stage design alternative based on Minnesota State Statute 103E which requires a detailed evaluation of costs and benefits that meet the expectations and needs of the petitioners. The benefits must exceed the costs in order for the project to legally proceed. The statute, then, guides the engineer to develop a reasonable least cost alternative resulting in a project with costs being less than the benefits. Therefore, the statute does not allow for a more costly alternative to be considered or chosen unless the petitioners specifically provide the funds for a more expensive alternative, or additional funding sources are identified.

Alternative 5 includes the same components as Alternative 2 except the channel bottom would be 12 feet wide instead of 15 feet wide. While Alternative 5 provides a reduction in flood damages and is less expensive, the benefits of Alternative 5 are not as significant as Alternative 2, and the return on investment in terms of drainage and flood damage reduction is less. Alternative 5 would provide flood damage protection for a 5-yr event. This design in combination with the Brandt Impoundment would provide flood damage reduction to land along the Brandt Channel for a 10-yr, 24-hr event. However, Alternative 5 would not provide flood damage protection should a 10-yr, 24-hr event occur downstream of the impoundment. The agent has identified a unique climatological phenomenon where

it is not uncommon to have significant rainfall events occur just downstream (west) of the Brandt Impoundment possibly due to the prominent beach ridges to the east; much like an orographic effect.

THE FOLLOWING POTENTIALLY TOXIC MATERIALS COULD BE USED AT THE PROJECT SITE: The applicant has indicated that only clean fill material would be used for the construction of berms and side inlet structures. No use of toxic materials has been identified by the applicant.

THE FOLLOWING PRECAUTIONS TO PROTECT WATER QUALITY HAVE BEEN DESCRIBED BY THE APPLICANT: The applicant has indicated that Best Management Practices (BMPs) would be used to reduce erosion and protect water quality. The applicant would be required to prepare a Storm Water Pollution Prevention Plan, as this proposal would disturb greater than one acre of soil.

MITIGATION: For impacts to wetlands associated with the installation of the side inlet structures, the applicant is proposing to use the beneficial effect of the side inlet structures as well as the establishment of a 20-foot wide grass buffer along the channel as mitigation for fill impacts associated with the construction of the side inlet structures. The applicant has indicated the side inlet structures will reduce erosion and sedimentation resulting from field drainage entering the channel which ultimately causes sedimentation and a reduction in water quality to the Brandt Channel and downstream receiving waters.

Realignment of the channel at 2 locations will impact approximately 3.02 acres of the Brandt Channel. The applicant proposes to create approximately 3.06 acres of channel which would serve as mitigation for the impacts to the exiting channel at the 2 locations.

3. REPLIES/COMMENTS.

Interested parties are invited to submit to this office written facts, arguments, or objections within 30 days of the date of this notice. These statements should bear upon the suitability of the location and the adequacy of the project and should, if appropriate, suggest any changes believed to be desirable. Comments received may be forwarded to the applicant.

Replies may be addressed to Regulatory Branch, St. Paul District, Corps of Engineers, 180 Fifth Street East, Suite 700, Saint Paul, MN 55101-1678.

Or, IF YOU HAVE QUESTIONS ABOUT THE PROJECT, call Craig Jarnot at the Bemidji Regulatory field office of the Corps, telephone number (651) 290 - 5337.

To receive Public Notices by e-mail, go to: http://www2.mvp.usace.army.mil/list_server/ and add your information in the New Registration Box.

4. FEDERALLY-LISTED THREATENED OR ENDANGERED WILDLIFE OR PLANTS OR THEIR CRITICAL HABITAT.

None were identified by the applicant or are known to exist in the permit area. However, Polk County is within the known or historic range of the following Federally-listed threatened (T) and endangered (E) species:

Species	Habitat
Western prairie fringed orchid (*Platanthera praeclara*)	Wet prairies and sedge meadows

This application is being coordinated with the U.S. Fish and Wildlife Service. Any comments it may have concerning Federally-listed threatened or endangered wildlife or plants or their critical habitat will be considered in our final assessment of the described work.

5. JURISDICTION.

This application is being reviewed in accordance with the practices for documenting Corps jurisdiction under Sections 9 & 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act identified in Regulatory Guidance Letter 08-02. We have made an initial determination that the aquatic resources that would be impacted by the proposed project are regulated by the Corps of Engineers under Section 404 of the Clean Water Act and/or Section(s) 9 & 10 of the Rivers and Harbors Act. The Corps will prepare an approved or preliminary jurisdictional determination prior to making a permit decision. Approved jurisdictional determinations are posted on the St. Paul District web page at http://www.mvp.usace.army.mil/Missions/Regulatory.aspx.

THE APPLICANT HAS STATED THAT THE FOLLOWING STATE, COUNTY, AND/OR LOCAL PERMITS HAVE BEEN APPLIED FOR/ISSUED:

6. STATE SECTION 401 WATER QUALITY CERTIFICATION.
Valid Section 404 permits cannot be issued for any activity unless state water quality certification for the activity is granted or waived pursuant to Section 401 of the Clean Water Act. The state Section 401 authority in Minnesota is the Minnesota Pollution Control Agency (MPCA). The St. Paul District has provided this public notice and a copy of the applicant's Section 404 permit application form to the MPCA. If MPCA needs any additional information in order for the Section 401 application to be considered complete by MPCA, the MPCA has indicated that it will request such information from the applicant. It is the permit applicant's responsibility to ensure that the MPCA has received a valid, complete application for state Section 401 certification and to obtain a final Section 401 action from the MPCA.

The MPCA has indicated that this public notice serves as its public notice of the application for Section 401 water quality certification under Minnesota Rules Part 7001. The MPCA has also indicated that the Section 401 process shall begin to commence upon the issuance date of this public notice unless the MPCA notifies both the St. Paul District and the permit applicant to the contrary, in writing, before the expiration date of this public notice.

Any comments relative to MPCA's Section 401 Certification for the activity proposed in this public notice may be sent to:

> Minnesota Pollution Control Agency, Resource Management and Assistance Division, Attention: 401 Certification, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194.

7. HISTORICAL/ARCHAEOLOGICAL.

The Corps will review information on known cultural resources and/or historic properties within and adjacent to the project area. The Corps will also consider the potential effects of the project on any properties that have yet to be identified. The results of this review and the Corps' determination of effect will be coordinated with the State Historic Preservation Officer independent of this public notice. Any adverse effects on historic properties will be resolved prior to the Corps authorization, or approval, of the work in connection with this project.

8. PUBLIC HEARING REQUESTS.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, in detail, the reasons for holding a public hearing. A request may be denied if substantive reasons for holding a hearing are not provided or if there is otherwise no valid interest to be served.

9. PUBLIC INTEREST REVIEW.

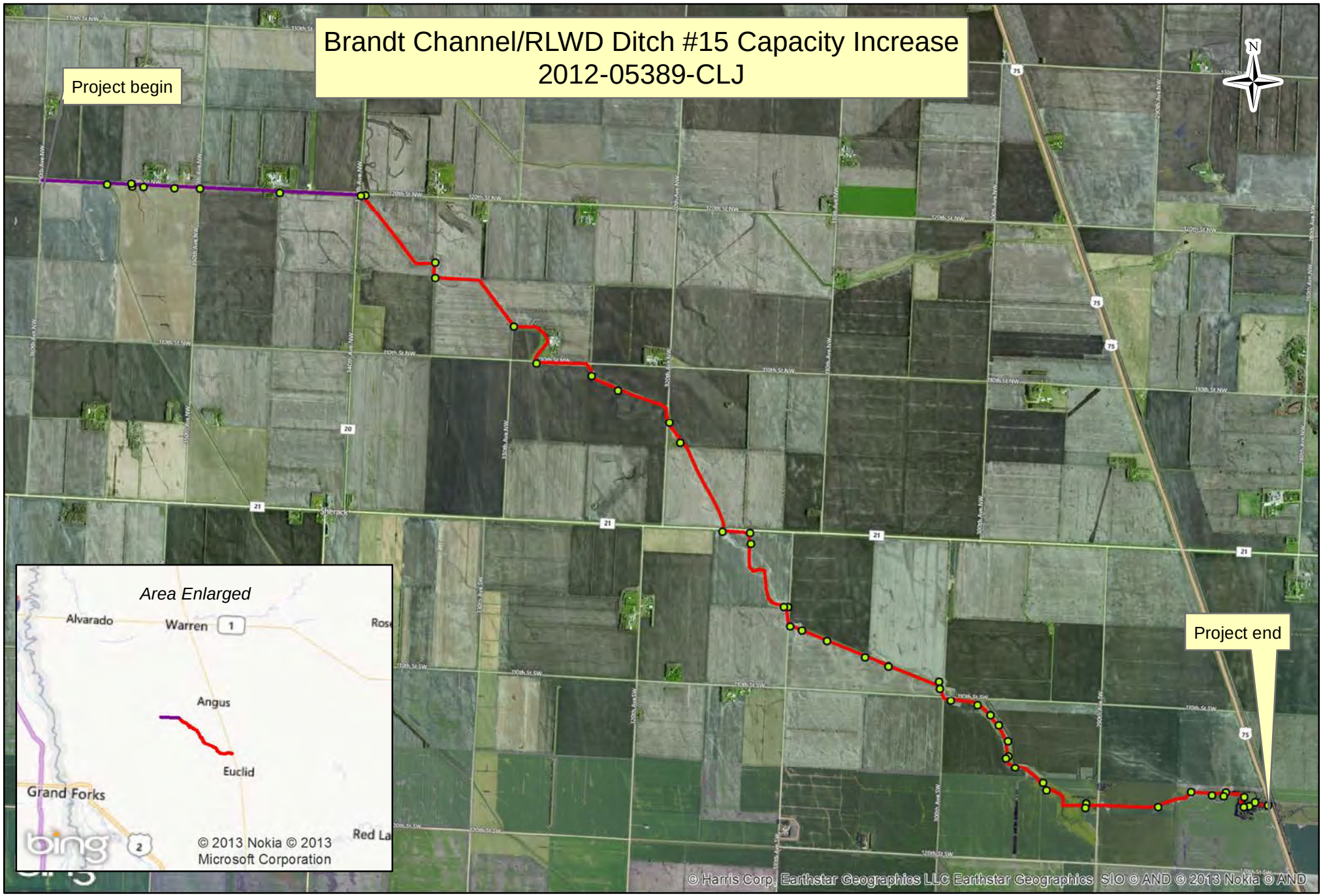
The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects. Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production and, in general, the needs and welfare of the people. Environmental and other documents will be available for review in the St. Paul District Office.

The Corps of Engineers is soliciting comments from the public; Federal, State, and local agencies and officials; Indian tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Jeffrey M. Olson
Chief, Northwest Section

Enclosures

NOTICE TO EDITORS: This public notice is provided as background information and is not a request or contract for publication.



More detailed plan sheets area available. Please contact the Regulatory Project Manager listed in the Public Notice for more information.

Overview of Proposed Impacts

0 0.5 1 2 Miles

Wetland Basin Locations

Polk County Ditch 2

Brandt Channel

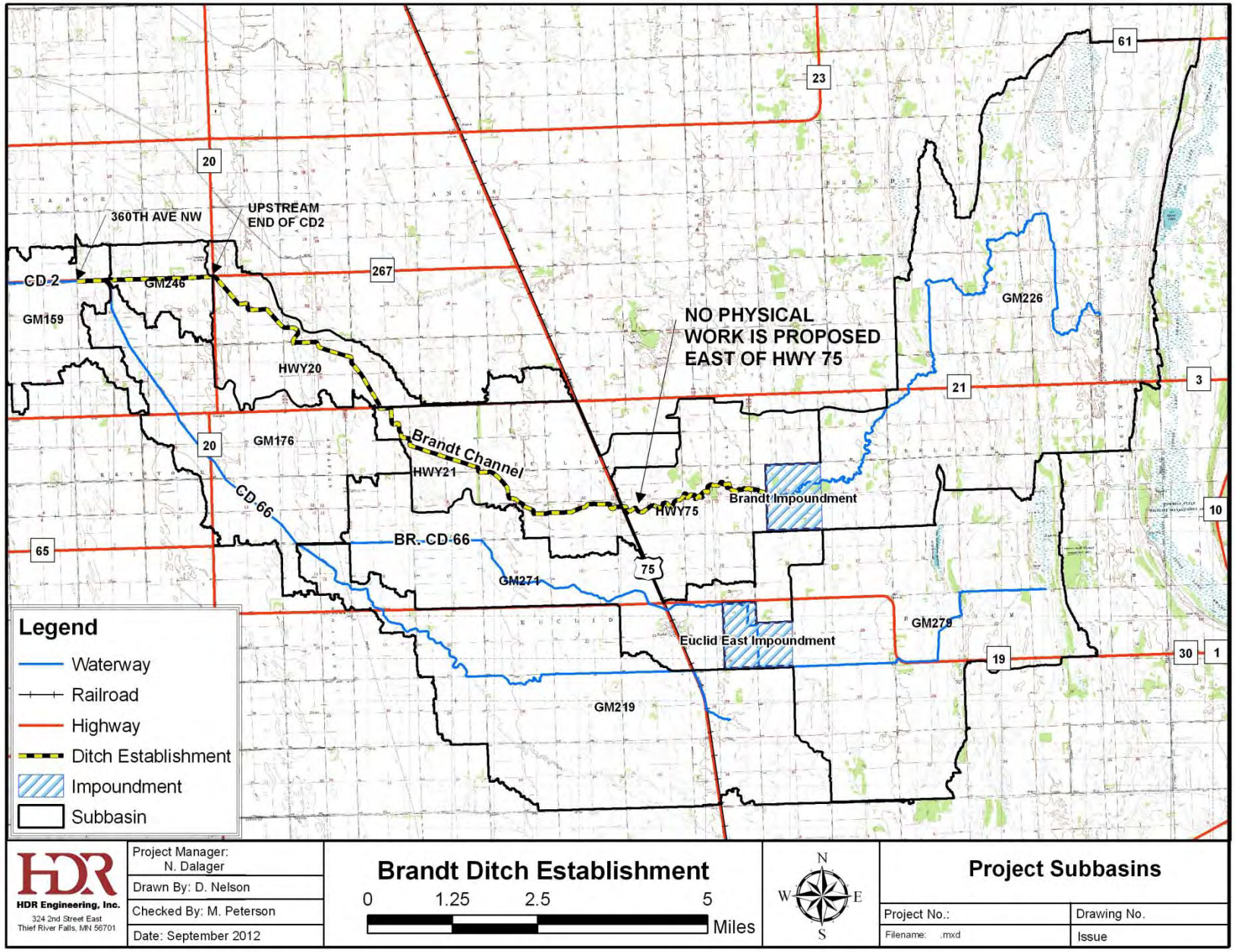
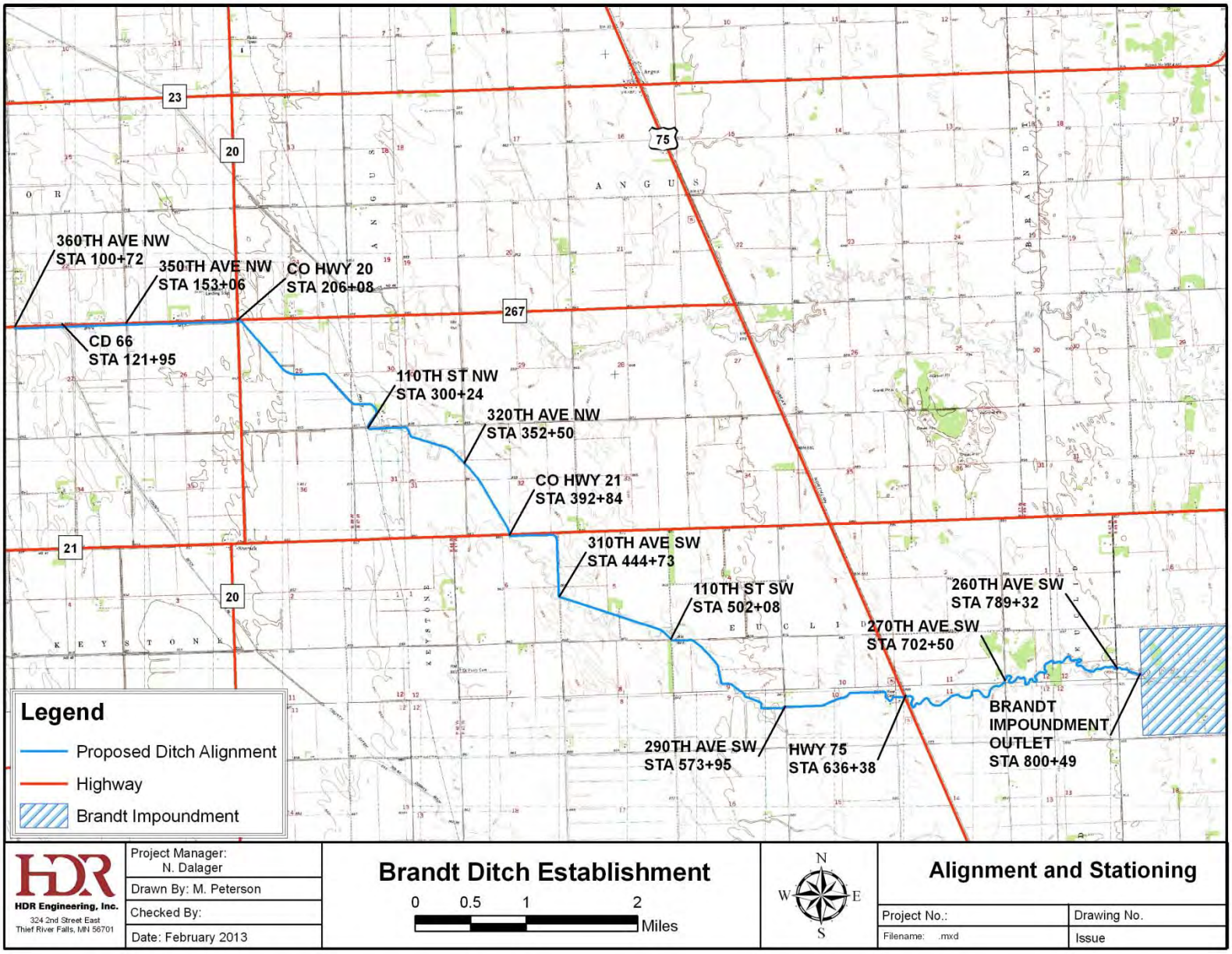


FIGURE 2: DRAINAGE AREA MAP



HDR Engineering, Inc.
324 2nd Street East
Thief River Falls, MN 56701

Project Manager: N. Dalager
Drawn By: M. Peterson
Checked By:
Date: February 2013

Brandt Ditch Establishment

0 0.5 1 2 Miles

N W E S

Alignment and Stationing

Project No.:
Filename: .mxd
Drawing No.
Issue

FIGURE 3: ALIGNMENT AND STATIONING

Brandt Impoundment Outlet Ditch
RLWD Ditch # 15
404 Permit Application
Red Lake Watershed District

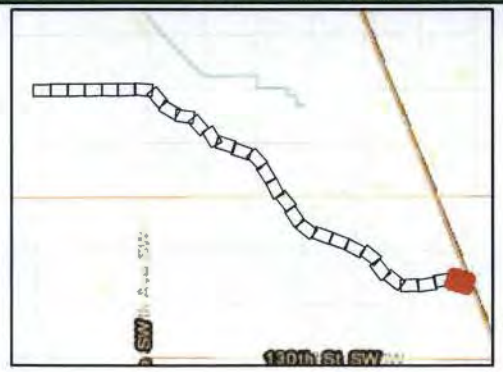
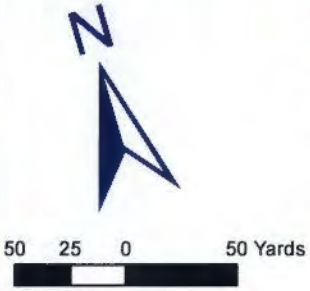


Figure A-2



Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

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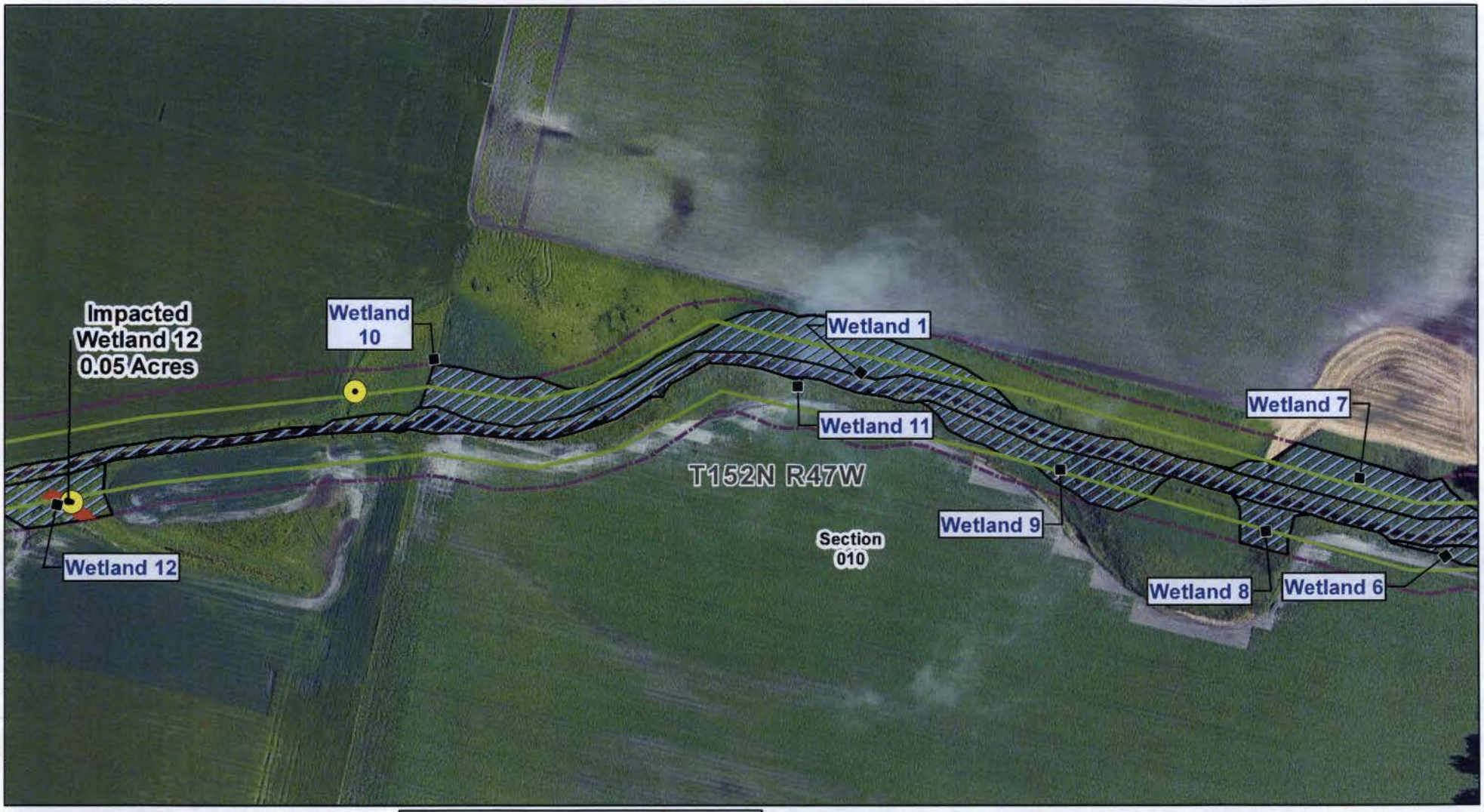

Brandt Impoundment Outlet Ditch
RLWD Ditch # 15
404 Permit Application
Red Lake Watershed District

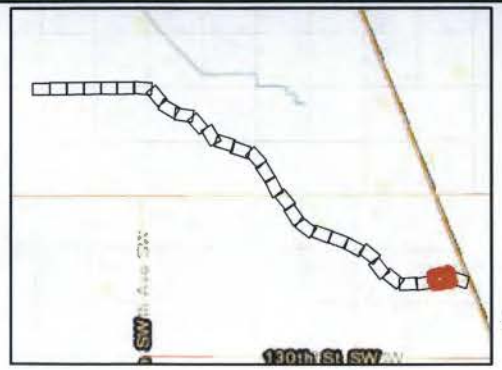

Figure A-3

N

50 25 0 50 Yards

Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

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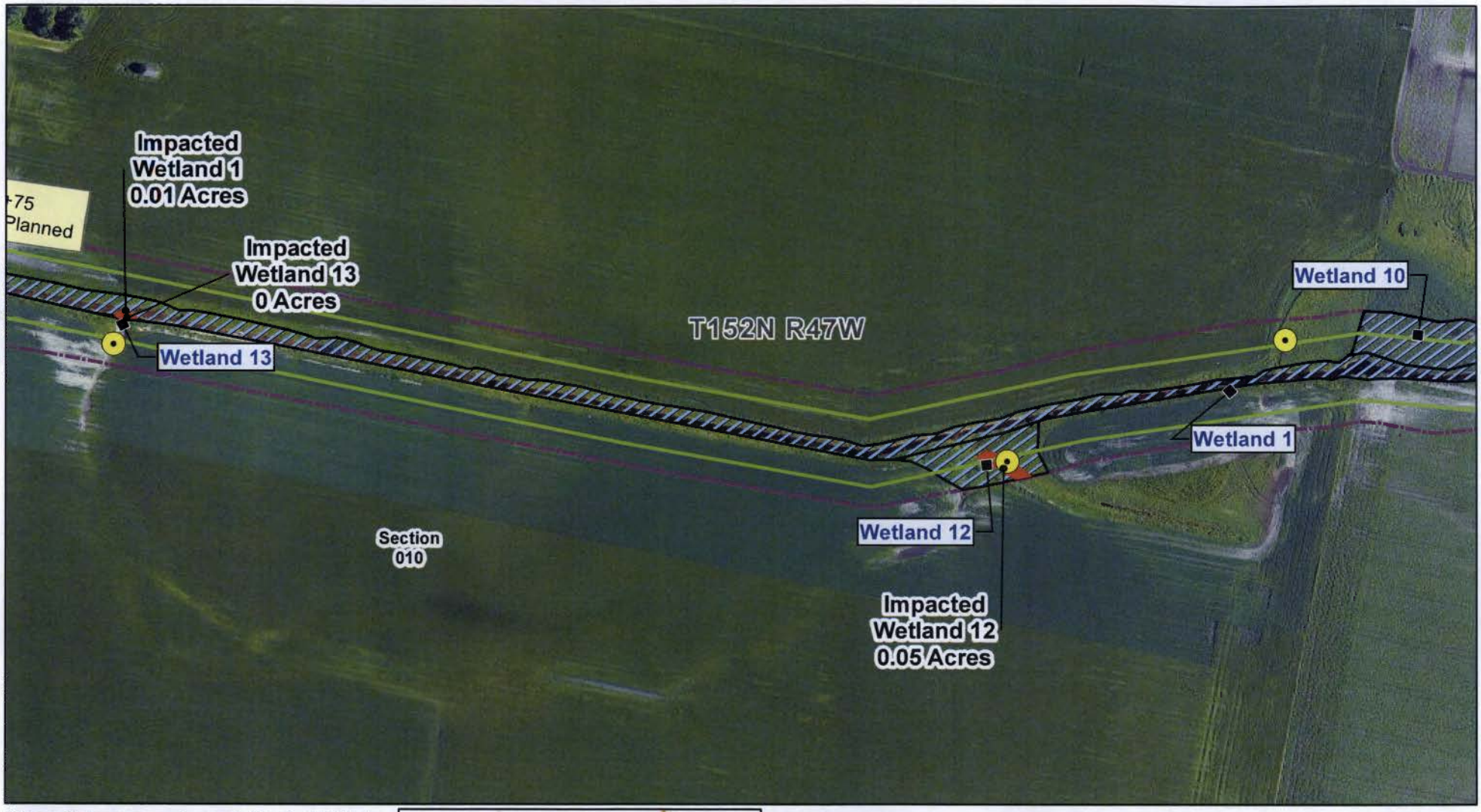

Brandt Impoundment Outlet Ditch
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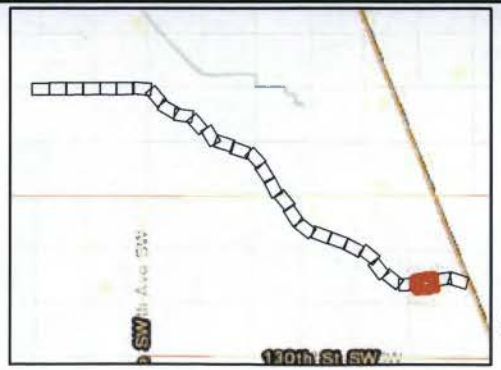

Figure A-4

N

50 25 0 50 Yards

Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

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Brandt Impoundment Outlet Ditch
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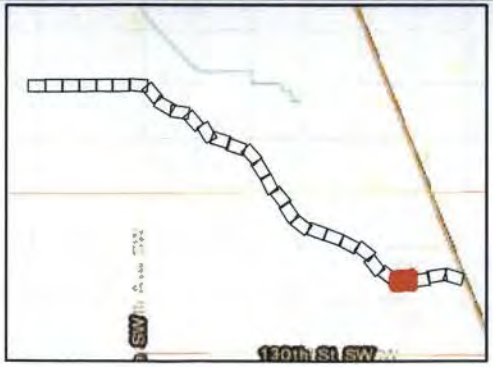

Figure A-5

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50 25 0 50 Yards

Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
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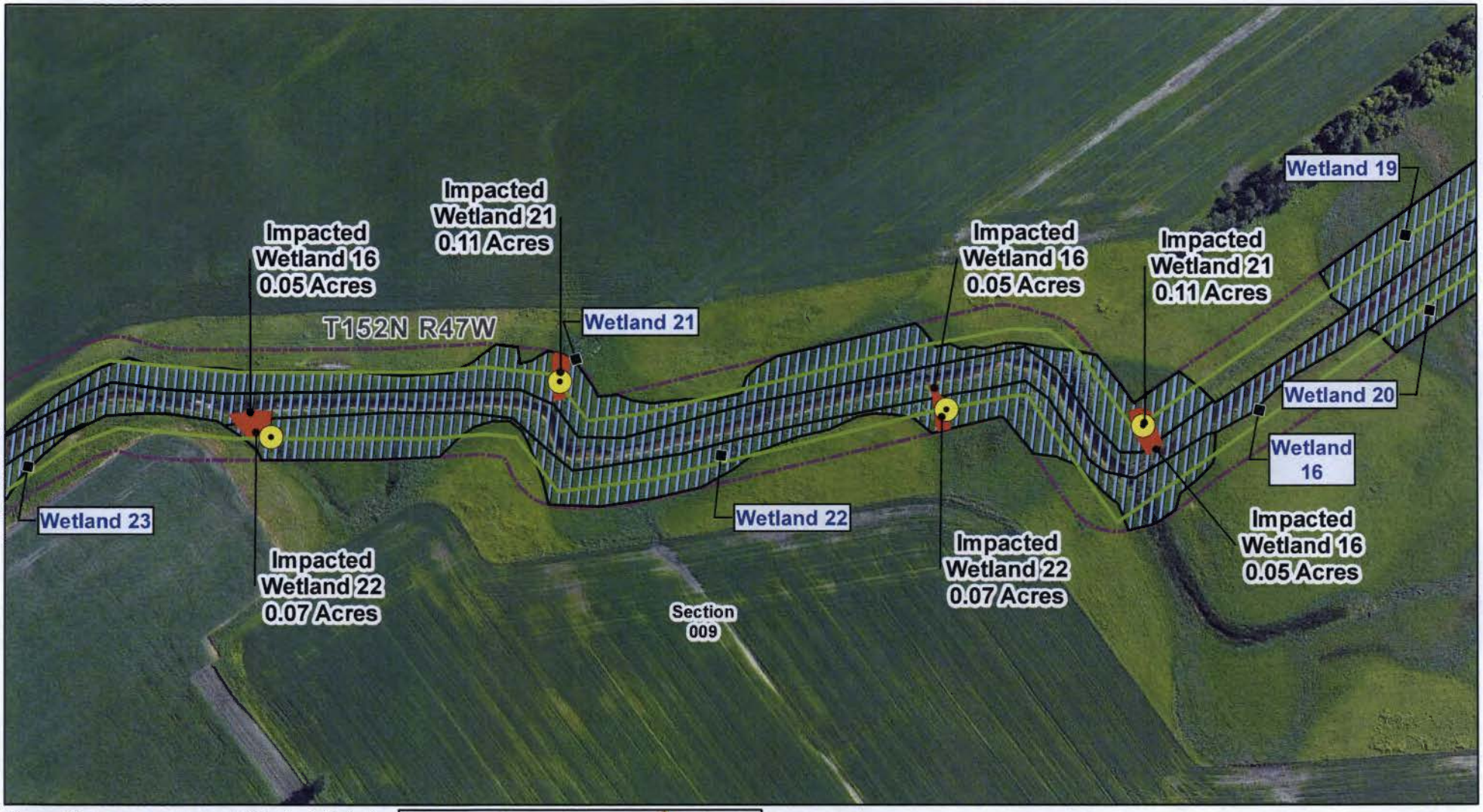

Brandt Impoundment Outlet Ditch
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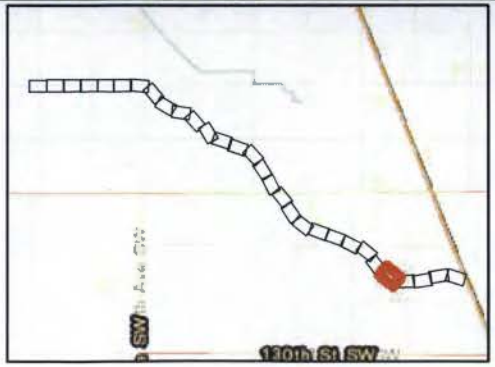

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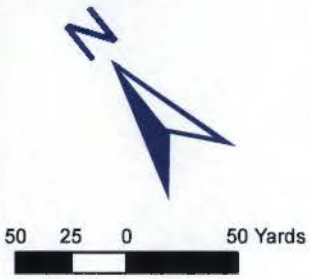

Wetland Impacts
Delineated Wetlands
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Grass Buffer Area

Side Water Inlet Location
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Proposed

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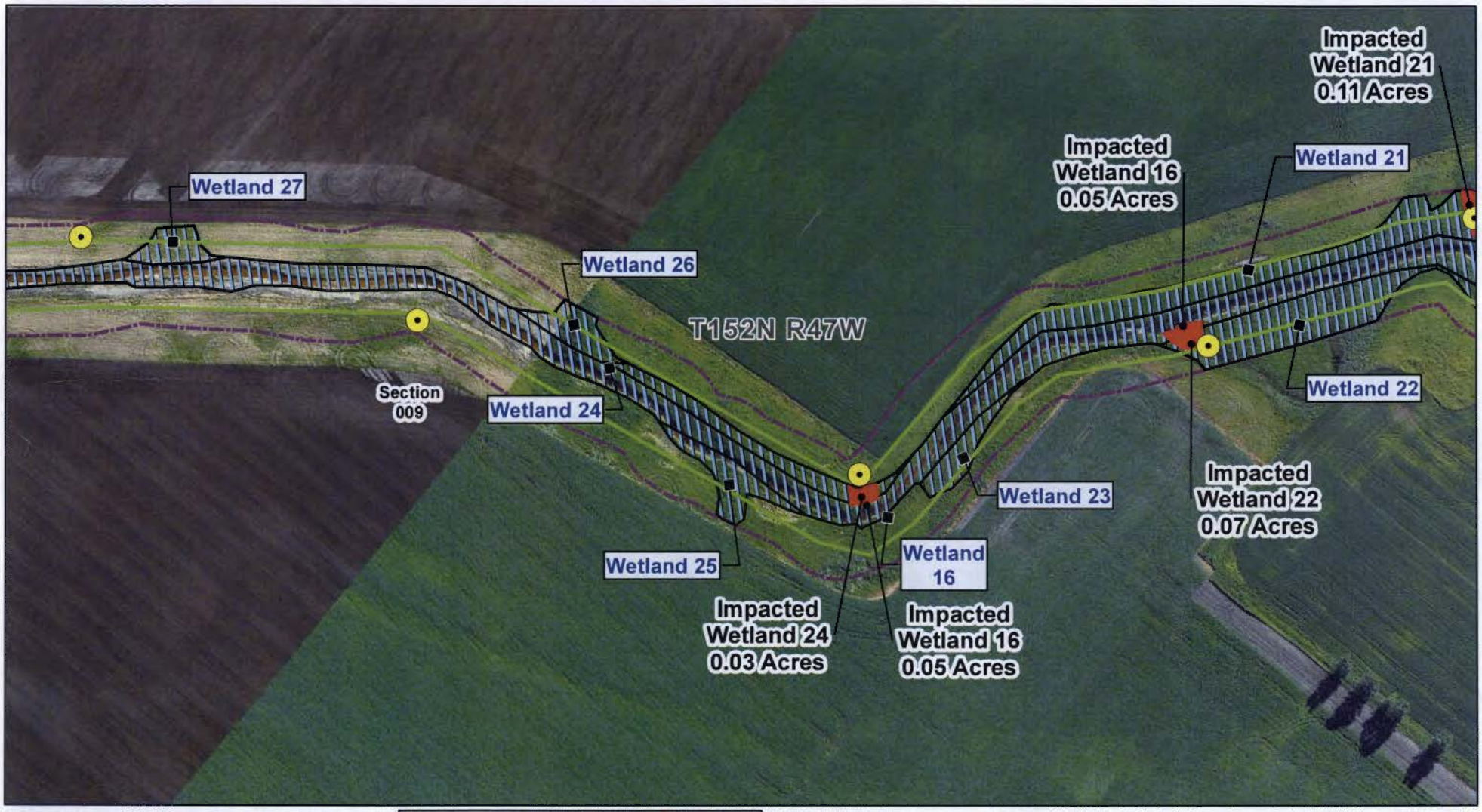

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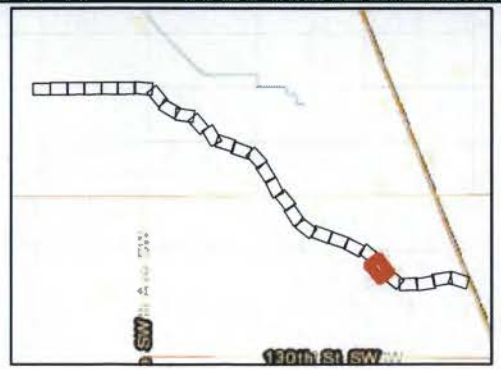

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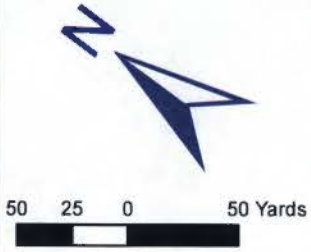

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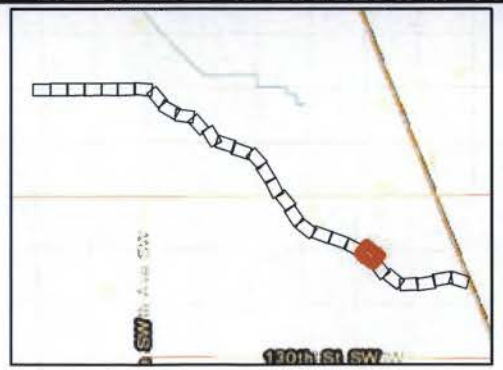

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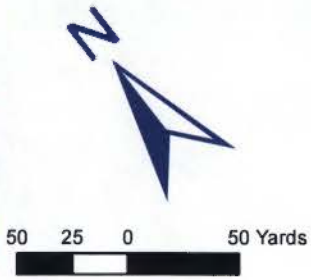

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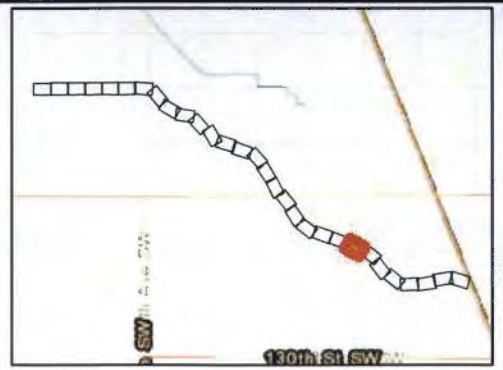

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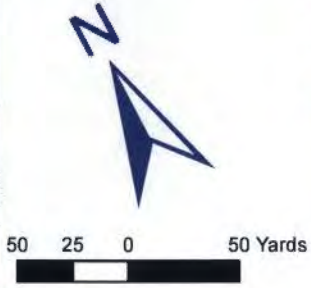

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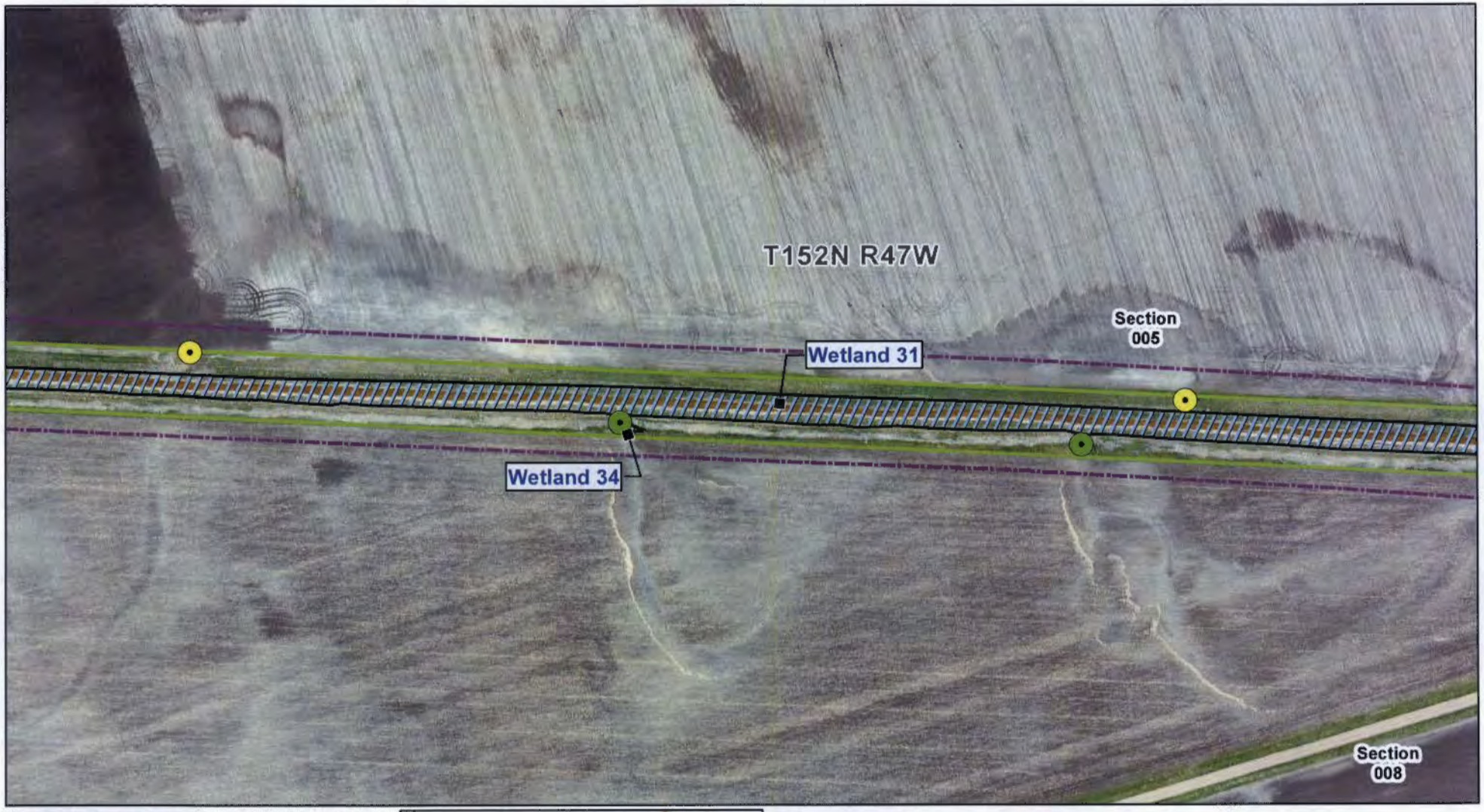

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RLWD Ditch # 15
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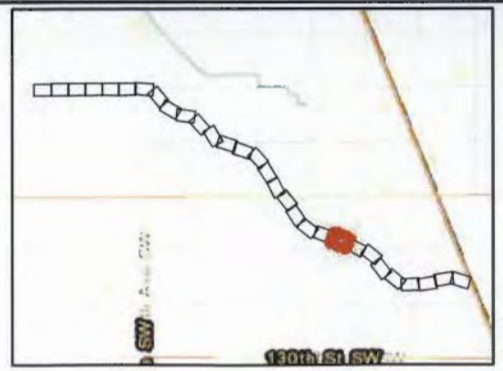
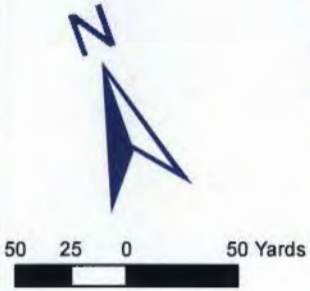


Figure A-10



Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

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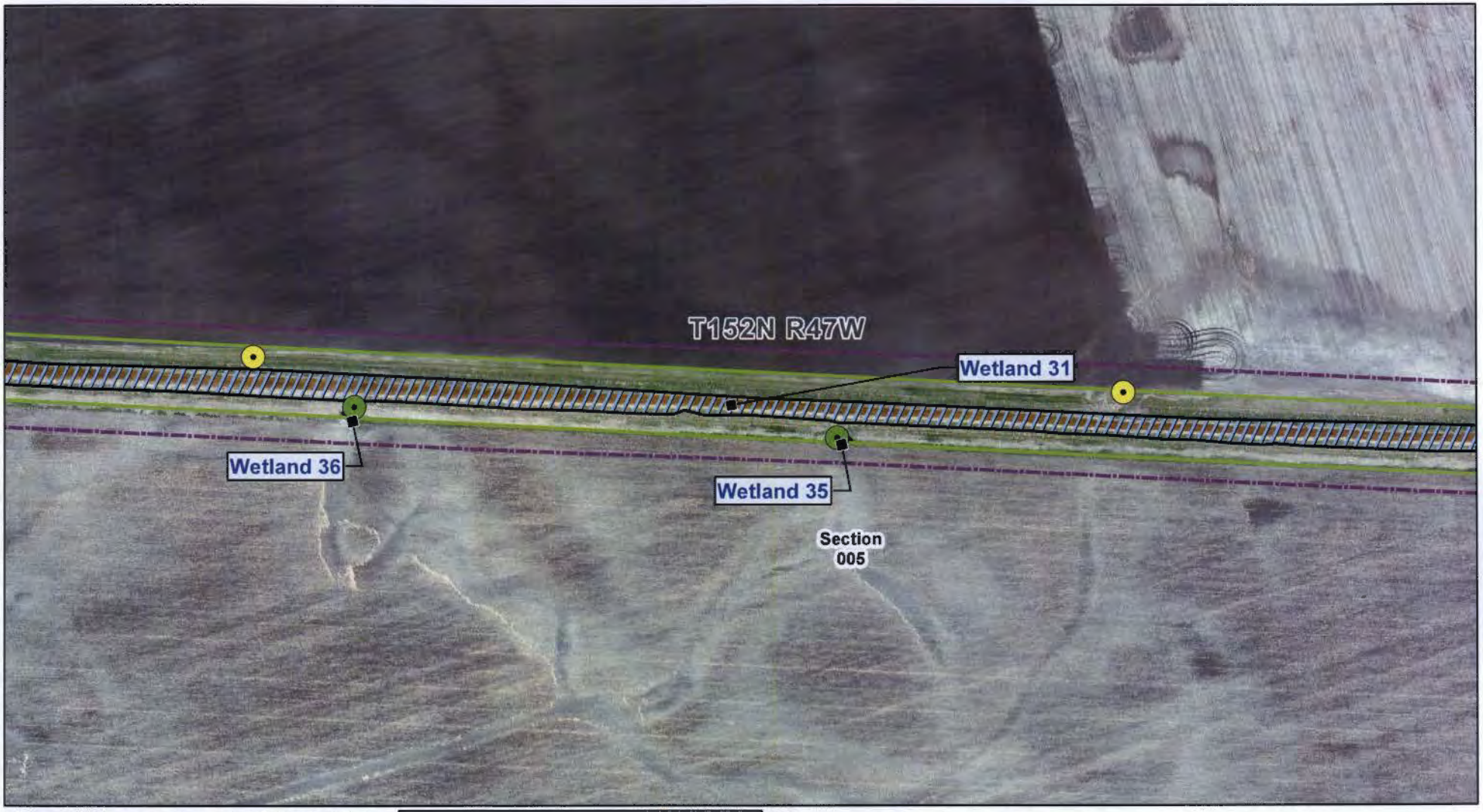
Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp.,



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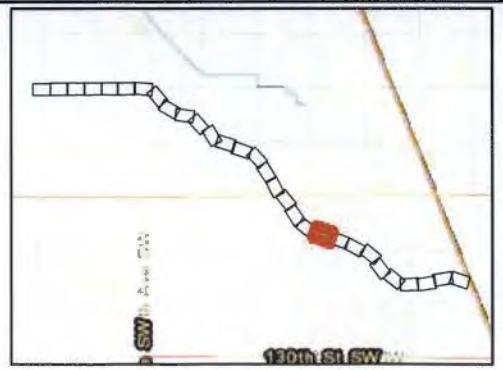

Figure A-11

N

50 25 0 50 Yards

Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

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Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp.,

Brandt Impoundment Outlet Ditch
RLWD Ditch # 15
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Red Lake Watershed District

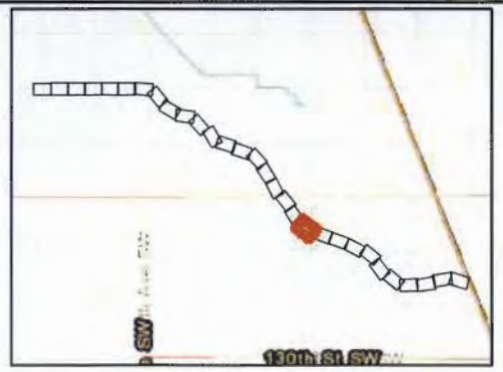

Figure A-12

50 25 0 50 Yards

Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

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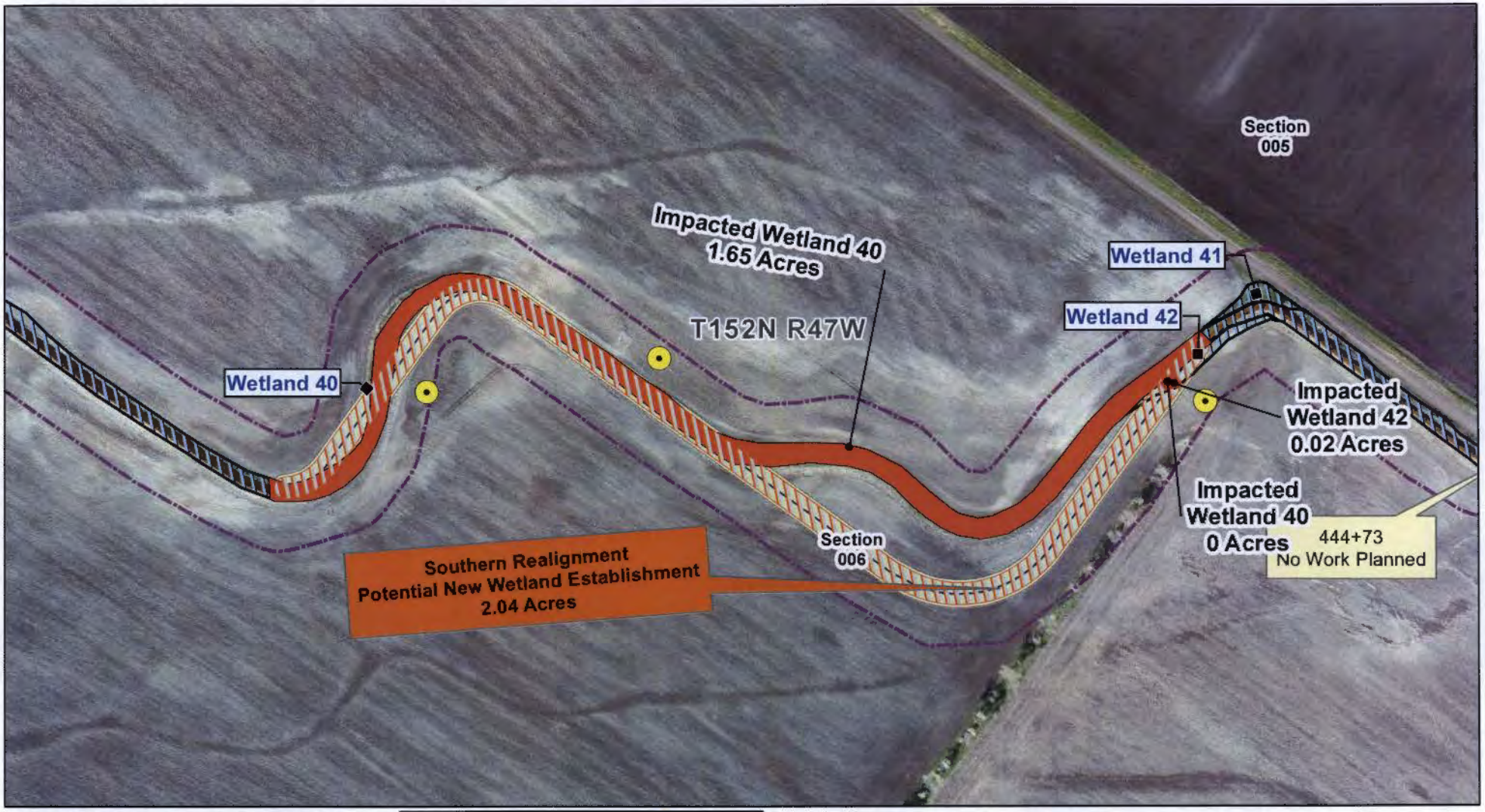
Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp.,



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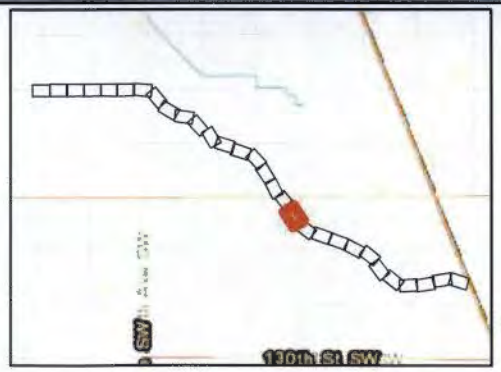

Figure A-13

N

50 25 0 50 Yards

Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

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Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp.,

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RLWD Ditch # 15
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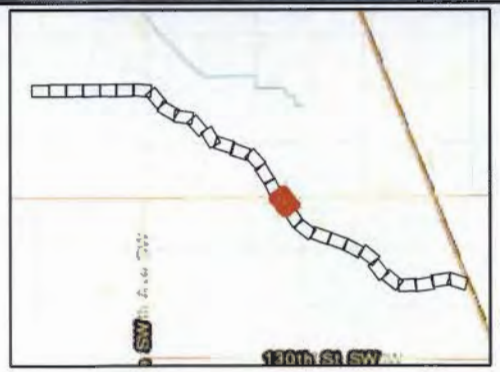
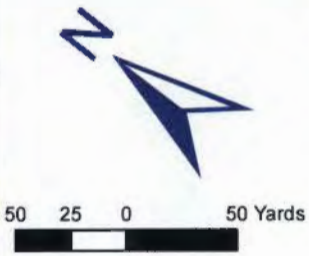


Figure A-14



Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

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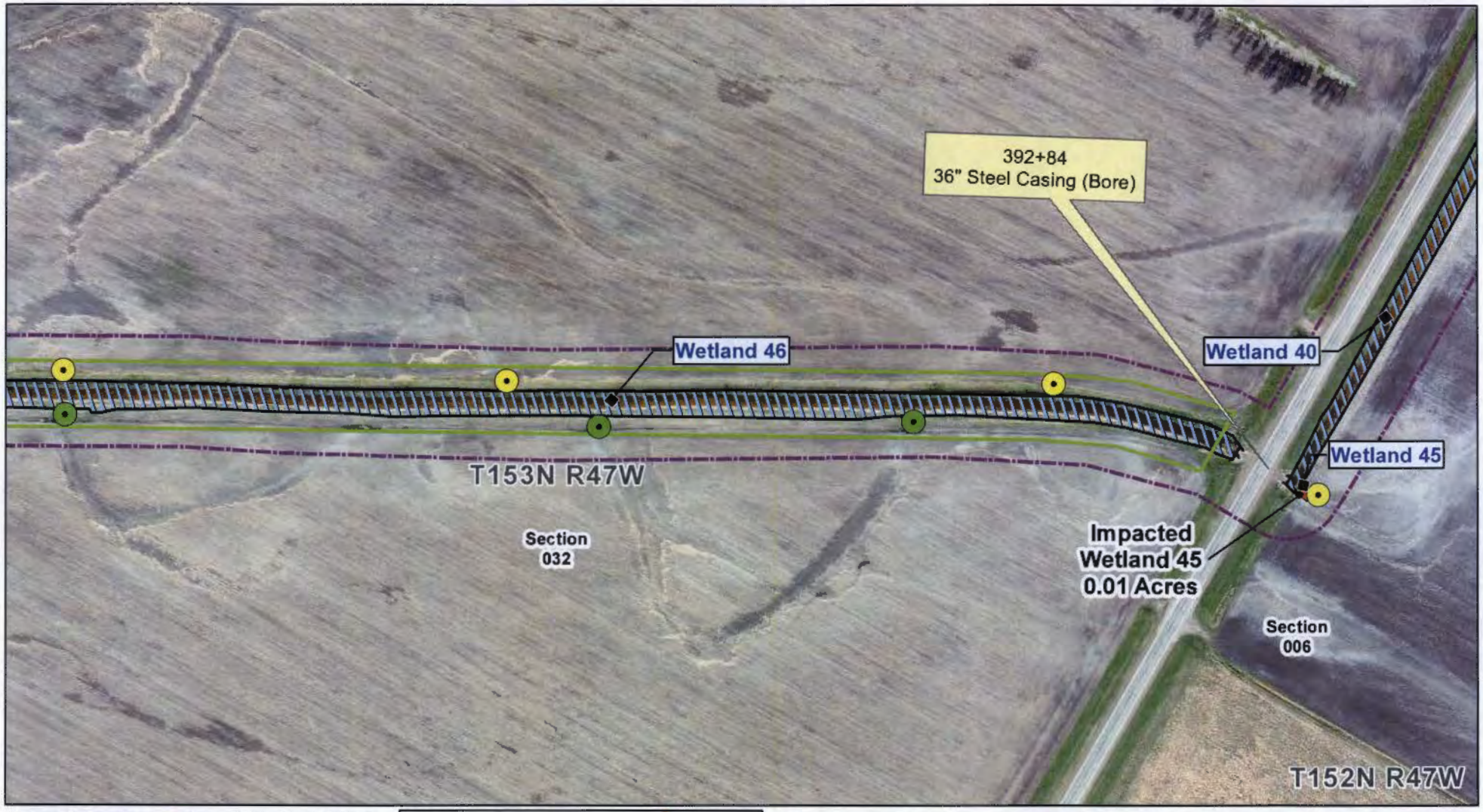
Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp.,



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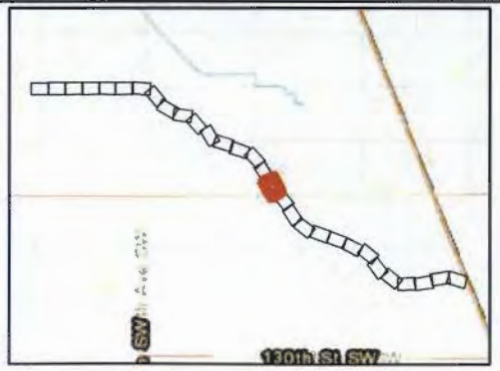

Figure A-15

Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

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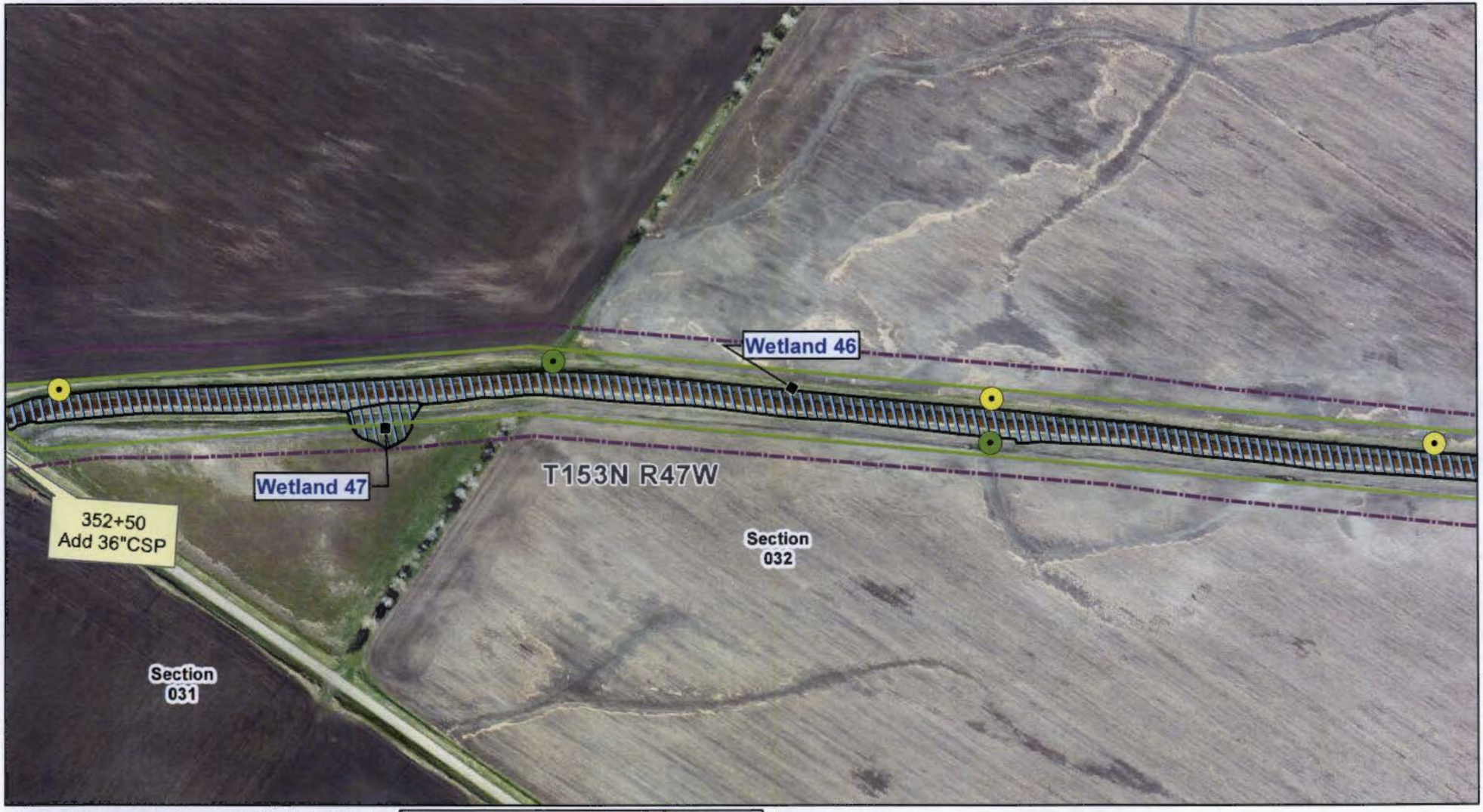
Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp.,



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RLWD Ditch # 15
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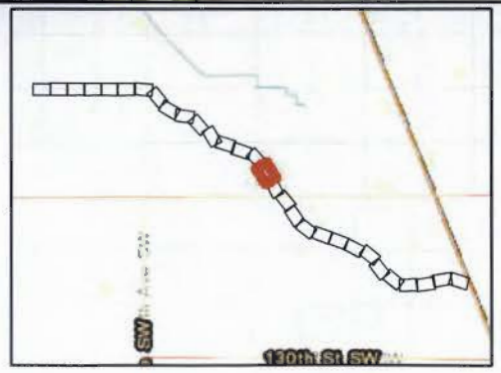
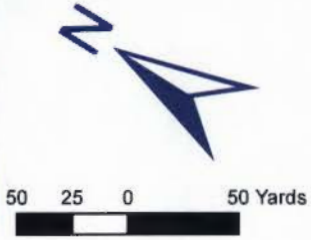


Figure A-16



Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

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Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp.,

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RLWD Ditch # 15
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Red Lake Watershed District

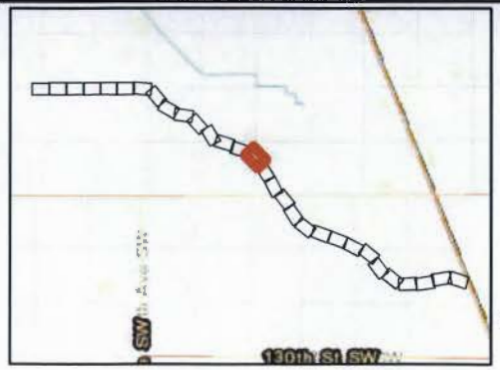
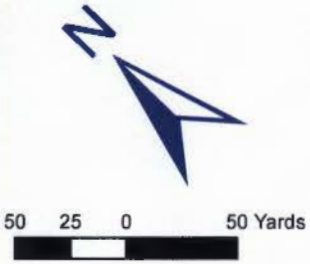


Figure A-17



Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

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Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp.,

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RLWD Ditch # 15
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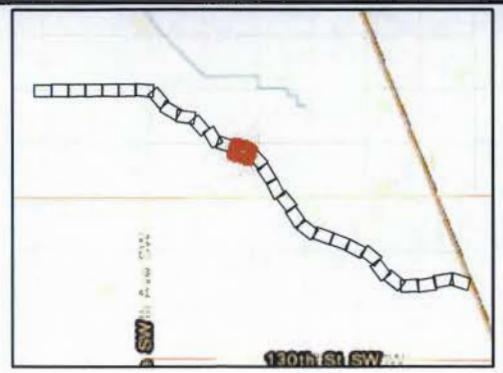

Figure A-18

N

50 25 0 50 Yards

Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

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Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp.,

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RLWD Ditch # 15
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Red Lake Watershed District

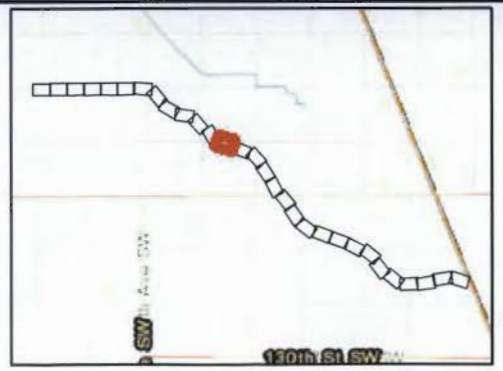

Figure A-19

N

50 25 0 50 Yards

Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

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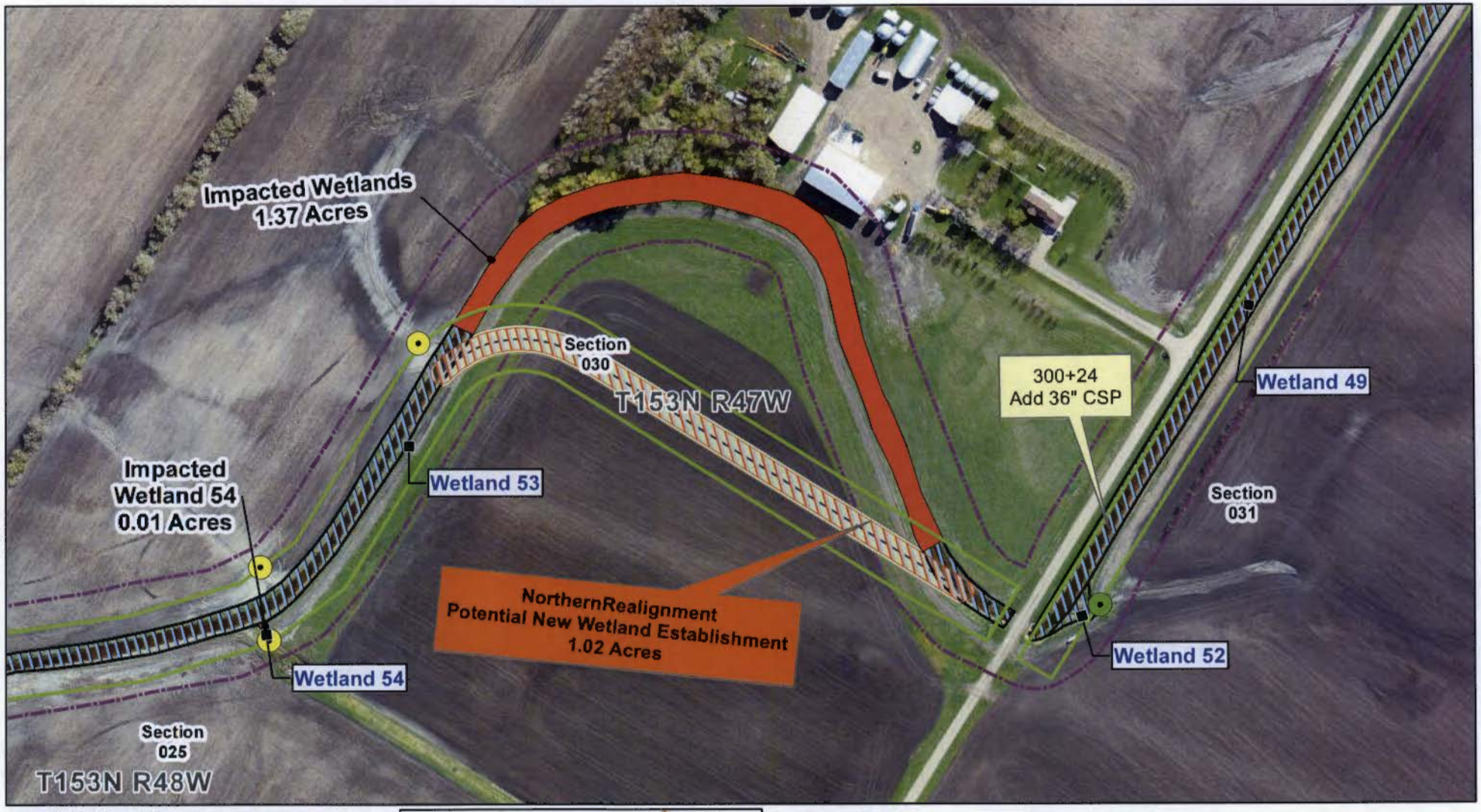
Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp.,



Brandt Impoundment Outlet Ditch
RLWD Ditch # 15
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HDR

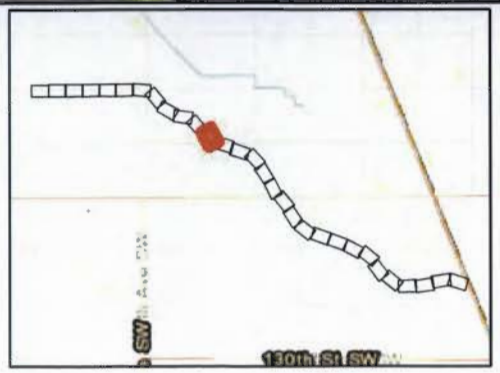

Figure A-20

Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

50 25 0 50 Yards

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Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp.,

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HDR

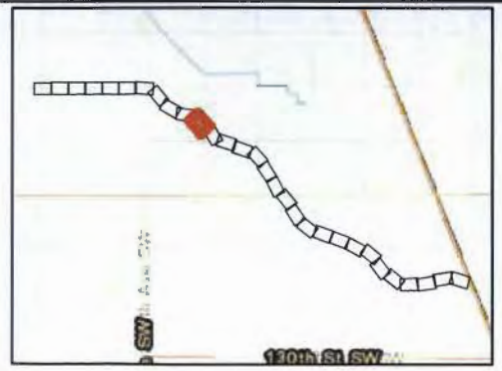

Figure A-21

N

50 25 0 50 Yards

Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

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Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp.,

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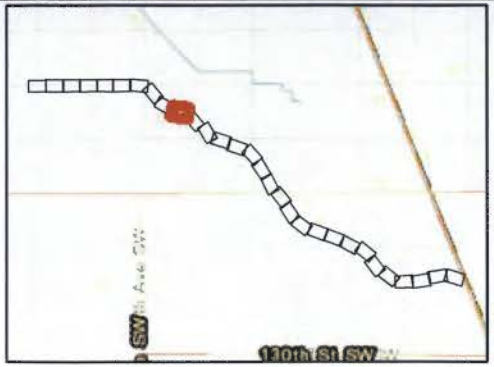

Figure A-22

N

50 25 0 50 Yards

Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

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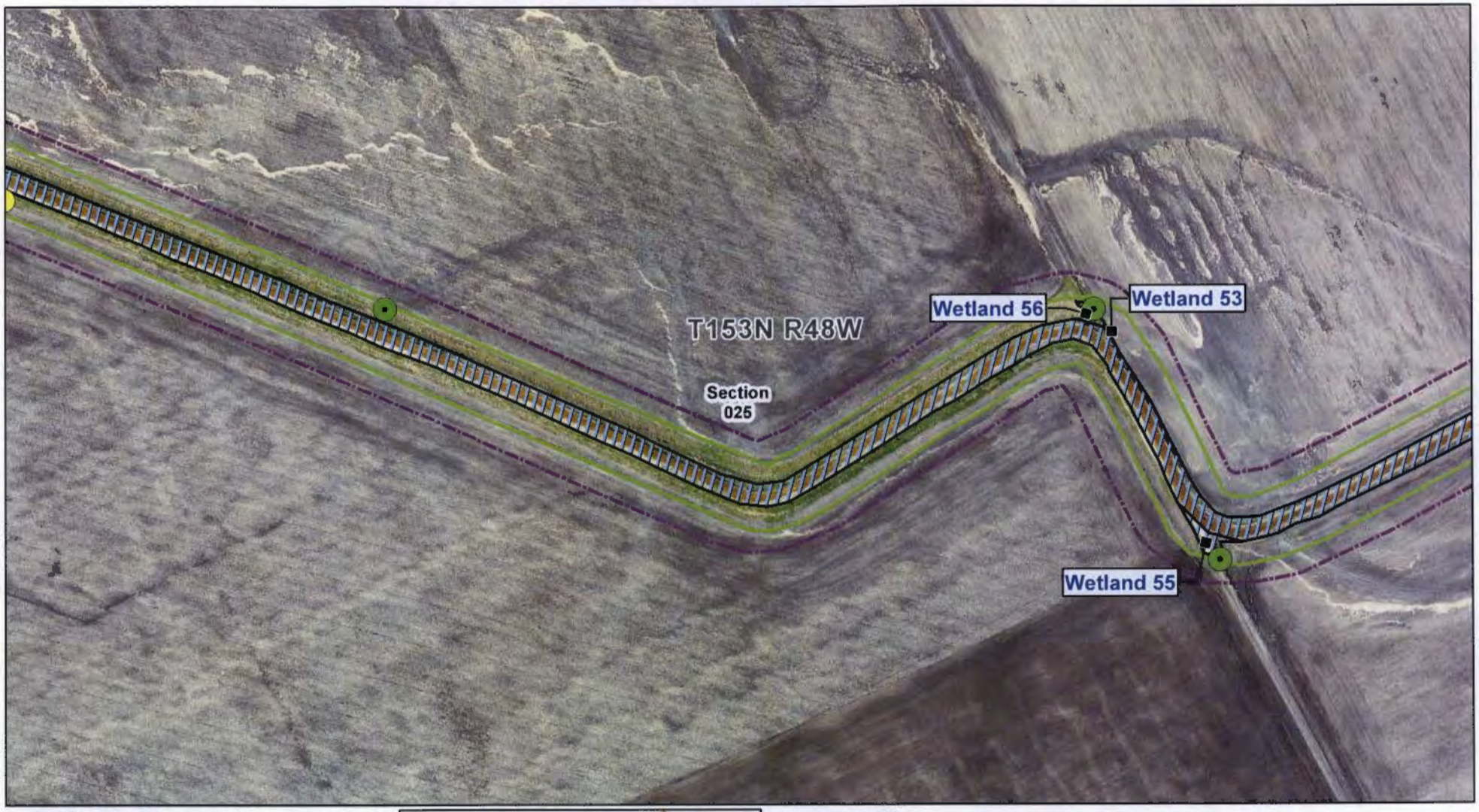
Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp.,



Brandt Impoundment Outlet Ditch
RLWD Ditch # 15
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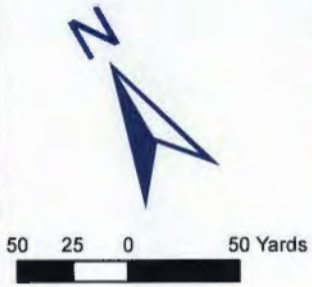
Red Lake Watershed District

Figure A-23



Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

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Red Lake Watershed District

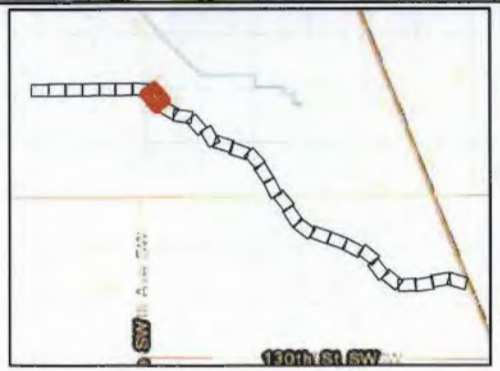

Figure A-24

Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

50 25 0 50 Yards

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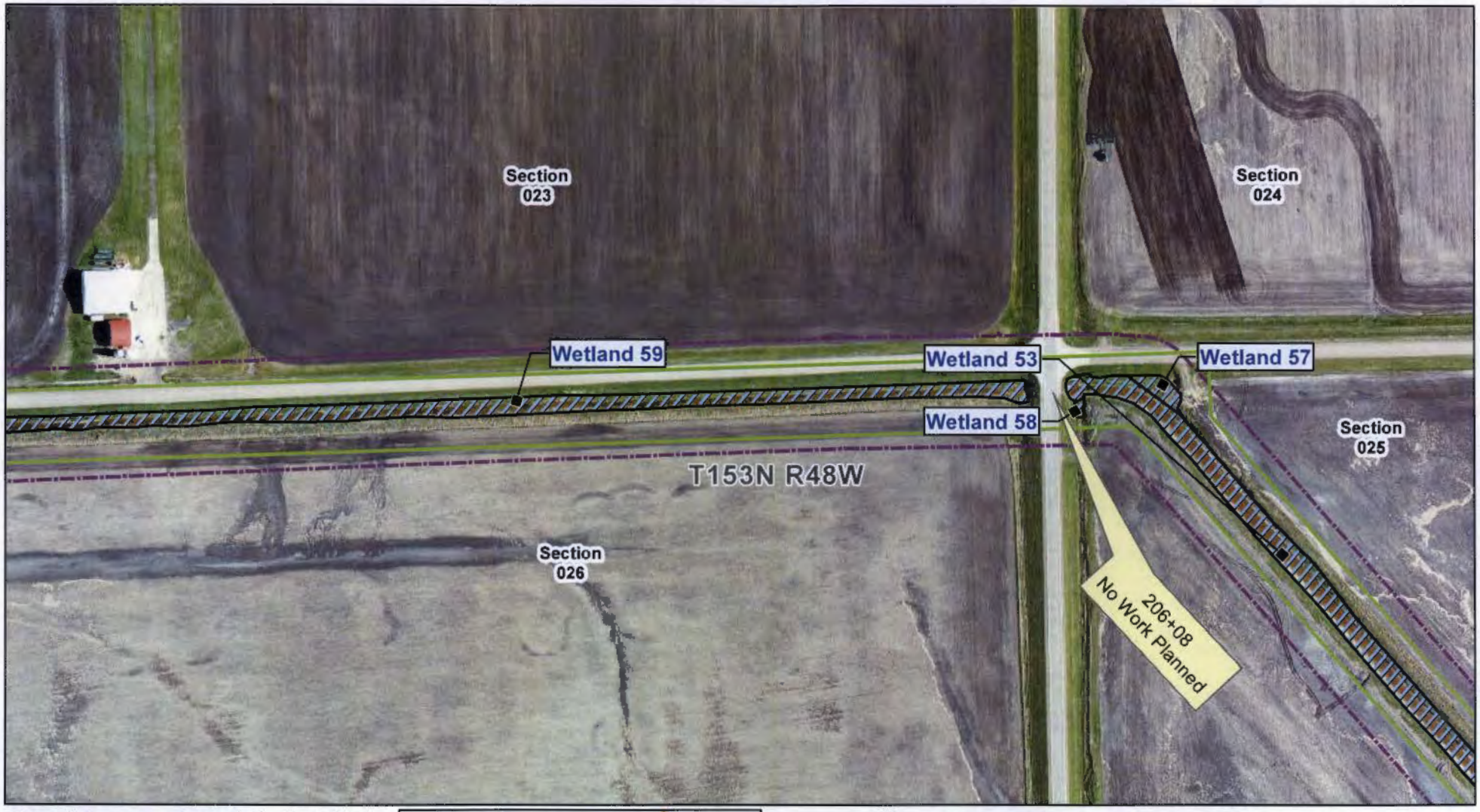
Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp.,



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RLWD Ditch # 15
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Red Lake Watershed District

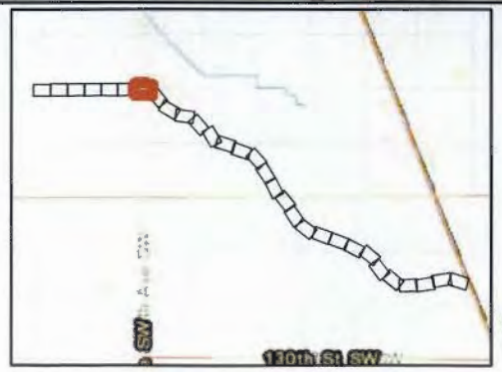

Figure A-25

N

50 25 0 50 Yards

Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

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Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp.,

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RLWD Ditch # 15
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Red Lake Watershed District

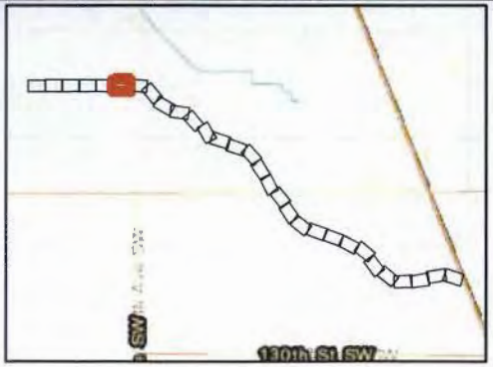

Figure A-26

N

50 25 0 50 Yards

Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

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Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp.,

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RLWD Ditch # 15
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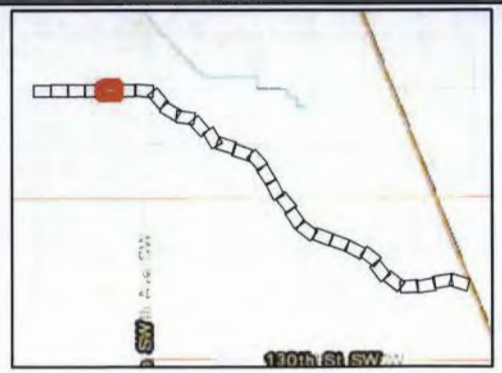

Figure A-27

N

50 25 0 50 Yards

Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

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Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp.,

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RLWD Ditch # 15
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Red Lake Watershed District

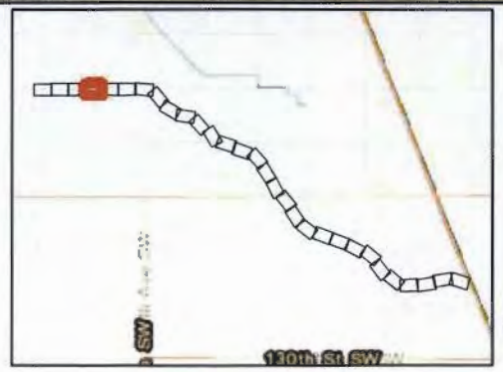

Figure A-28

N

50 25 0 50 Yards

Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

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Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp.,

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RLWD Ditch # 15
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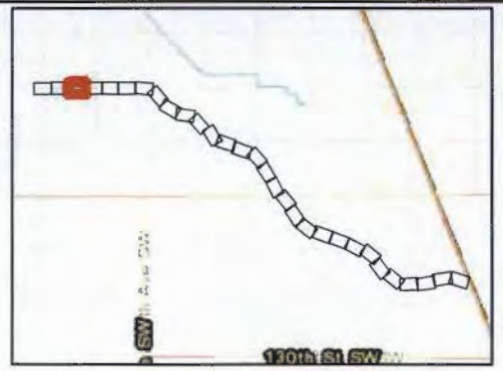

Figure A-29

N

50 25 0 50 Yards

Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

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Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp.,

Brandt Impoundment Outlet Ditch
RLWD Ditch # 15
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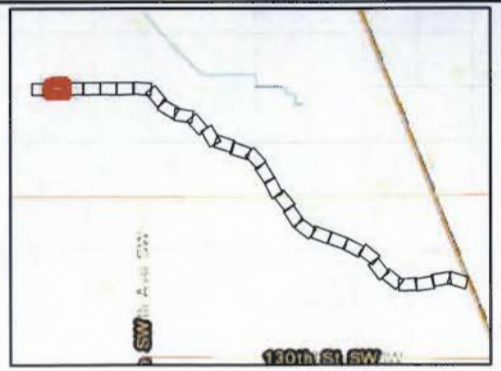

Figure A-30

N

50 25 0 50 Yards

Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

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Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp.,

Brandt Impoundment Outlet Ditch
RLWD Ditch # 15
404 Permit Application
Red Lake Watershed District

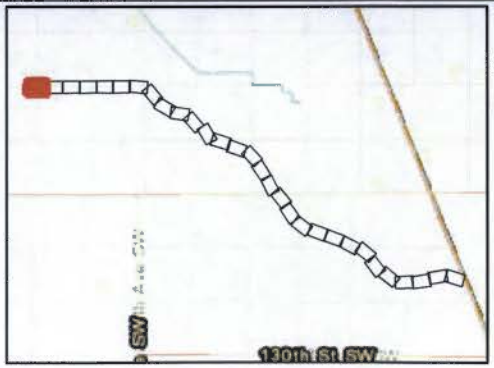


Figure A-31

N

50 25 0 50 Yards

Wetland Impacts
Delineated Wetlands
Study Area
Grass Buffer Area

Side Water Inlet Location
Existing
Proposed

Service Layer Credits: Copyright:© 2013 Esri, DeLorme, NAVTEQ, TomTom
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp.,

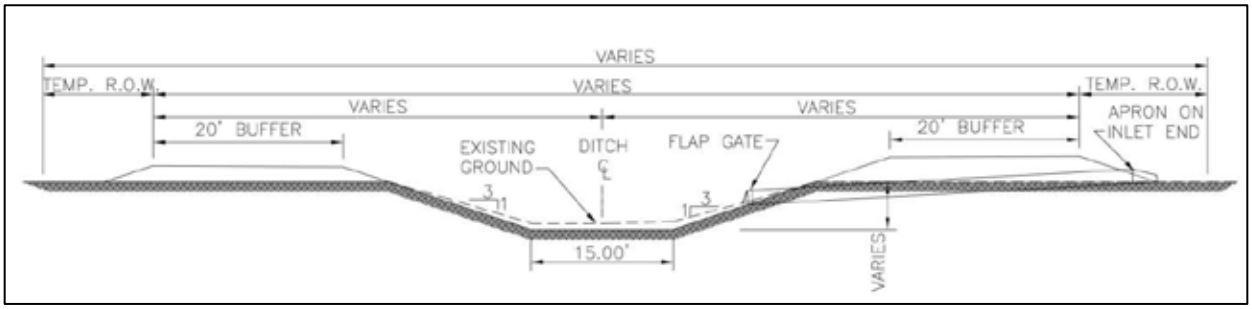
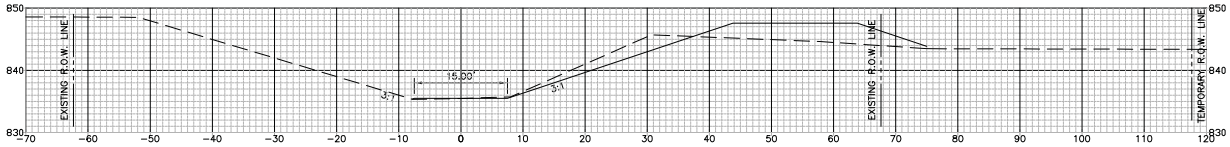


FIGURE 9: TYPICAL CROSS SECTION (ALTERNATIVE 2)

STA 105+00



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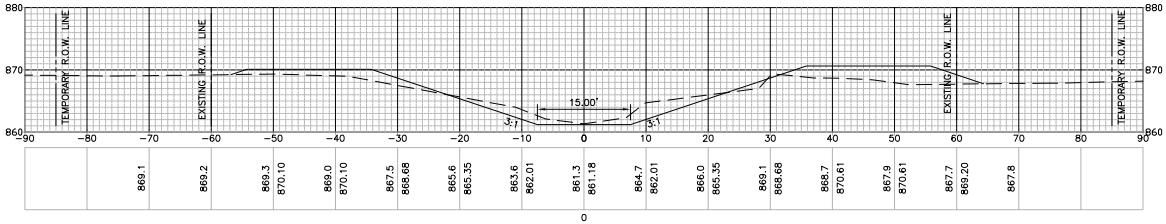

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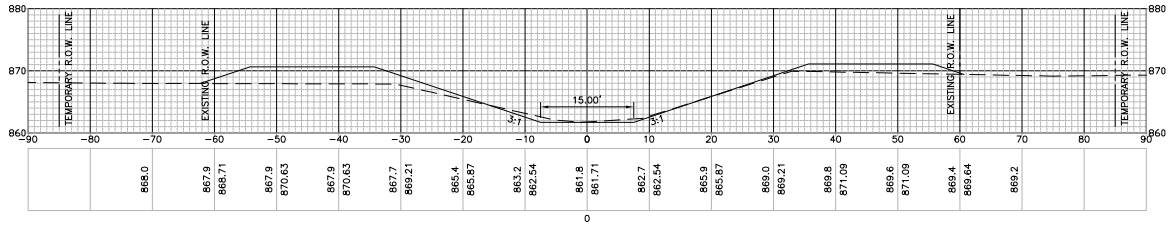

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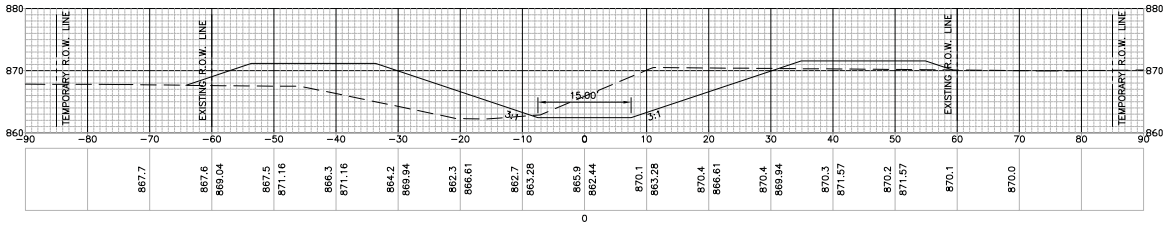

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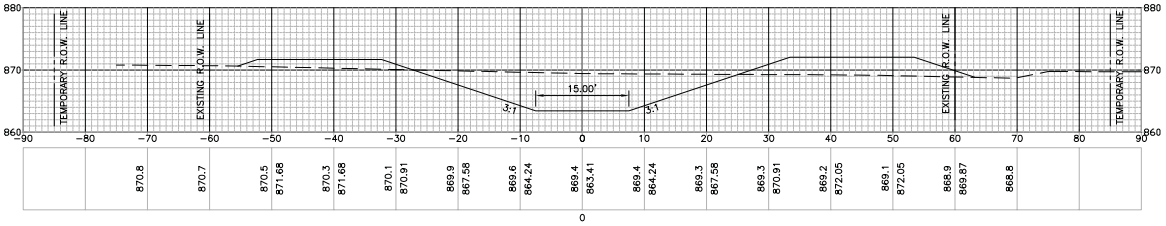

HDR

HDR Engineering, Inc.
324 2nd St. E.
Thief River Falls, MN 56701
(218) 681 - 6100

ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	
DESIGNED	
DESIGNED	
CHECKED	
CHECKED	
DRAWN	
DRAWN	
PROJECT NUMBER	

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Nathan P. Dalager

Red Lake Watershed District

1000 PENNINGTON AVE.
THIEF RIVER FALLS, MN
56701 (218) 681-5800

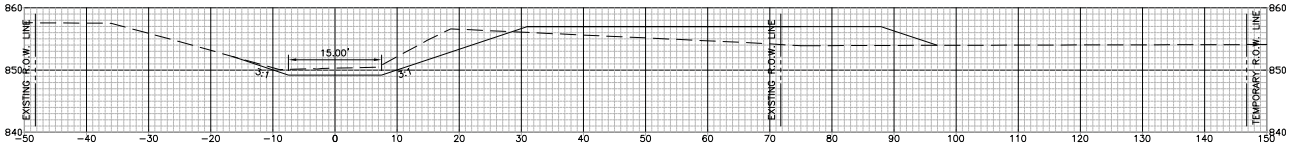
BRANDT IMPOUNDMENT OUTLET
DITCH ESTABLISHMENT

0 1/2" 1"

FILENAME

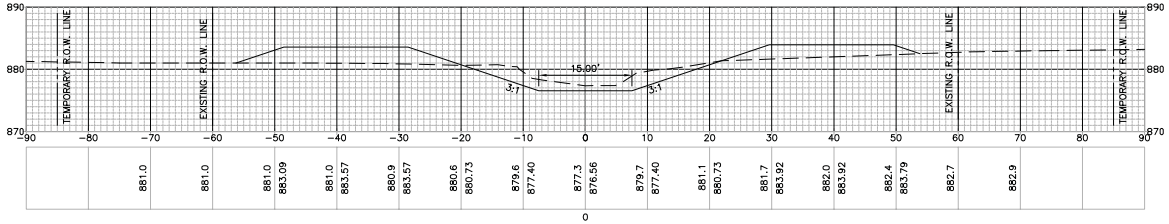
SHEET

STA 305+00


EXISTING R.O.W. LINE
EXISTING R.O.W. LINE
TEMPORARY R.O.W. LINE
15.00'
3:1
3:1

| | | |

STA 625+00



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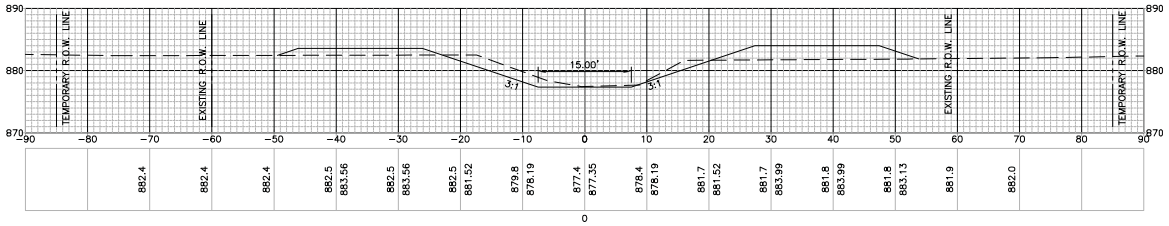

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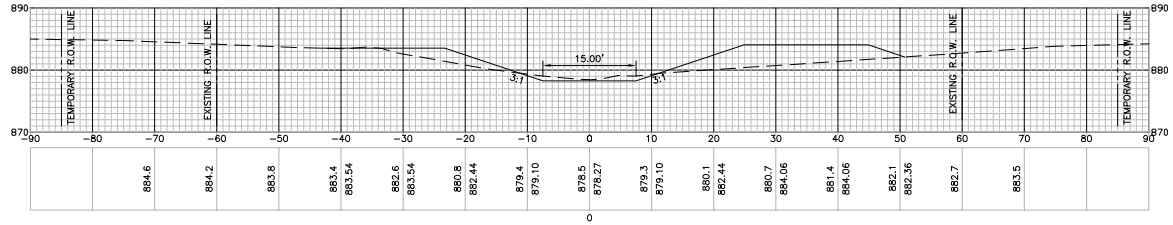

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