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August 18, 2023

HAND DELIVERED

Mr. Steve Kahl
Executive Secretary Director
North Dakota Public Service Commission
600 E. Boulevard, Dept. 408
Bismarck, ND 58505-0480

RE: Petition for Reconsideration
SCS Carbon Transport LLC
Midwest Carbon Express Project
Case No. PU-22-391

Dear Mr. Kahl:

Pursuant to Section 69-02-06-02 of the North Dakota Administrative Code and Section 28-32-40 of the North Dakota Century Code, SCS Carbon Transport LLC submits the following for filing with the North Dakota Public Service Commission:

1. Petition for Reconsideration, Notice of Route Adjustment and Request for Limited Rehearing ("Petition");
2. Exhibit A to Petition – Revised Appendix 1 (Map Book);
3. Exhibit B to Petition – Landowner Re-Routes;
4. Exhibit C to Petition – Phase II Landslide Assessment;
5. Exhibit D to Petition – Declaration of Jason Zoller;
6. Exhibit E to Petition – Letter from BNI Coal; and
7. Exhibit F to Petition – E-mail from Guy Welch.

Pursuant to Section 69-02-06-02(3), an original and seven (7) copies of the foregoing Petition and exhibits are enclosed herewith. Also enclosed is a Compact Disc (CD) containing this letter and the above-referenced documents in PDF format.

Should you have any questions, please advise.

Sincerely,

LAWRENCE BENDER

LB/tjg
Enclosures
79959176 v1

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

SCS Carbon Transport LLC **CASE NO. PU-22-391**
Midwest Carbon Express CO2 Project
Sitting Application

CERTIFICATE OF SERVICE

I, the undersigned, being of legal age, hereby certify that a true and correct copy of the following:

1. Letter to S. Kahl forwarding documents for filing; and
2. Petition for Reconsideration, Notice of Route Adjustment and Request for Limited Rehearing ("Petition");
3. Exhibit A to Petition – Revised Appendix 1 (Map Book);
4. Exhibit B to Petition – Landowner Re-Routes;
5. Exhibit C to Petition – Phase II Landslide Assessment;
6. Exhibit D to Petition – Declaration of Jason Zoller;
7. Exhibit E to Petition – Letter from BNI Coal; and
8. Exhibit F to Petition – E-mail from Guy Welch.

were, on August 18, 2023, filed with the North Dakota Public Service Commission and served electronically to the following:

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Dated this 18th day of August, 2023.

FREDRIKSON & BYRON, P.A.

By: _____

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79959373 v1

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF NORTH DAKOTA

IN THE MATTER OF THE APPLICATION OF SCS CARBON TRANSPORT LLC FOR A CERTIFICATE OF CORRIDOR COMPATIBILITY AND ROUTE PERMIT FOR THE MIDWEST CARBON EXPRESS PROJECT IN BURLEIGH, CASS, DICKEY, EMMONS, LOGAN, MCINTOSH, MORTON, OLIVER, RICHLAND AND SARGENT COUNTIES, NORTH DAKOTA	CASE NO. PU-22-391 OAH FILE NO. 20230002

PETITION FOR RECONSIDERATION, NOTICE OF ROUTE ADJUSTMENT AND REQUEST FOR LIMITED REHEARING

SCS Carbon Transport LLC ("Summit"), by and through its undersigned counsel, hereby submits to the North Dakota Public Service Commission (the "Commission") this Petition for Reconsideration, Notice of Route Adjustment and Request for Limited Rehearing in response to the Findings of Fact, Conclusions of Law and Order entered in the above-referenced matter on August 4, 2023 (the "Order").

It is evident that certain concerns raised in the Order are related, directly or indirectly, to the proposed route of Summit's carbon dioxide pipeline project ("Project") in Burleigh County, North Dakota. As further detailed herein, Summit has identified an alternative route along the areas to the east and north of the city of Bismarck that avoids existing and planned housing developments. The proposed alternative route is located in an area where proximity to Bismarck's northern extraterritorial area boundary is approximately 5 miles at its nearest point. *See* **Figure 1**, below.

In addition to the concerns related to the proposed route of the Project as presented in the hearings, the Order identifies issues which pertain to information (i) the Commission deems

necessary that is already in the record and/or which can be presented at an additional one-day rehearing, or (ii) that was submitted by Summit in written form at the request of the Administrative Law Judge, but because of time constraints, neither the Commission nor the Intervenors (as defined below) had an opportunity to question a witness in connection therewith.

Accordingly, Summit is requesting that the Commission: (i) consider the evidence set forth in this petition, including, without limitation, the proposed route adjustments, (ii) set a one-day rehearing for the limited purpose of presenting witness testimony in support of this petition and an amended Order, and (iii) amend the Order with findings of fact and conclusions of law consistent with the evidence set forth in this petition, the evidence already part of the record, and any evidence submitted at the rehearing, and (iv) amend the Order granting Summit its request for a certificate of corridor compatibility and route permit for the Project. Summit will confirm with the Commission and Commission staff the location of all route adjustments (including the alternative route to the east and north of Bismarck) prior to the issuance of the notice of rehearing so that an accurate map thereof may be included within said notice.

I. BACKGROUND

On October 17, 2022, Summit filed its Consolidated Application for a Certificate of Corridor Compatibility and Route Permit ("Application") for the Project. *See* Docket No. 1. On February 1, 2023, the Commission deemed Summit's Application complete and filed a Notice of Filings and Public Hearings in the above-captioned matter (the "First Notice"). *See* Docket No. 35. The Commission set forth the issues to be considered on Summit's Application in its First Notice. *See* Docket No. 35. Specifically, the issues to be considered in the Application are:

1. Will construction, operation, and maintenance of [the Project] at the proposed location produce minimal adverse effects on the environment and upon the welfare of the citizens of North Dakota?

2. Is [the Project] compatible with environmental preservation and the efficient use of resources?

3. Will construction, operation, and maintenance of [the Project] at the proposed location minimize adverse human and environmental impact while ensuring continuing system reliability and integrity and ensuring that energy needs are met and fulfilled in an orderly and timely fashion?

Id. On March 30, 2023, the Commission issued a second Notice of Public Hearings, scheduling an additional hearing for June 2, 2023 (the "Second Notice," and collectively with the First Notice, the "Notice"). *See* Docket No. 162. The Second Notice sets forth the same issues to be considered in the Application as the Notice.

The hearings set forth in the Notice were conducted as scheduled. Summit, the Bismarck Area Intervenors[1] and the Landowner Intervenors[2] (collectively, the "Intervenors") each filed post hearing briefs on July 17, 2023 (Landowner Intervenors) and July 19, 2023 (Summit and Bismarck Area Intervenors). *See* Docket Nos. 356, 357 and 358. On August 4, 2023, the Commission issued its Order denying Summit's Application. The Order sets forth certain matters upon which the Commission made a finding that Summit did not meet its burden of proof with respect to the issues to be considered in the Notice. Specifically, the Commission found that:

1. The cultural resource impacts have not been appropriately addressed because the State Historic Preservation Office ("SHPO") of the State Historical Society of North Dakota advised that the Class III cultural resources inventory report did not meet SHPO's standards and Summit did not submit a revised report to SHPO or address the

[1] Intervenors represented by Mr. Randall Bakke.

[2] Intervenors represented by Mr. Brian Jorde, Steven Leibel and David Knoll.

SHPO's concerns during the proceedings. *See* Order, Findings of Fact ¶ 11.

2. The effects of the Project on future property values and development have not been adequately minimized for the welfare of the people and the environment of the state. *Id.*, at ¶ 17.

3. The impacts on Game Management Areas in North Dakota are not at an acceptable minimum. *Id.*, at ¶ 27.

4. Summit has not properly addressed the areas of potential geological instability identified in the March 3, 2023 letter from the North Dakota Geological Survey ("NDGS"). *Id.*, at ¶ 28.

5. The Project's impact upon agriculture and livestock will be at an acceptable minimum. However, Summit has not taken the steps to address legitimate impacts expressed by landowners during the public comment or demonstrated why a reroute is not feasible. *Id.*, at ¶ 32.

6. Summit did not adequately address the Commissioners' requests, or failed to tender a witness to answer the Commissioners' questions as required by N.D.A.C. § 69-02-05-02, regarding:

    a. rerouting of the Project on Vculek's, Doolittle's, Barnhardt's [sic], and Dotzenrod's properties;

    b. confirmation on the number of 500-foot setback waivers required and obtained;

c. plume modeling;[3]

d. follow up with the NDGS;

e. BNI coal permit status;

f. SHPO concurrence status; and

g. an analysis of an alternative route south of the city of Bismarck.

Id., at ¶ 42.

In addition to the foregoing, Summit has expressed a willingness to narrow the width of its requested corridor from three hundred (300) feet to two hundred (200) feet if the Commission preferred.[4] *Id.*, at ¶ 40. Based on the foregoing, and the concerns raised by the Intervenors and members of the public throughout the course of the hearings is this case, Summit respectfully submits this petition in support of Summit's request for an amended Order.

II. STANDARD OF REVIEW AND ANALYSIS.

This petition is allowed under the Commission's rules (N.D.A.C. § 69-02-06-02) and the Administrative Agencies Practice Act (N.D.C.C. § 28-32-40). Summit's request for a rehearing is allowed under the Siting Act (N.D.C.C. § 49-22.1-18), Commission's rules (N.D.A.C. § 69-02-06-02) and the Administrative Agencies Practice Act (N.D.C.C. § 28-32-40).

The Siting Act (N.D.C.C § 49-22.1-01, et seq.) provides that "[a]ny party aggrieved by the … promulgation of a final order by the commission, may request a rehearing by the commission,"

[3] At the special meeting of the Commission on August 4, 2023, the Order was amended to remove the words "plume modeling" from paragraph 42 of the Findings of Fact, however, the Order was issued without said amendment.

[4] For the avoidance of doubt, Summit first indicated that it would not be opposed to narrowing the corridor from 300 feet to 200 feet to at the March 14, 2023 hearing in Bismarck, North Dakota. *See* Docket No. 78 (Testimony of James Powell in response to question posed by Commissioner Christmann).

and that "[t]he hearing must be conducted pursuant to chapter 28-32." N.D.C.C. § 49-22.1-18 (emphasis added).

The Administrative Agencies Practice Act (N.D.C.C. § 28-32-01, et seq.), provides that "[a]ny party ... who is aggrieved by the final order of [an] agency, ... may file a petition for reconsideration with the agency." N.D.C.C. § 28-32-40(1). The petition must include "a statement of the specific grounds upon which relief is requested or a statement of any further showing to be made in the proceeding." N.D.C.C. § 28-32-40(2), *see also* N.D.A.C. § 69-02-06-02(2). "The petition must also state if a rehearing or oral argument is requested." N.D.A.C. § 69-02-06-02(3).

The Commission "may grant the petition on such terms as it may prescribe." N.D.C.C. § 28-32-40(4) (emphasis added). If the Commission grants this petition, this petition and the testimony provided at the limited rehearing shall be considered a part of the record in this proceeding. N.D.C.C. § 28-32-40(3). The Commission may "dissolve or amend the final order and set the matter for further hearing" and may "limit the hearing as appropriate" N.D.C.C. § 28-32-40(4). "Any rehearing must be presided over by the same person or persons presiding previously at the hearing, if available." *Id.* "Any amended findings, conclusions, and orders must be issued by the same person or persons who issued the previous recommended or final orders, if available." *Id.*

Both the Administrative Agencies Practice Act and Commission's rules require a petition for reconsideration to be filed within fifteen days after notice of the decision has been given. *See* N.D.C.C. § 28-32-40(1), *see also* N.D.A.C. § 69-02-06-02(1). The petition must be served by the petitioner upon all parties." N.D.A.C. § 69-02-06-02(3). Any party to the proceeding may file a response "[w]ithin ten days after the service of the petition." N.D.A.C. § 69-02-06-02(4). A

party's failure to file such a response "is a waiver of any objection to the granting of the petition." *Id.*

The Commission's Order is a final order under the Administrative Agencies Practice Act. *See* N.D.C.C. § 28-32-01(2) and (8). Summit, being a party to the above-captioned matter and aggrieved by the Order of the Commission, is allowed to file this petition and request for a limited hearing in accordance with the Commission's rules, the Administrative Agencies Practice Act and the Siting Act. With this petition and the testimony to be provided at a limited rehearing, Summit intends to make a further showing that it has met its burden by meeting the requirements under the Siting Act and the rules and regulations of the Commission. Summit's request for relief is set forth in the conclusion of this petition.

III. ROUTE ADJUSTMENTS.

A. Burleigh County Route Adjustments.

In response to the concerns raised by the Commission, Intervenors and the public during the hearings in this case, Summit proposes to adjust the route of the Project in the areas immediately to the east and north of Bismarck as set forth in **Figure 1**, below.

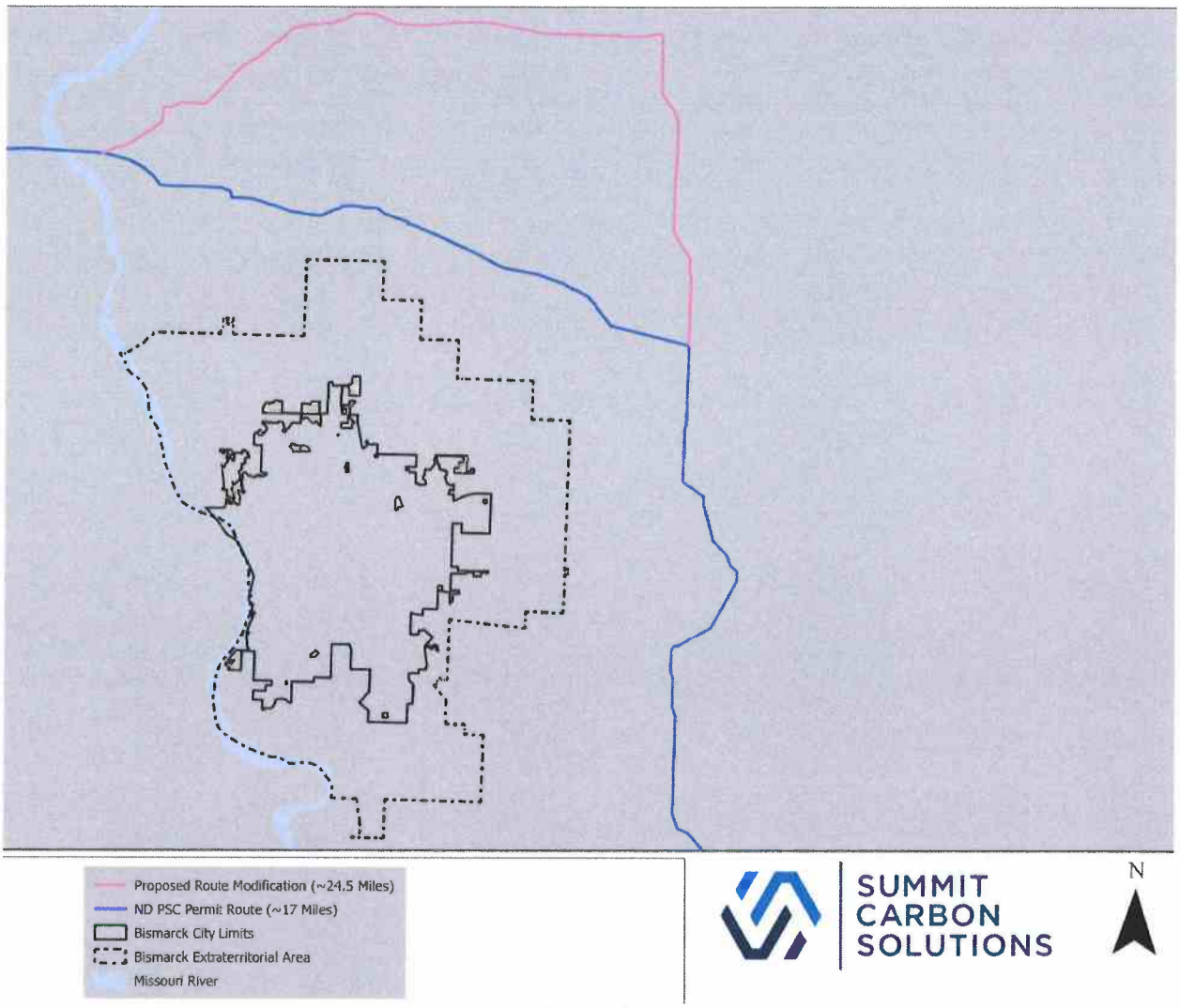

Figure 1.

The original route, at the nearest points, was located approximately 4.5 miles north of the city limits of Bismarck and approximately 2 miles north of Bismarck's extraterritorial area boundary. As depicted in **Figure 1**, the adjusted route, at the nearest points, is now located approximately 9 miles north of the city limits of Bismarck and approximately 5 miles north of Bismarck's extraterritorial area boundary. The adjusted route is not located in the vicinity of existing or known planned developments. Further, as discussed below, the corridor depicted on **Exhibit A** has been reduced from 300-feet-wide to 200-feet-wide, centered on the Project route. The map book attached as **Exhibit A** is

intended to amend and replace Appendix 1 (ND PSC Aerial Map Book) of Summit's Application. Finally, as indicated above, Summit will confirm with the Commission and Commission staff the location of the alternative route depicted in **Figure 1** prior to the issuance of the notice of rehearing so that an accurate map thereof may be included within said notice.

B. Landowner Route Adjustments.

In response to the concerns raised by certain Landowner Intervenors and certain non-intervening landowners who offered testimony at the hearings in this case, Summit has adjusted the route such that it no longer crosses any property owned by the Doolittles, Bernhardts, or Dotzenrods. *See* **Exhibit B**. Summit also adjusted the route around one of the two tracts owned by the Vculeks. *Id.* Summit remains engaged in discussions with the Vculeks regarding the second tract and believes it will have an agreement with the Vculeks prior to the rehearing. In addition to these specific reroutes, Summit has, to date, implemented an additional 570 minor reroutes which were predominantly made to accommodate landowner preferences and to avoid restrictive features discovered during survey activity.

C. Game Management Route Adjustments.

The Order provides that "Game Management Areas are designated avoidance areas under NDAC Section 69-06-08-02(2)(b)," and then proceeds to identify six (6) waterfowl production areas located in Richland, Sargent, Dickey, McIntosh, Emmons and Burleigh Counties, North Dakota. *See* Order, Findings of Fact ¶ 27. However, N.D.A.C. § 69-06-08-02(2)(b) pertains to designated or registered **state** game management areas. As set forth in Section 8.2.2 of Summit's Application, "no designated or registered **state** . . . game

refuges, game management areas, management areas, . . . were identified." (emphasis added).

It is possible that the Commission intended to cite to N.D.A.C. § 69-06-08-02(2)(a) pertaining to designated or registered **national** wildlife areas or wildlife refuges. Even assuming this was the Commission's intent, Section 8.2.1 of Summit's Application specifically provides that "[n]o federal wildlife refuges will be crossed by the Project route centerline." However, Summit, intending to disclose as much information as possible to the Commission and in line with past practices, then goes on to identify six (6) "waterfowl production areas" which are located within the originally proposed 300-foot survey corridor. These waterfowl production areas are not national wildlife areas or wildlife refuges designated as avoidance areas under N.D.A.C. § 69-06-08-02(2)(a). Rather, the six waterfowl production areas identified in Section 8.2.1 and Table 8.2.1 of the Application are federal easements between the United States Fish and Wildlife Service ("USFWS") and private landowners which are in place to protect wetlands for wildlife use. These areas are not wildlife refuge areas owned in fee by the Unites States of America. Summit specifically addressed these areas with the USFWS and the USFWS agreed that if the Project route avoided the wetland features on the easements, the Project would not impact the purpose and intent of the easements.

Notwithstanding the foregoing, Summit will avoid all six "waterfowl production areas" identified in Section 8.2.1 and Table 8.2.1 of the Application and all other game management areas along the Project route by utilizing horizontal direction drilling ("HDD") methods or by adjusting the route near these areas. *See* **Exhibit A**.

Mr. Jon Schmidt will be available to provide testimony regarding this issue during the limited rehearing.

D. Certifications, Studies, Surveys and Landowners.

In connection with the aforementioned route adjustments, Summit agrees to comply with the Commission's certification requirements set forth in N.D.C.C. § 49-22.1-15 (Route adjustment before or during construction for gas or liquid transmission line) and understands that, in some situations, additional notice and opportunity for hearing may be required in connection therewith. The determination on what type of certification is required will be based upon a 200-foot-wide corridor generally centered on the adjusted route. Furthermore, Summit will, to the extent not already completed, use its best efforts to expeditiously conduct and complete environmental and cultural resource studies and surveys along the adjusted route. All environmental and cultural resource reports prepared in connection with said studies and surveys will be filed with the Commission. As discussed below, Summit will submit all cultural resource reports concerning the route, as adjusted, to SHPO and is committed to working with SHPO through this process. Finally, Summit is committed to working with the landowners located along the adjusted route in an effort to inform each of them about the Project and to reach voluntary easement agreements.

Mr. James Powell will be available to provide testimony regarding the route adjustments at the limited rehearing.

IV. WIDTH OF CORRIDOR AND ROUTE DEVIATION BUFFER.

As set forth above, Summit has already indicated its willingness to reduce its proposed corridor from 300-feet-wide to 200-feet-wide. Accordingly, Summit hereby confirms that it is

agreeable to a 200-foot-wide corridor generally centered on the Project route as depicted on **Exhibit A** attached hereto, except in the select areas identified on **Exhibit A** where additional temporary workspace is required outside of said 200-foot corridor. All environmental and cultural resource field surveys not yet completed will be conducted across a generally 200-foot-wide area centered on the Project route as depicted on **Exhibit A** attached hereto. In its Application (Section 2.2.10), Summit also requested a route deviation buffer of up to 150 feet directly adjacent to each side of the proposed route in order to provide flexibility during construction to accommodate landowner requests and environmental and culturally sensitive areas. Taking into consideration a 200-foot-wide corridor, Summit is agreeable to, and the amended Order may provide for, a route deviation buffer of up to 100 feet directly adjacent to each side of the proposed route as depicted on **Exhibit A** attached hereto, or such other buffer width as determined by the Commission.

Mr. James Powell will be available to testify on this issue at the limited rehearing.

V. SOUTHERN ROUTE ANALYSIS.

Based on the foregoing route adjustments, Summit believes that additional information pertaining to a potential route to the south of Bismarck is unnecessary and moot. However, if the Commission desires additional information concerning the issues presented by a southern route, Summit is prepared to tender a witness at the limited rehearing.

VI. AREAS OF GEOLOGIC INSTABILITY AND NDGS.

In its March 3, 2023 letter to the Commission, the North Dakota Department of Mineral Resources, Geological Survey (NDGS), identified fourteen (14) "possible landslide pipeline route intercepts and three nearby landslides," and recommended that "each of these 17 localities should be evaluated to determine whether or not they pose a potential future risk to the pipeline." *See* Docket No. 64. On March 28, 2023, representatives of Summit met with the NDGS to discuss the

Project and the issues raised by the NDGS in its March 3, 2023 letter. *See* Docket No. 165. This meeting was memorialized in a letter from Summit to the NDGS dated March 31, 2023 and filed with the Commission on April 3, 2023. *Id.* It is Summit's understanding that the NDGS did not require any additional follow up subsequent to the March 28, 2023 meeting, however, Summit took immediate steps to conduct the evaluation recommended by the NDGS in its March 3, 2023 letter.

After meeting with the NDGS and confirming the areas of potential geologic instability along the proposed route, Summit retained Geosyntec Consultants ("Geosyntec") to conduct non-invasive ground reconnaissance at the possible landslide sites, otherwise known as a Phase II Landslide Assessment. Geosyntec recently completed its evaluation of the 17 sites identified by the NDGS and the results are set forth in the Phase II Landslide Assessment are attached hereto as **Exhibit C**. To summarize, Summit provided Geosyntec with the locations of the 17 mapped landslides identified by the NDGS. *See* **Exhibit C**. Upon review, Geosyntec determined that 6 of the 17 sites were located sufficiently far (360 to greater than 1,400 feet) from the proposed centerline of the Project route. *Id.* The remaining 11 sites were either crossed by or located within 100 feet of the proposed centerline and were thus included in the Phase II Landslide Assessment. *Id.* In addition to the sites identified by the NDGS, Terracon Consultants, Inc. ("Terracon") identified 6 areas of possible landslide disturbance along the proposed route. *Id.* One of the sites identified by Terracon coincided with a landslide site identified by the NDGS. *Id.* Therefore, 16 total locations were selected by Geosyntec for the Phase II Landslide Assessment. *Id.*

Upon further on-site evaluation, Geosyntec determined that 8 of the 16 possible landslide sites did not exhibit sufficient evidence of landslide morphology. *Id.* The remaining 8 sites exhibited features that appeared consistent with landslide morphology ranging from inactive

(greater than 10 years) to dormant (greater than 100 years). *Id.* Ultimately, the Phase II Landslide Assessment finds that the potential for existing landslides to affect Summit's proposed pipeline is low and recommends that Summit follow best management practices (BMPs) when crossing slopes and drainage areas.

In conjunction with the Phase II Landslide Assessment, Summit has consulted with geologists and engineers from Terracon and Geosyntec to identify, assess, and mitigate other geologic and hydrotechnical areas of concern along the proposed pipeline. The results of these evaluations are documented in the following reports, each of which will be made available for the Commission's review upon request: (i) Phase I Geological Hazard Assessment Report, (ii) Phase I Hydrotechnical Assessment Report, (iii) Sheyenne River Hydrotechnical Assessment Report, (iv) Missouri River Hydrotechnical Assessment Report, (v) James River Hydrotechnical Assessment Report, and (vi) Bois de Sioux River Hydrotechnical Assessment Report.

Summit is committed to working with the NDGS, Geosyntec and Terracon throughout the entirety of the Project and will submit to the NDGS and the Commission any new information pertaining to areas of geologic instability along the Project route, as adjusted herein.

Mr. James Powell will be available to testify on this issue at the limited rehearing.

VII. CULTURAL RESOURCE SURVEYS AND SHPO.

On October 3, 2022, Summit submitted its Class III Cultural Resources Inventory Report for the Project ("Class III Report") to SHPO. *See* **Exhibit D**, Affidavit of Jason Zoller ("Zoller Aff.") ¶ 4. By letter dated March 1, 2023, SHPO informed the Commission that it was unable to assess the Project's effect on historic and archaeological sites because Summit's Class III Report did not meet SHPO standards. *Id.* ¶ 5. On Mach 27, 2023, representatives of Summit and EXP, Summit's environmental and cultural resource consultant, met with SHPO representatives,

including Director Bill Peterson, to discuss the concerns raised by SHPO in its March 1, 2023 letter to the Commission. *Id.* ¶ 6. On May 25, 2023, Summit submitted its revised Class III Report to SHPO for review. *Id.* ¶ 7. SHPO indicated that Summit's revised Class III Report was a "great improvement" from the original draft. *Id.* ¶ 9. On June 20, 2023, EXP informed Summit that SHPO would like to meet and discuss Summit's revised Class III Report. *Id.* ¶ 8. On June 23, 2023, representatives of Summit and EXP met with SHPO to discuss certain matters pertaining to Summit's revised Class III Report. *Id.* ¶ 10. At the June 23, 2023 meeting, Summit was instructed by SHPO to submit a comprehensive, amended Class III Report instead of supplementing its original Class III Report with information obtained subsequent to the submission of the original Class III Report. *Id.* ¶ 11. Subsequent to the June 23, 2023 meeting, Summit and EXP worked diligently to complete the amended Class III Report and said amended report was finalized by EXP on August 7, 2023, three days after the Commission issued its Order denying Summit's request for a certificate of corridor compatibility and route permit. *Id.* ¶ 12.

In its Order, the Commission states that "SHPO concurrence is commonly required by the Commission for the issuance of a site certificate or route permit." *See* Order, Findings of Fact ¶ 11 (emphasis added). Although this is true, the Commission has previously issued orders granting corridor certificates and route permits without SHPO concurrence when those orders were conditioned upon the applicant completing Class III Cultural Resource Surveys for un-surveyed areas within a project corridor and further conditioned upon the applicant submitting a concurrence letter from SHPO prior to beginning construction in those areas.[5] This approach is compatible with the recommendation in the March 1, 2023 letter from SHPO recommending that "no permit

[5] *See, e.g.*, Findings of Fact, Conclusions of Law and Order issued on May 1, 2019 in Case No. PU-18-399 (orders requiring ONEOK to (i) complete field surveys, (ii) complete Class III Cultural Resource Surveys and submit to SHPO, (iii) file SHPO concurrence with Commission, (iv) obtain remaining easements, (v) reroute if setback waivers cannot be obtained, and (vi) comply with route adjustment filing requirements under the Siting Act).

be issued until the effects of this proposed project on historic and archaeological sites can be considered." *See* Docket No. 61. This approach is also appropriate because Summit is, and will be, unable to provide SHPO with all of the information it needs to issue a concurrence until such time as Summit is able gain survey access to the remaining tracts along the Project route. Zoller Aff. ¶ 15.

As the Commission may be aware, Summit has been denied survey access to many parcels of land along the Project route, forcing Summit to petition state district courts to grant survey access to said parcels.[6]. *Id.* ¶ 14. On April 20, 2023, Summit received a favorable ruling from the district court, granting Summit the right to survey the parcels of land identified in its petitions.[7] However, some landowners continue to resist Summit's efforts to access their property in order to conduct benign surveys, including cultural resource surveys. After Summit is granted access (voluntarily or through the courts) for surveys on the remaining parcels along the route, as adjusted, Summit will complete all remaining surveys and submit a comprehensive, amended Class III Report to SHPO. As of the date of this petition, Summit has conducted surveys on 849 of 929 tracts along the proposed route, as adjusted, or approximately 91% of the tracts. *Id.* ¶ 16.

Accordingly, Summit respectfully requests that the Commission amend its Order granting Summit a corridor certificate and route permit for the Project, but to have construction of the Project conditioned upon completion of Class III cultural resource surveys on un-surveyed areas along the Project route, as adjusted herein, and receipt of SHPO's concurrence.

Mr. Jason Zoller will be available to testify on this issue at the limited rehearing.

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[6] Summit has filed over 50 separate lawsuits in order to have the court compel certain landowners to recognize Summit's right to survey their properties pursuant to N.D.C.C. § 32-15-06. *See, e.g., SCS Carbon Transport, LLC v. Malloy*, Case No. 30-2022-CV-00665 (Doc. ID# 216). As of the date this brief was filed, Summit has received favorable rulings in 16 of these lawsuits and has yet to receive an unfavorable ruling in any lawsuit.

[7] Order, *SCS Carbon Transport, LLC v. Malloy*, Case No. 30-2022-CV-00665 (Doc. ID# 216).

VIII. FUTURE DEVELOPMENT AND PROPERTY VALUES.

Pursuant to § 49-22.1-09(8) of the North Dakota Century Code, the Commission is guided by "[e]xisting plans of the state, local government, and private entities for other developments at or in the vicinity of the proposed site, corridor, or route" when evaluating and designating corridors and routes. The Bismarck Area Intervenors presented testimony concerning the potential negative impacts the Project may have on certain developments located near the vicinity of the proposed route. Summit tendered a report from Boulder Appraisal concluding that market data indicates there is little to no difference in marketability or price of lots encumbered by existing hazardous liquid or natural gas transmission pipeline as compared to lots not encumbered by said pipelines. However, the issues raised by the Bismarck Area Intervenors are moot now that Summit's new proposed route is not located in the vicinity of any existing or planned developments or subdivisions. *See* **Figure 1**, above, and **Exhibit A** attached hereto. Specifically, the effects of the Project will be adequately minimized because the adjusted route is not located in the vicinity of any existing or know planned developments.

If the Commission desires additional evidence concerning the development around hazardous liquid or natural gas transmission lines, Summit is prepared to tender a witness at the limited rehearing.

IX. AREAS WITHIN 500 FEET OF AN INHABITED RURAL RESIDENCE.

Areas within five hundred feet of an inhabited rural residence are designated as avoidance areas. *See* N.D.C.C. § 49-22.1-03. However, the five-hundred-foot setback avoidance area criteria may be waived by the owner of the inhabited rural residence. *Id.* In its Order, the Commission alleges that it did not receive confirmation of the number of 500-foot setback waivers required and obtain. *See* Order, Findings of Fact ¶ 42.

In relation to the 500-foot setback requirement, Summit has conducted several detailed analyses of the Project route by reviewing aerial photos and identifying all buildings and other structures near or in the vicinity of the pipeline ("Setback Analysis"). In its January 17, 2023 response to requests from Commission staff, Summit's Setback Analysis originally identified ten (10) residences or businesses located within five hundred feet of the proposed route. *See* Docket No. 28. Summit subsequently testified at the March 14, 2023 hearing that minor re-routes had been made, resulting in only one (1) residence being located within five hundred feet of the Project route and that a waiver had been obtained from the owner of said residence. *See* Docket No. 78. In its May 1, 2023 response to additional requests from the Commission, Summit explained that the five-hundred-foot setback is measured from the centerline of the pipeline to the nearest point on the structure. *See* Docket No. 199 (North Dakota Mahler Structure Report). In its June 1, 2023 response to additional requests from the Commission, Summit confirmed, by conducting another Setback Analysis, that only one (1) five-hundred-foot setback waiver was required on the Project route and that said waiver had been obtained. *See* Docket No. 294.

As of the date of this petition, and taking into consideration the route adjustments described herein, Summit's Setback Analysis identified only one (1) rural inhabited residence located within five hundred feet of the Project route. This is the same residence for which a waiver has already been obtained. *See* Docket No. 294. A copy of the setback waiver was filed with the Commission on March 28, 2023. *See* Docket No. 85. This residence is not occupied full-time, but is utilized occasionally as a hunting cabin.

Summit further certifies to the Commission, and the amended Order may provide that, Summit will not commence construction on any portion of the Project located within five hundred feet of an inhabited rural residence without first obtaining a waiver as required by N.D.C.C. § 49-

22.1-03, or, if a waiver is not attainable, Summit will adjust the route and submit to the Commission the required certifications under N.D.C.C. § 49-22.1-15.

Mr. James Powell will be available to testify on the issue of setbacks and waivers at the limited rehearing.

X. BNI COAL PERMIT STATUS.

Summit and BNI Coal, Ltd. ("BNI") have come to an agreement whereby the Project route will cross approximately three thousand (3,000) feet of the E/2NE/4 of Section 9, Township 141 North, Range 83 West, which is currently within BNI's coal mining permit (BNCR-1101) on land owned by Minnkota Power Cooperative, Inc. As detailed in the letter from BNI attached hereto as **Exhibit E**, the permit area crossed by the Project route is located to the east of the mineable coal and outside of BNI's disturbance plans associated with the development of the BNCR-1101 mining permit. Furthermore, Summit has received confirmation from Mr. Guy Welch at the Reclamation Division of the North Dakota Public Service Commission that the Office of Surface Mining Reclamation and Enforcement is not involved with third-party entities installing pipelines on lands permitted for surface coal mining activities. *See* **Exhibit F** attached hereto. As indicated in Mr. Welch's March 21, 2023 e-mail, it is the mining company's responsibility to update its permit to show where pipeline easements have been obtained and to take measures to avoid adverse impacts to pipelines. This is consistent with N.D.A.C. § 69-05.2-24-09 of the North Dakota Administrative Code, which provides that:

> [a]ll surface mining activities must be conducted in a manner which minimizes damage, destruction, or disruption of services provided by . . . oil, gas, and coal-slurry pipelines . . . which pass over, under, or through the permit area, unless otherwise approved by the owner of those facilities and the commission.

Summit is committed to working with BNI through construction and operation of the Project to ensure surface mining activities do not interfere with or damage the pipeline.

In the event the Commission requires additional information concerning the portion of the Project route on lands subject to BNI's coal mining permit, Summit is prepared to tender witnesses to discuss such information at the limited rehearing.

XI. CONCLUSION.

It is likely that the Intervenors and others opposed to Summit's Project will argue that this petition is not appropriate and that Summit should be required to reapply and proceed through another lengthy, multiple-hearing process. However, this argument is unreasonable under the circumstances. Specifically, the Commission's Order was not a wholesale rejection of Summit's Application. Rather, the Commission issued an order that, in Summit's view, clearly identifies specific areas where Summit failed to meet its burden under the Siting Act and the Commission's siting criteria. It is therefore unnecessary to relitigate an entire application when the Siting Act and the Commission's rules provide a more reasonable alternative, *i.e.*, this petition for reconsideration and a rehearing. Section 69-02-01-10 of the North Dakota Administrative Code provides that the Commission's rules shall be "liberally construed to secure just, speedy, and inexpensive determination of the issues presented." N.D.A.C. § 69-02-01-10. Requiring Summit to reapply when the Commission's rules provide an opportunity for a rehearing runs contrary to this stated objective.

Based on the further showing set forth herein and the evidence to be presented at the limited rehearing, Summit believes that it has met its burden of proof by complying with the statutory requirements of the Siting Act and rules and regulations of the Commission. In doing so, Summit has demonstrated that the policy considerations set forth in the Notice have been satisfied.

Accordingly, Summit respectfully requests that the Commission:

1. Allow this petition to supplement the record before the Commission;

2. Grant Summit's request for a rehearing, limited to the specific issues set forth in this petition;

3. Amend the Order with findings of fact and conclusions of law consistent with the evidence presented herein and at the limited rehearing;

4. Amend the Order granting Summit a certificate of corridor compatibility and route permit for the route set forth on **Exhibit A**, with construction of the Project conditioned upon:

    a. Summit completing all field surveys for the un-surveyed areas within the 200-foot-wide Project corridor as identified on **Exhibit A**;

    b. Summit completing its Class III cultural resource surveys for un-surveyed areas within the 200-foot-wide Project corridor as identified on **Exhibit A**;

    c. Summit submitting its amended cultural resource report to SHPO and filing a copy of SHPO's concurrence with the Commission;

    d. Rerouting the Project in the areas to the north and east of Bismarck consistent with the route depicted in **Figure 1** and as described herein; and

    e. Any other reasonable requirements of the Commission which are consistent with the further showing made in this petition;

5. Grant's Summit's Application for Waiver or Reduction of Procedures and Time Schedules;

6. Grant Summit's Motion to Declare Emmons County and Burleigh County Ordinances Superseded and Preempted[8]; and

7. Amend the Order finding the Emmons County and Burleigh County ordinances superseded and preempted under North Dakota law.

DATED this 18th day of August, 2023.

FREDRIKSON & BYRON, P.A.

By: _____

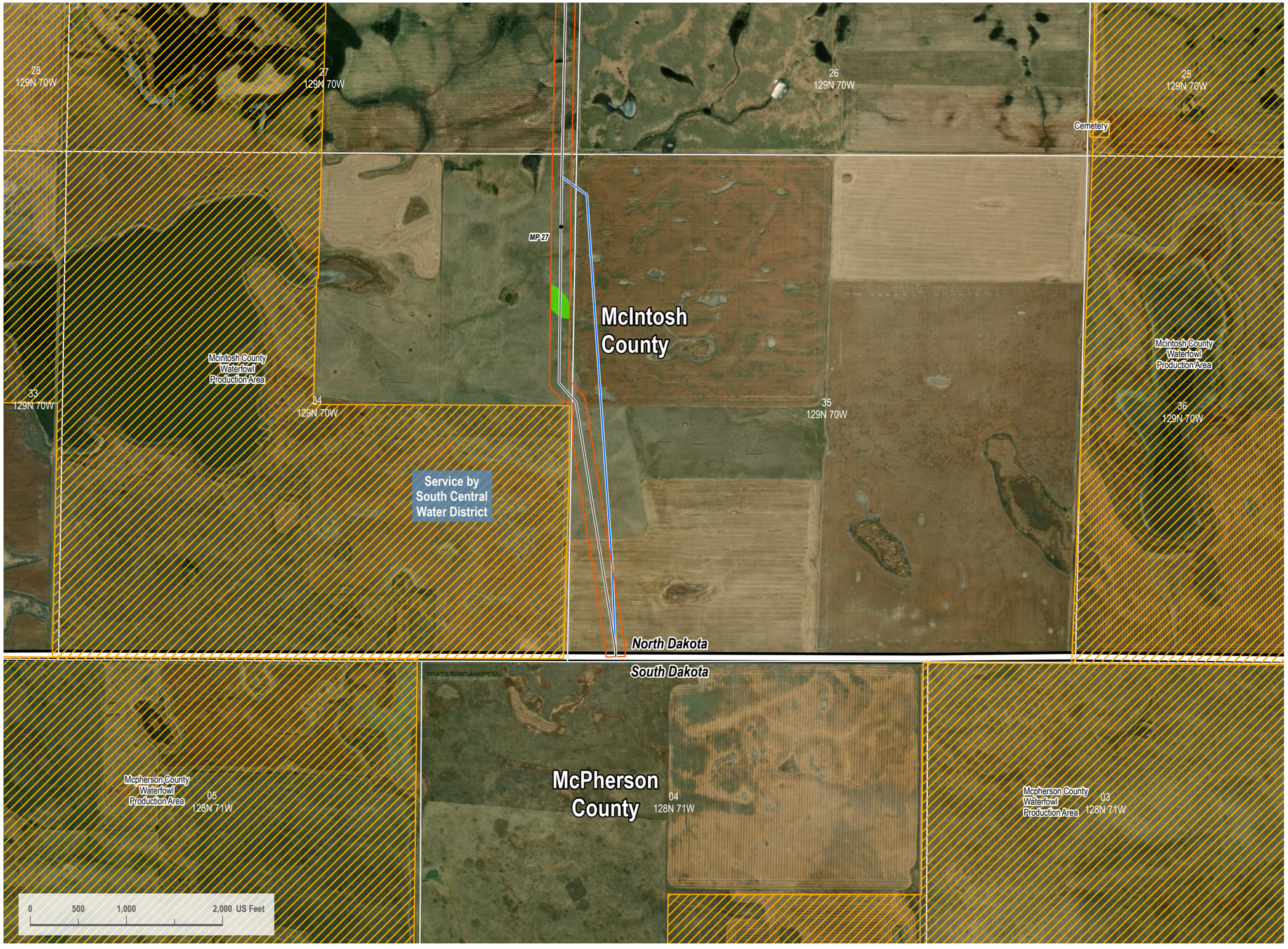
Lawrence Bender, ND Bar #03908
1133 College Drive, Suite 1000
Bismarck, ND 58501-1215
701.221.8700
lbender@fredlaw.com

Counsel for SCS Carbon Transport LLC

79962347 v1

[8] *See* Docket No. 282.

ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- Centerline Mileposts
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Avoidance Area
- PEM Wetland
- 200-foot Siting Corridor

N

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Exhibit A

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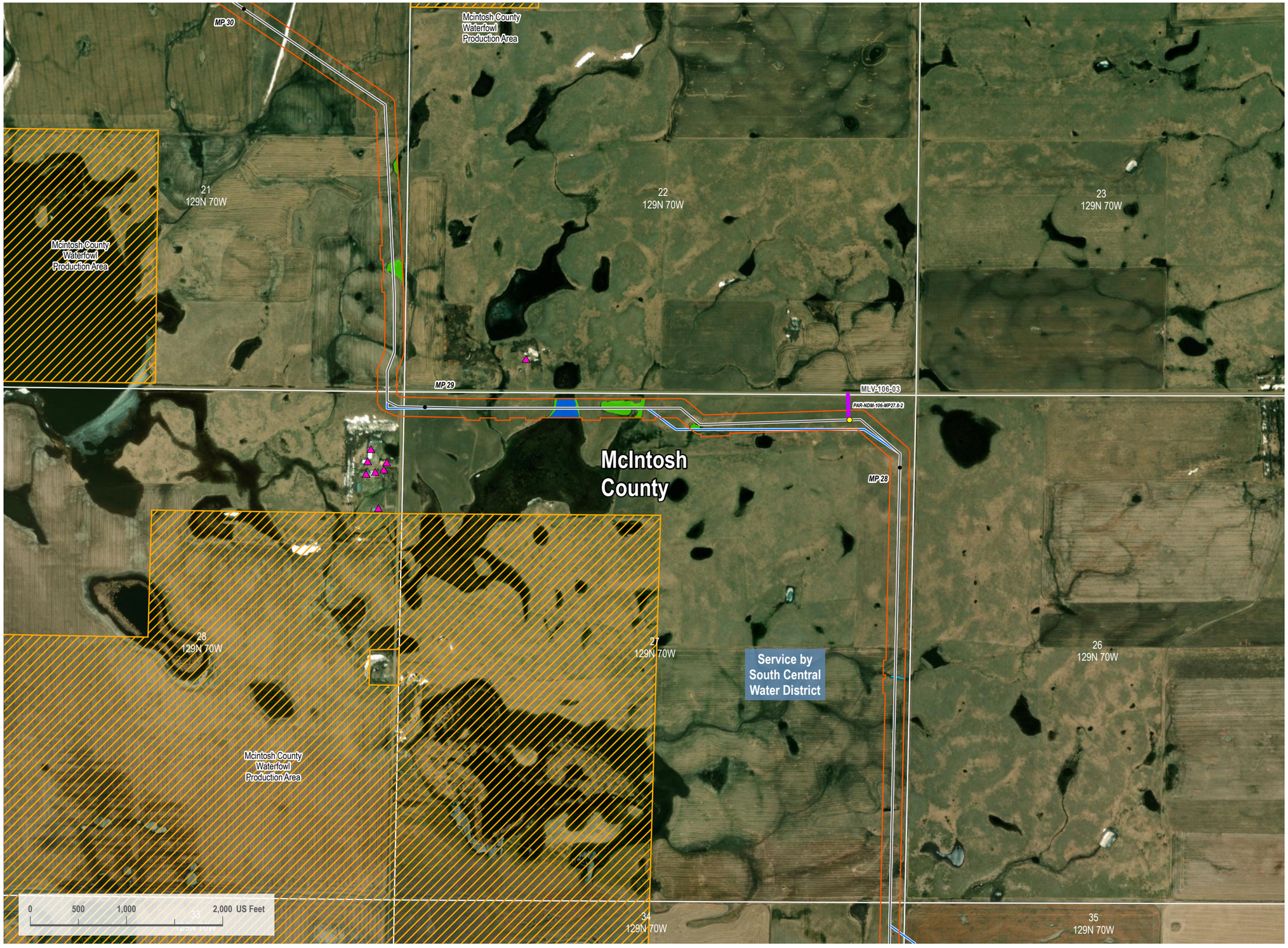

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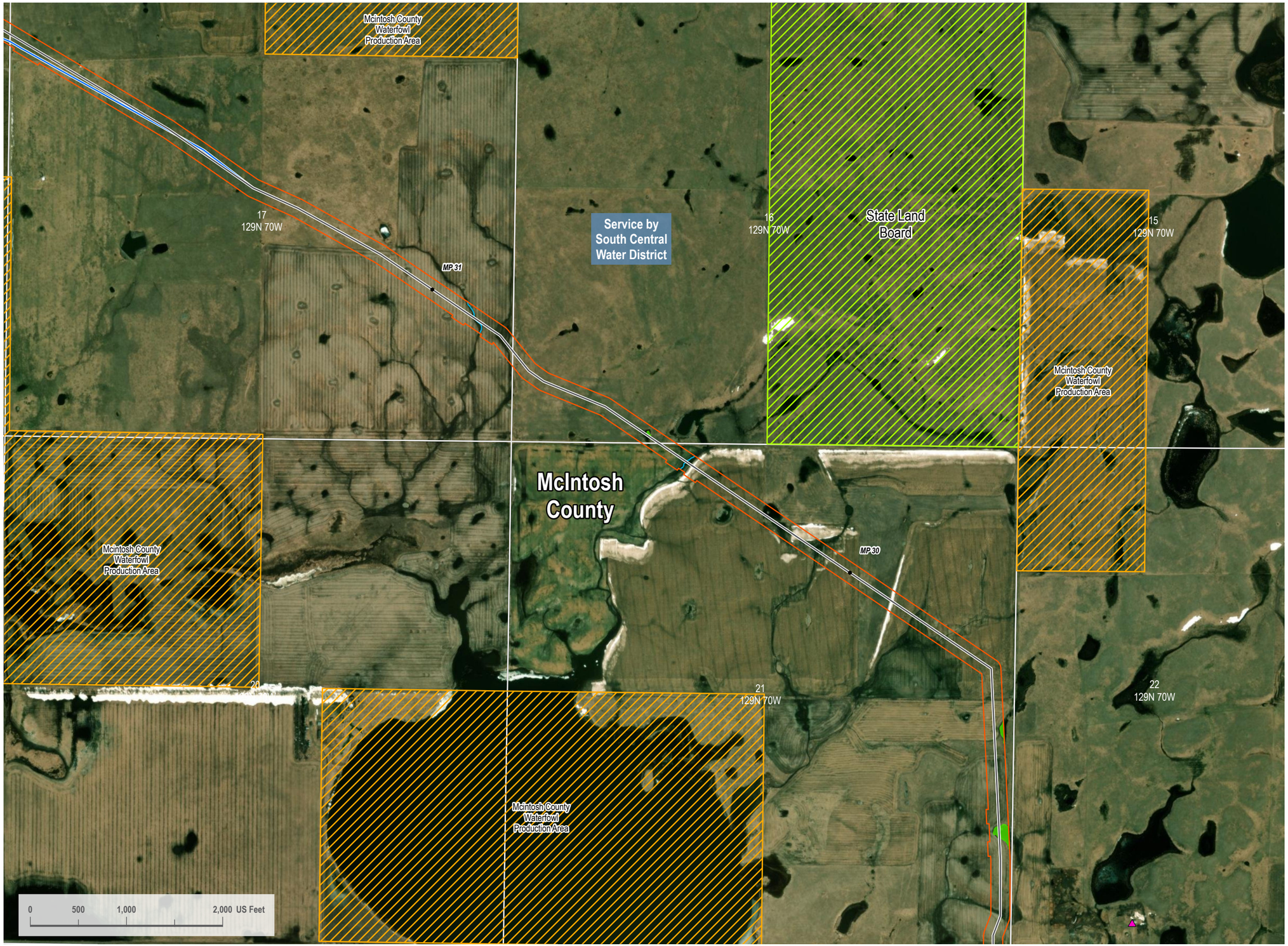

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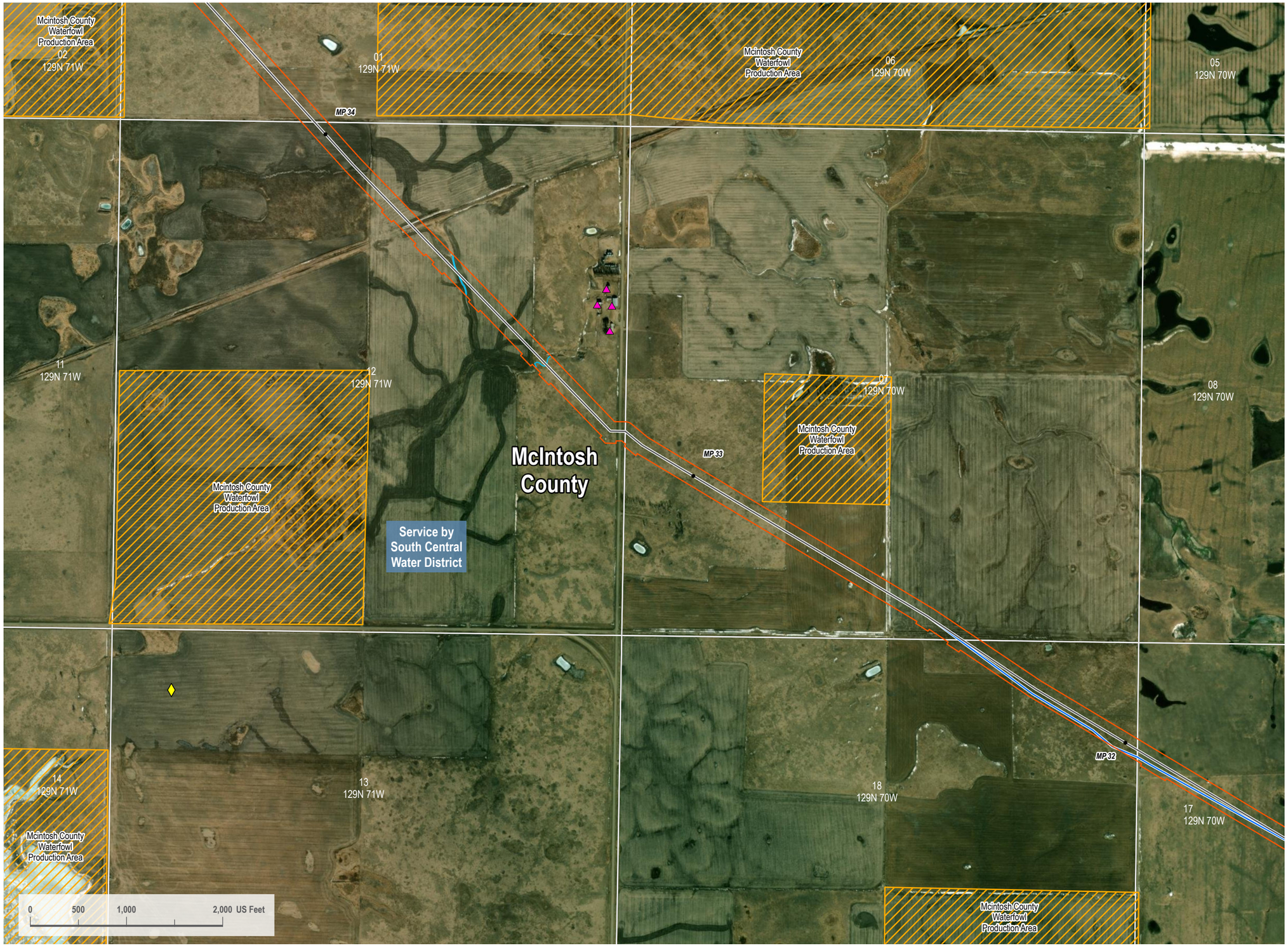

VICINITY MAP



LEGEND

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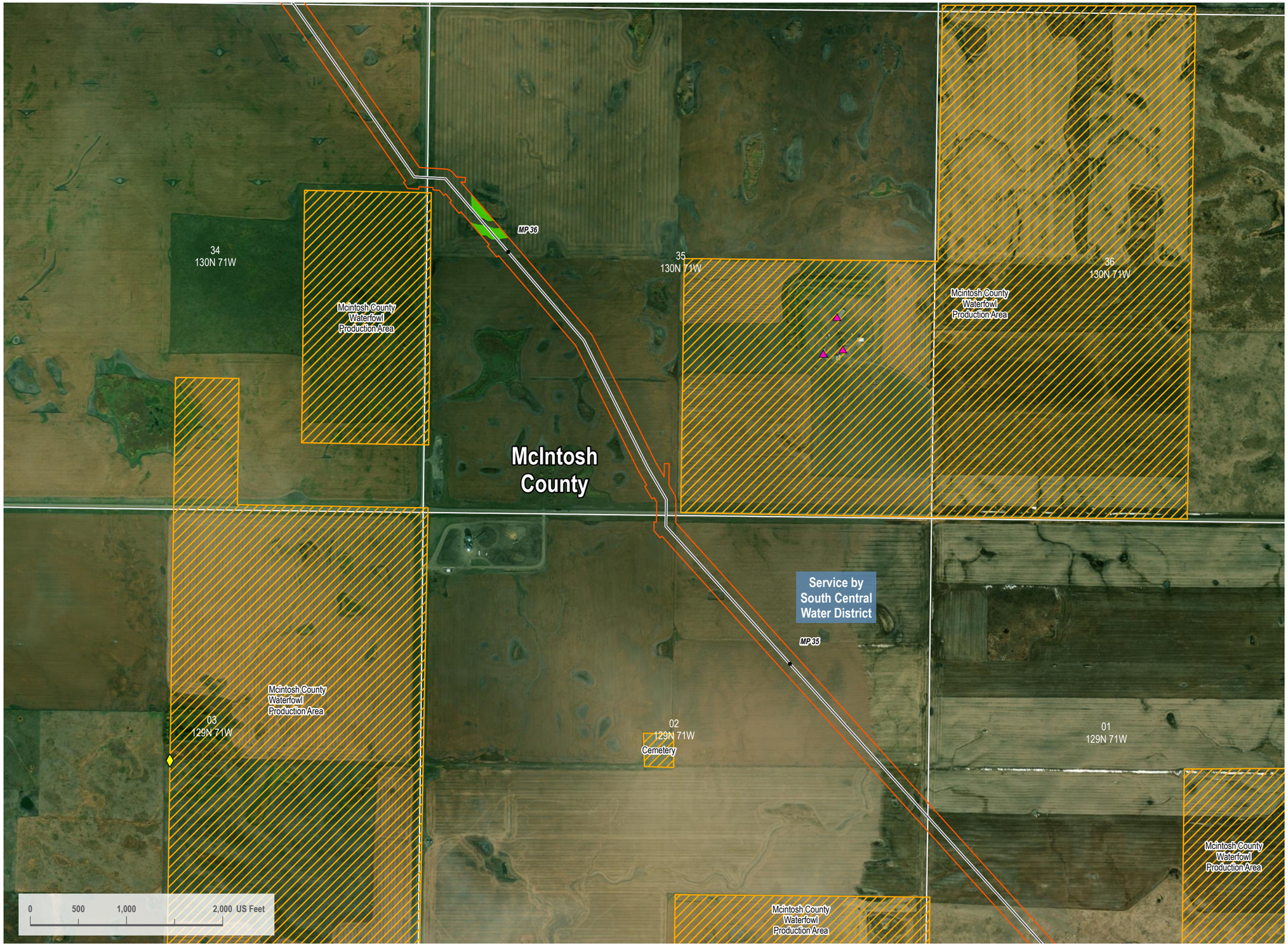

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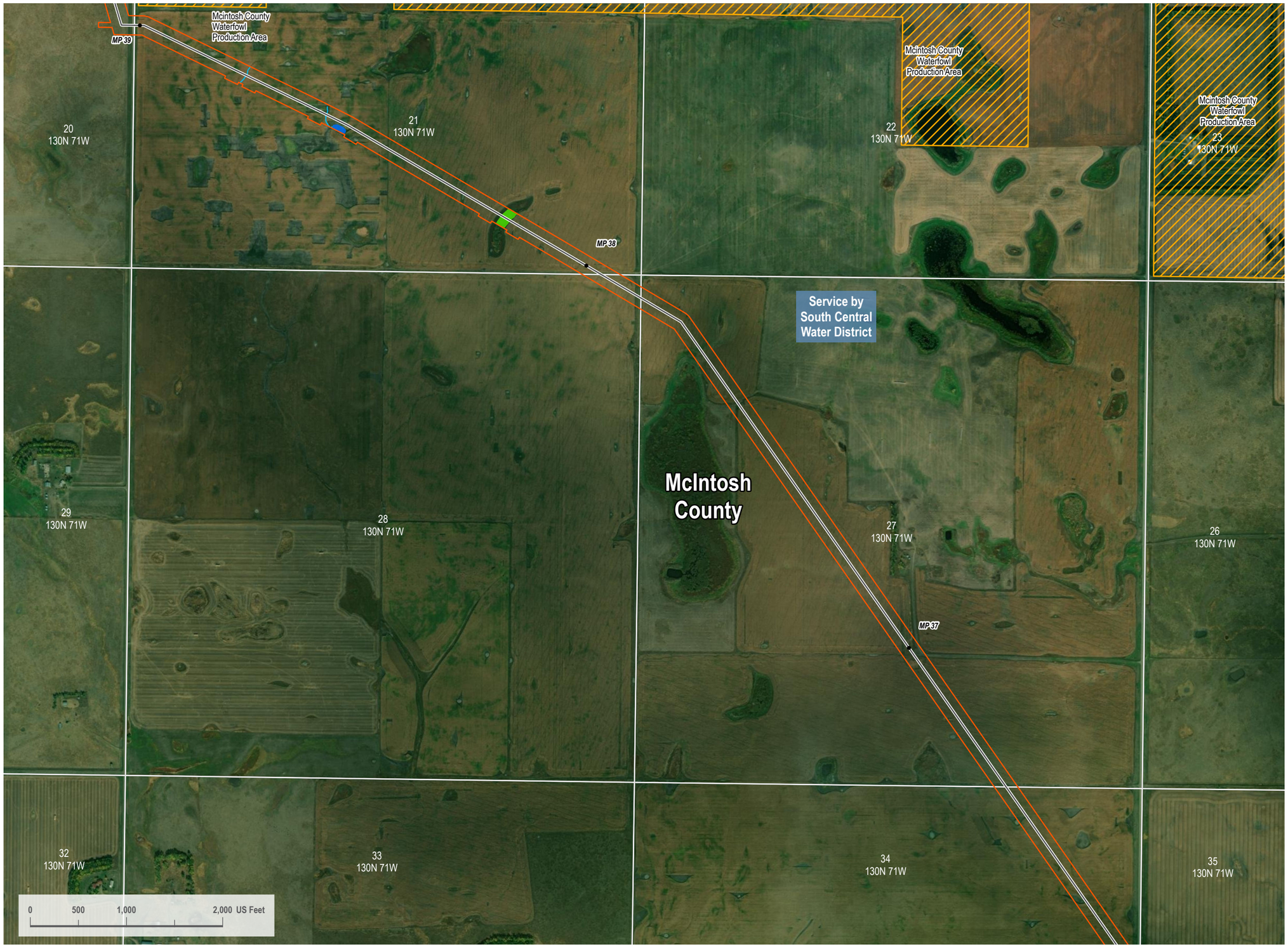

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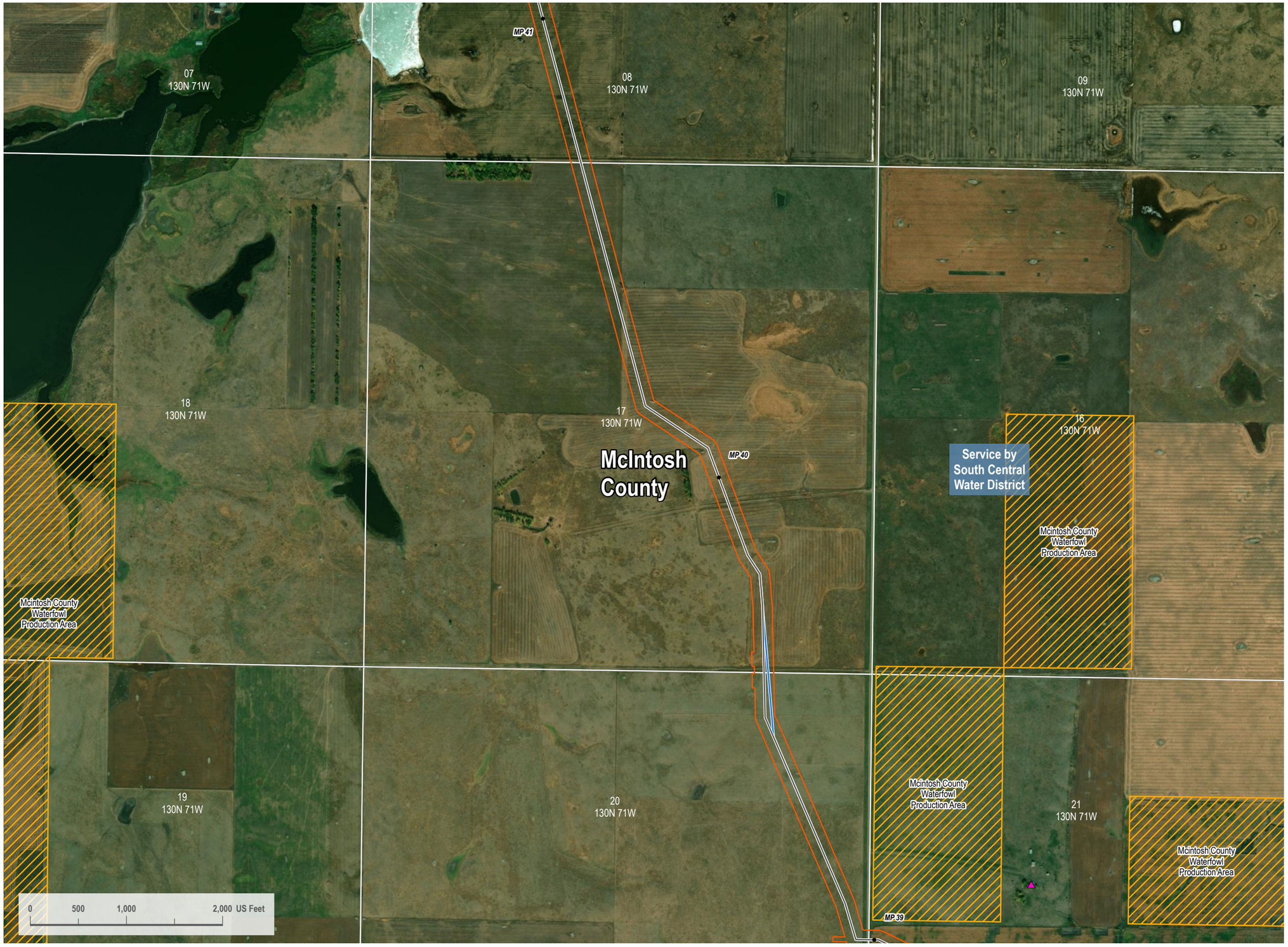

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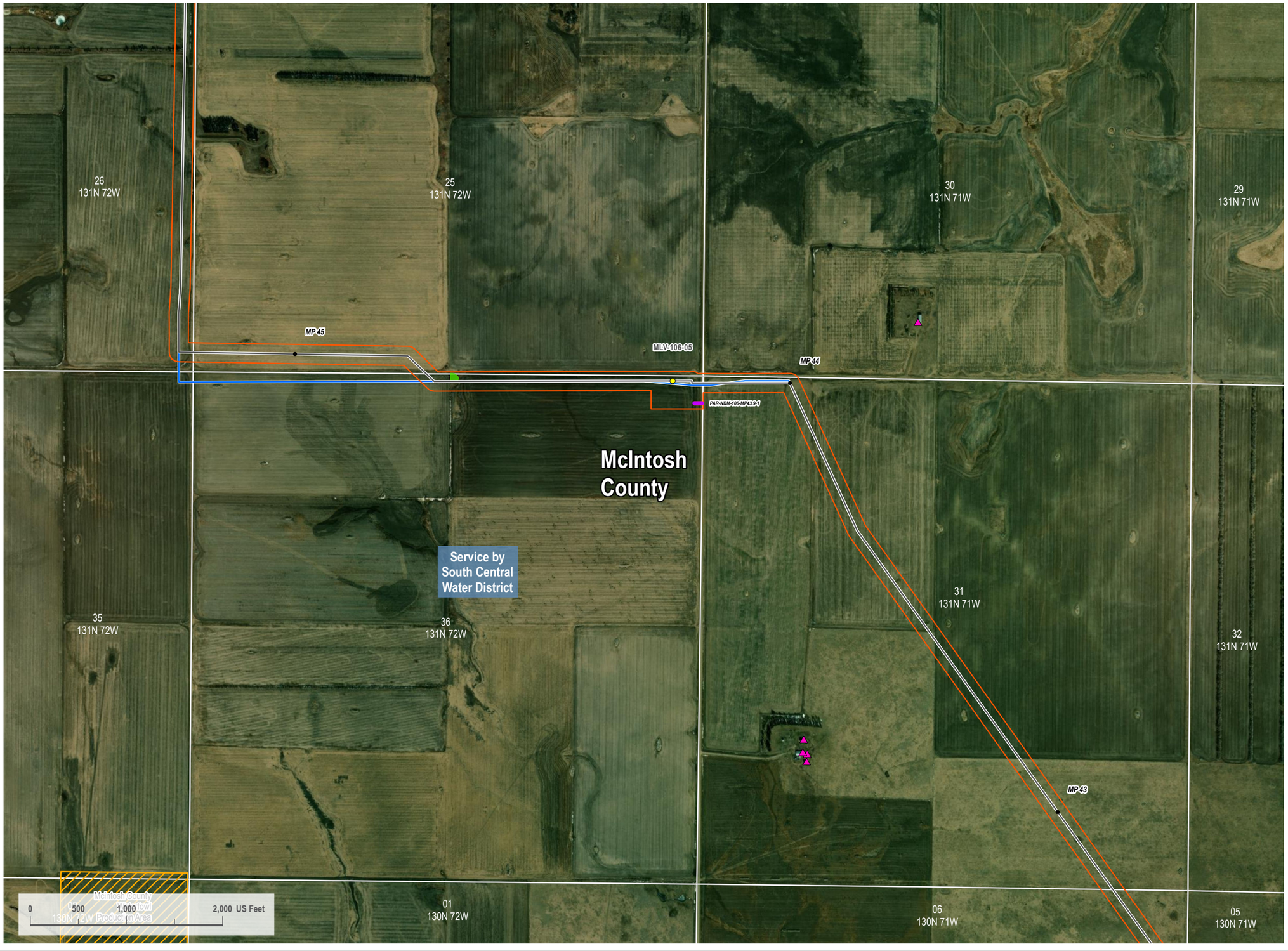

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VICINITY MAP



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MP 51

08
131N 72W

09
131N 72W

10
131N 72W

MP 50

McIntosh
County

Service by
South Central
Water District

17
131N 72W

16
131N 72W

15
131N 72W

MP 49

0 500 1,000 2,000 US Feet

VICINITY MAP



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- 200-foot Siting Corridor

N

REVISIONS

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PROJECT INFORMATION

Figure Title:
ND PSC - Aerial Map Book - NDM-106

Figure Number:
Map Book 1

Scale:
1 : 12,000
1 inch equals 1,000 feet

Projection:
Transverse Mercator
NAD 1983 UTM Zone 14N

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Drawing Number:
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VICINITY MAP



LEGEND

- Centerline Mileposts
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Stream
- 200-foot Siting Corridor

N

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VICINITY MAP



LEGEND

- Centerline Mileposts
- Water Well (Avoidance)
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Access Road
- Avoidance Area
- PEM Wetland
- Stream
- 200-foot Siting Corridor

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ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- Centerline Mileposts
- 200-foot Siting Corridor
- Water Well (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Access Road

N

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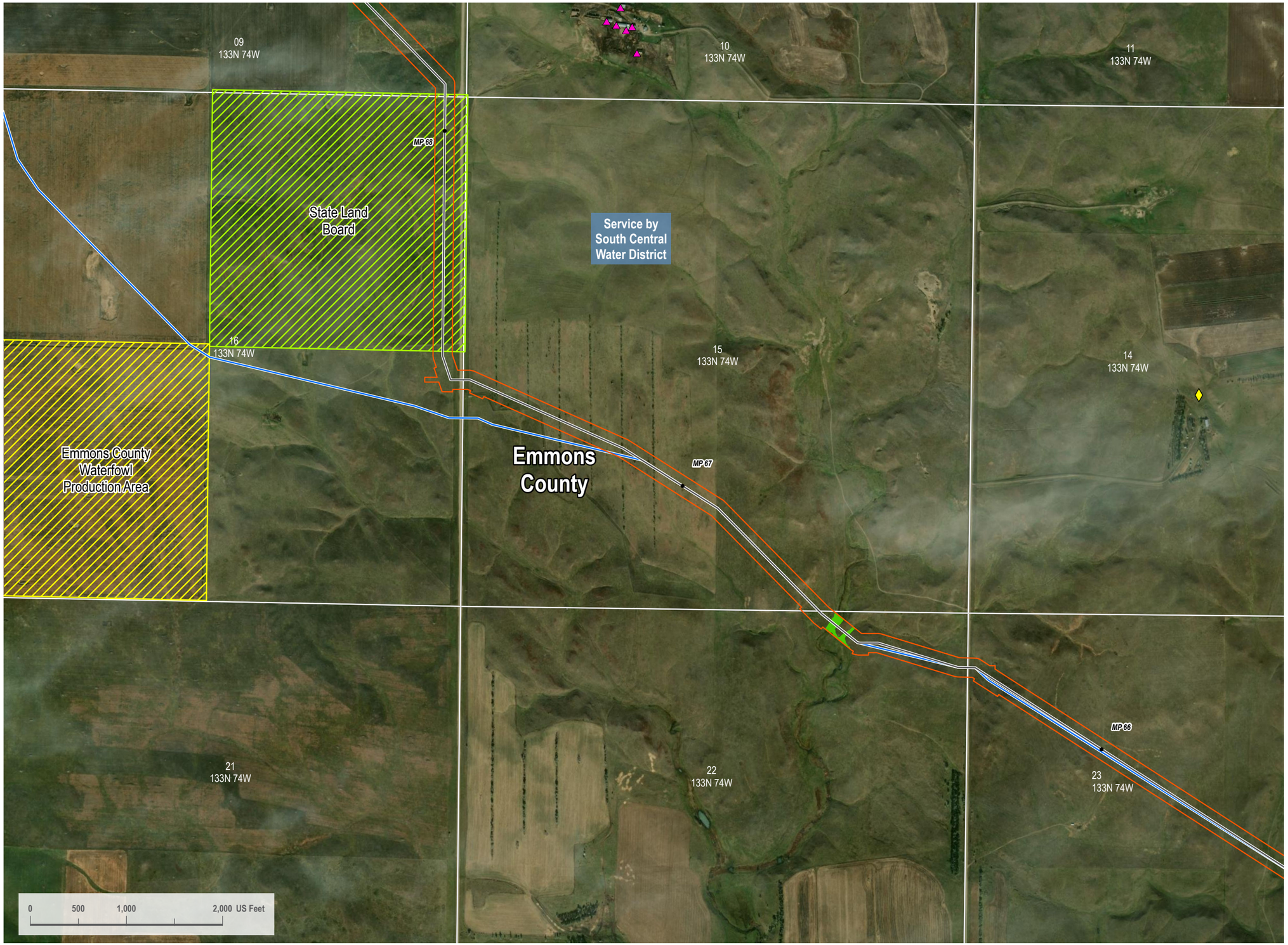

VICINITY MAP



LEGEND

- Centerline Mileposts
- Water Well (Avoidance)
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- PEM Wetland
- 200-foot Siting Corridor
- Resource Management Area
- State Resource Management Area

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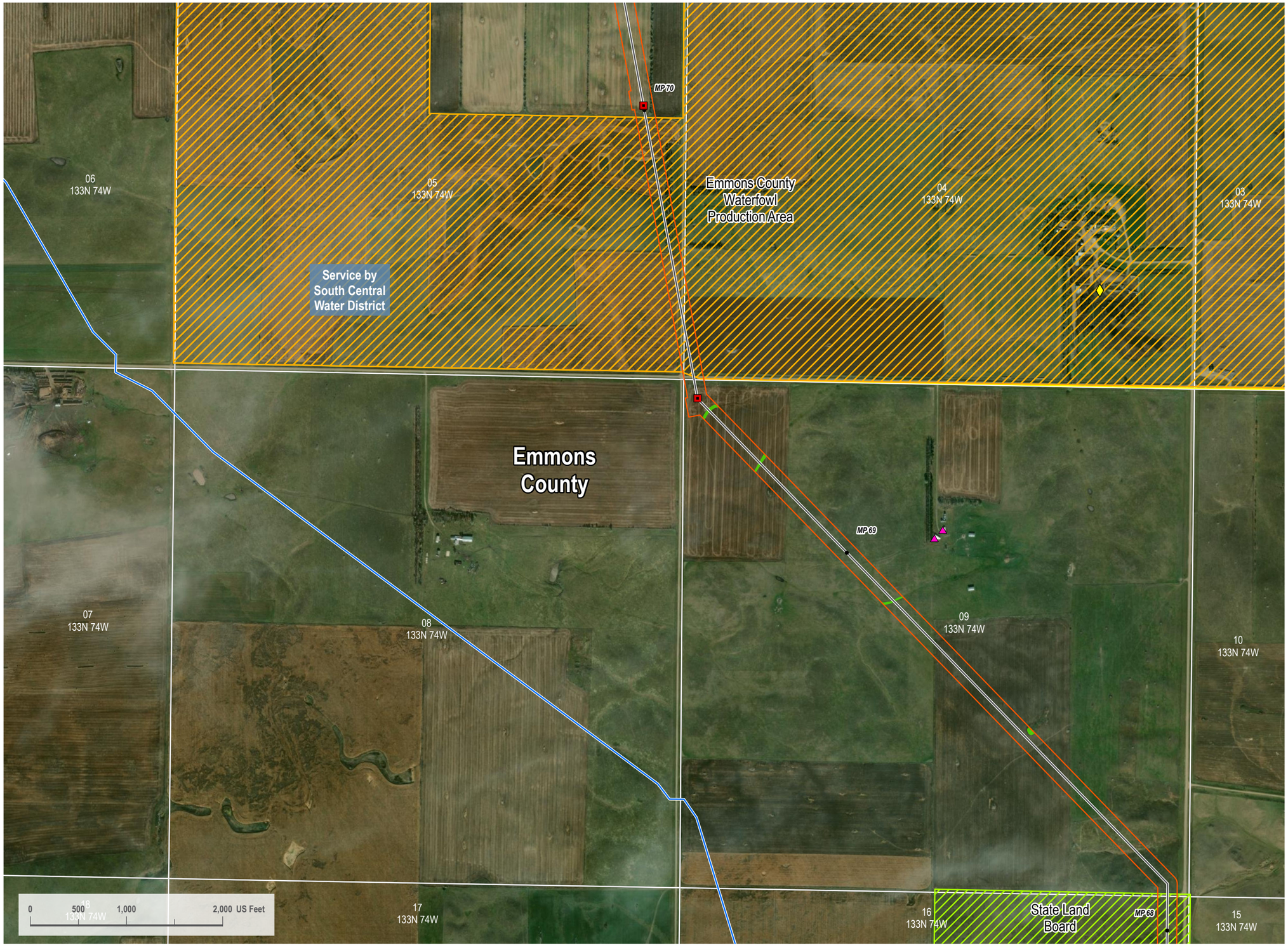

VICINITY MAP



LEGEND

- HDD Entry/Exit
- Centerline Mileposts
- Water Well (Avoidance)
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
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- PEM Wetland
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ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- Centerline Mileposts
- Water Well (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Avoidance Area
- PEM Wetland
- 200-foot Siting Corridor
- Resource Management Area

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ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- Centerline Mileposts
- Updated Proposed Project Route 08/15/2023
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- Section Line
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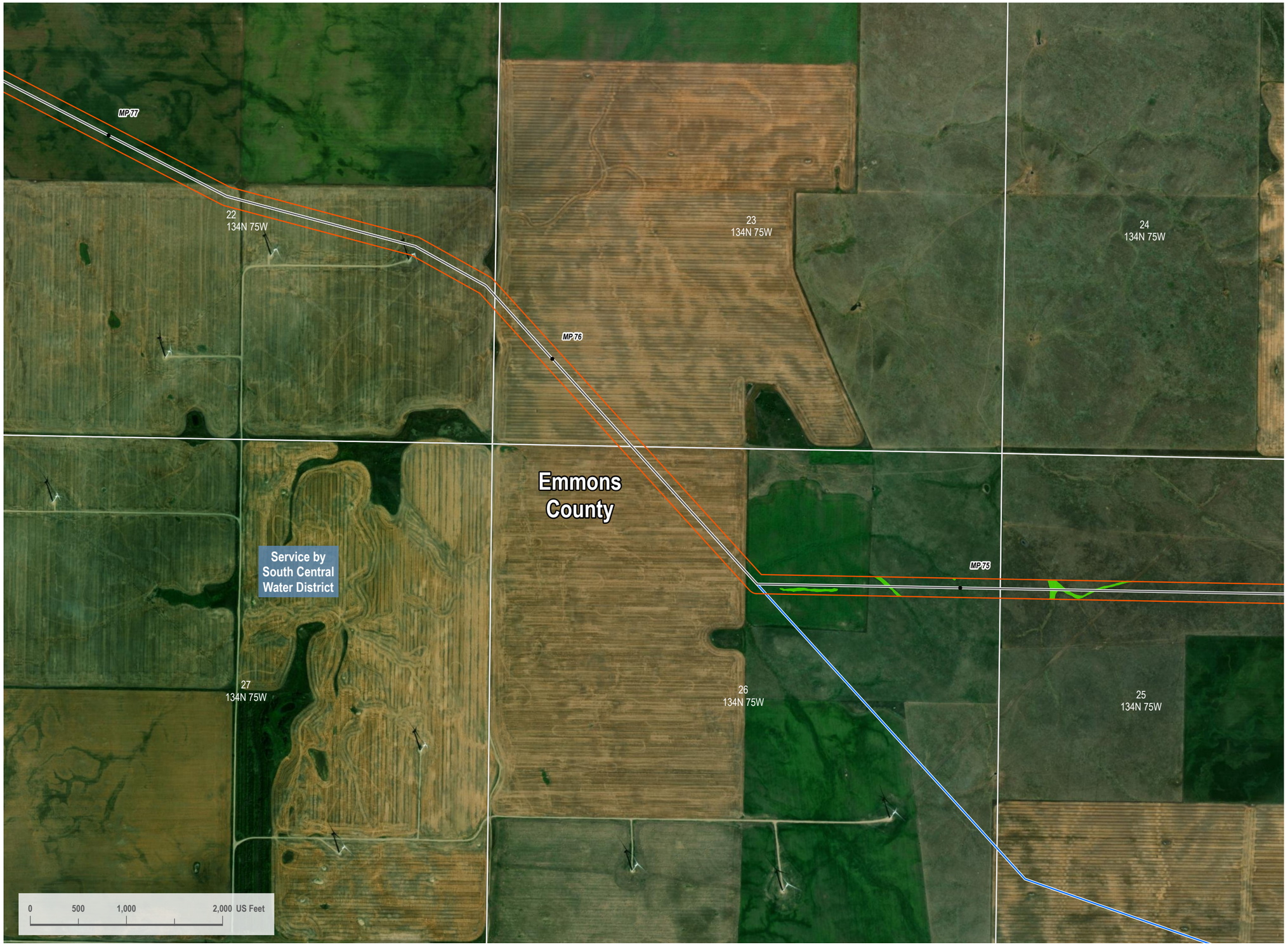

VICINITY MAP



LEGEND

- Centerline Mileposts
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- PEM Wetland
- 200-foot Siting Corridor

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NAD 1983 UTM Zone 14N

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VICINITY MAP



LEGEND

- Centerline Mileposts
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- PEM Wetland
- 200-foot Siting Corridor
- State Resource Management Area

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ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- Centerline Mileposts
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- PEM Wetland
- 200-foot Siting Corridor

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Figure Number:
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Projection:
Transverse Mercator
NAD 1983 UTM Zone 14N

Sheet:
24
24 of 139

Drawing Number:
1001-01-003
Revision A

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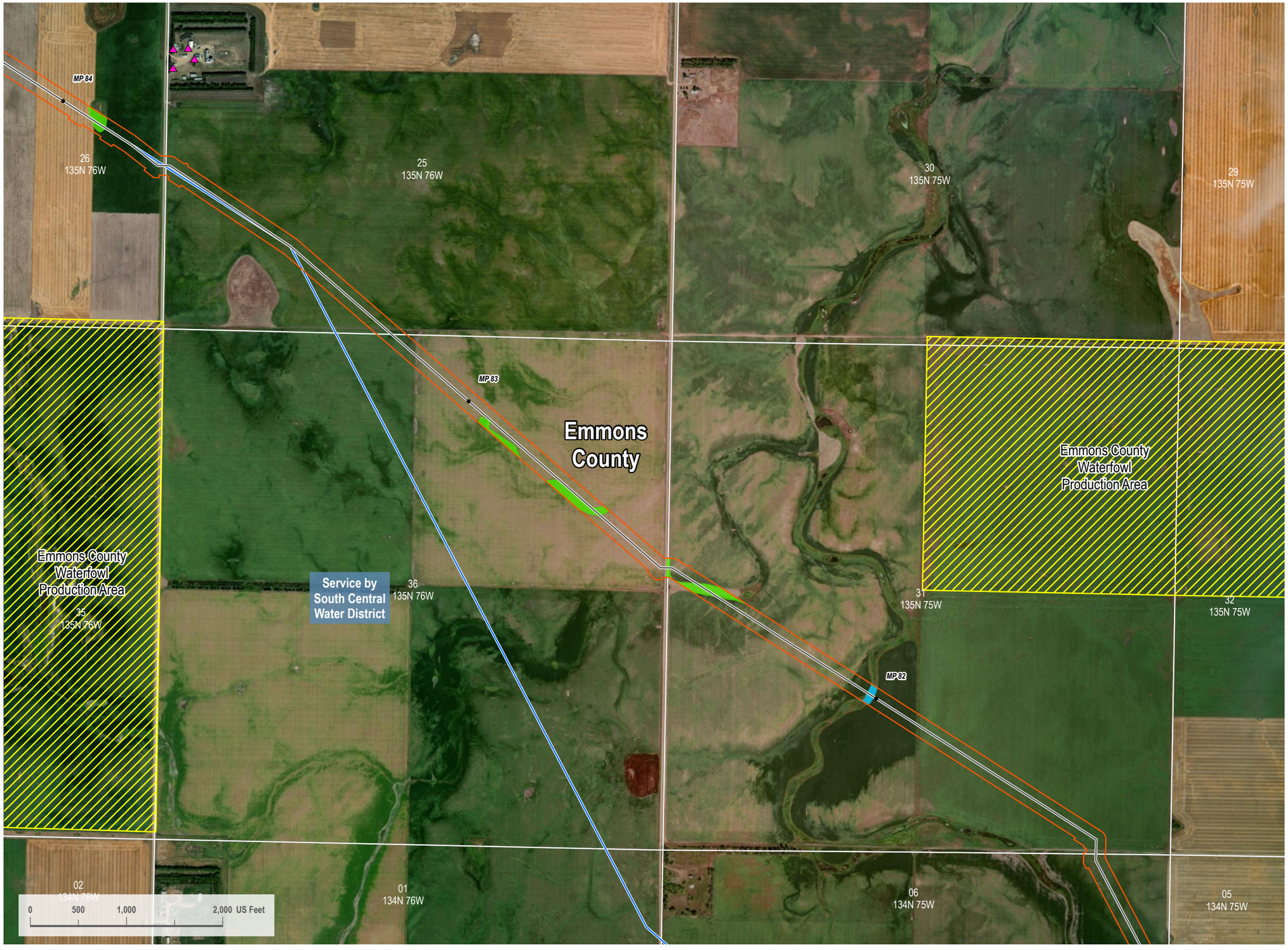
ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- Centerline Mileposts
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- PEM Wetland
- Stream
- 200-foot Siting Corridor
- Resource Management Area

N

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1 : 12,000 1 inch equals 1,000 feet	Transverse Mercator NAD 1983 UTM Zone 14N

Sheet:	Drawing Number:
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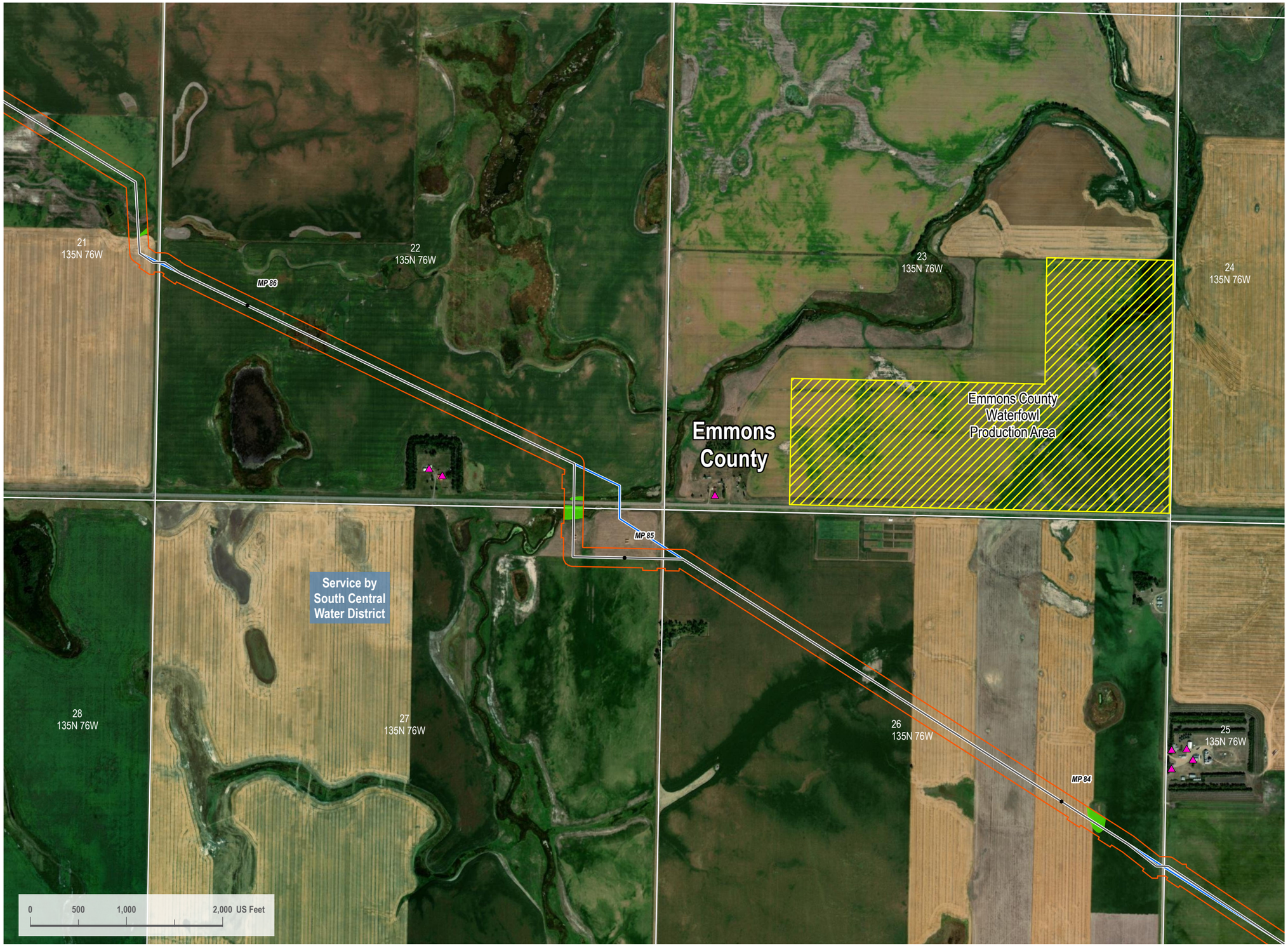

VICINITY MAP



LEGEND

- Centerline Mileposts
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- PEM Wetland
- 200-foot Siting Corridor
- Resource Management Area

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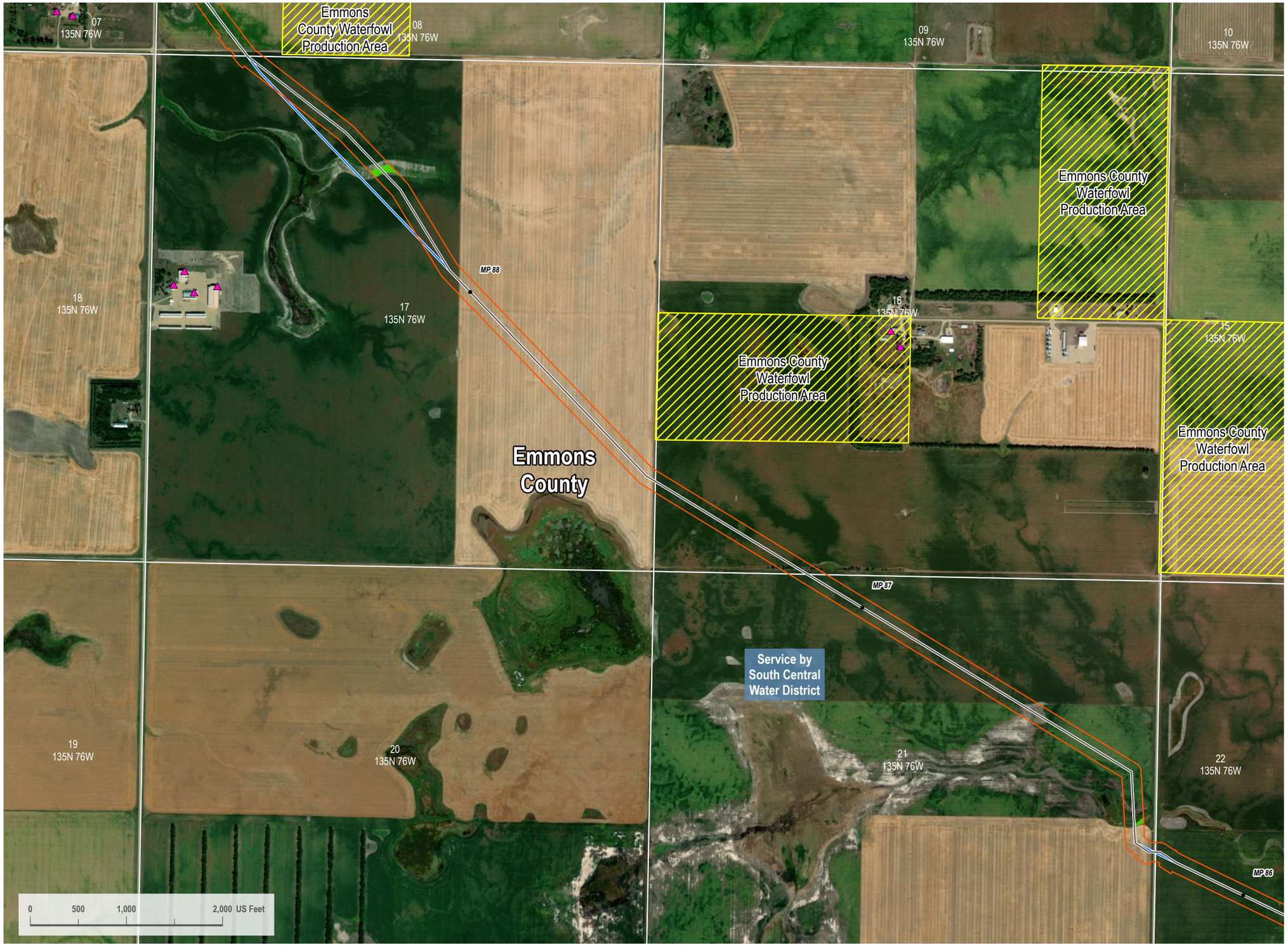

VICINITY MAP



LEGEND

- Centerline Mileposts
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- PEM Wetland
- 200-foot Siting Corridor
- Resource Management Area

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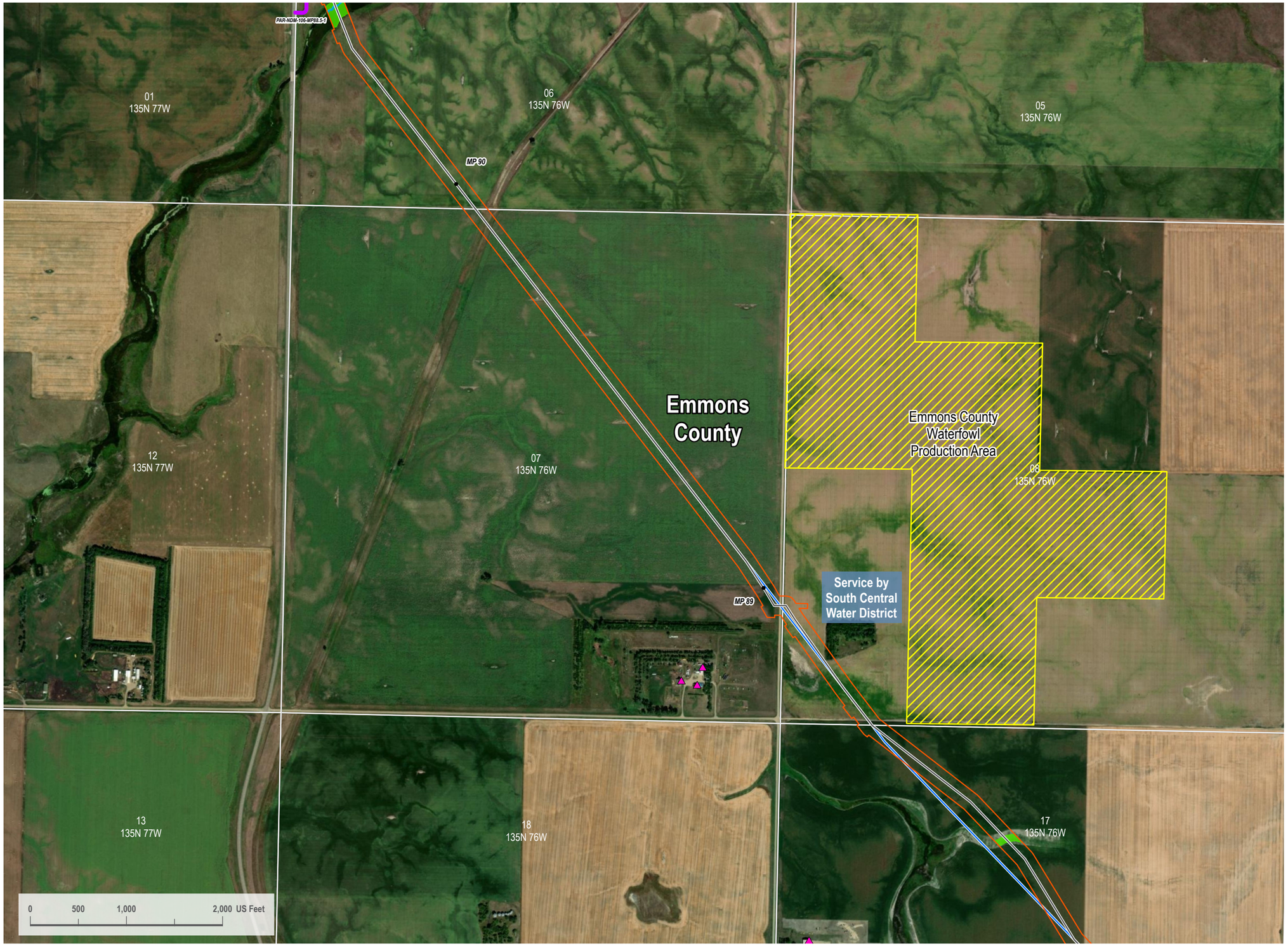

VICINITY MAP



LEGEND

- Centerline Mileposts
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Access Road
- PEM Wetland
- Stream
- 200-foot Siting Corridor
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ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- Centerline Mileposts
- Mainline Valve Location
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Access Road
- PEM Wetland
- Stream
- 200-foot Siting Corridor

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ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- Centerline Mileposts
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
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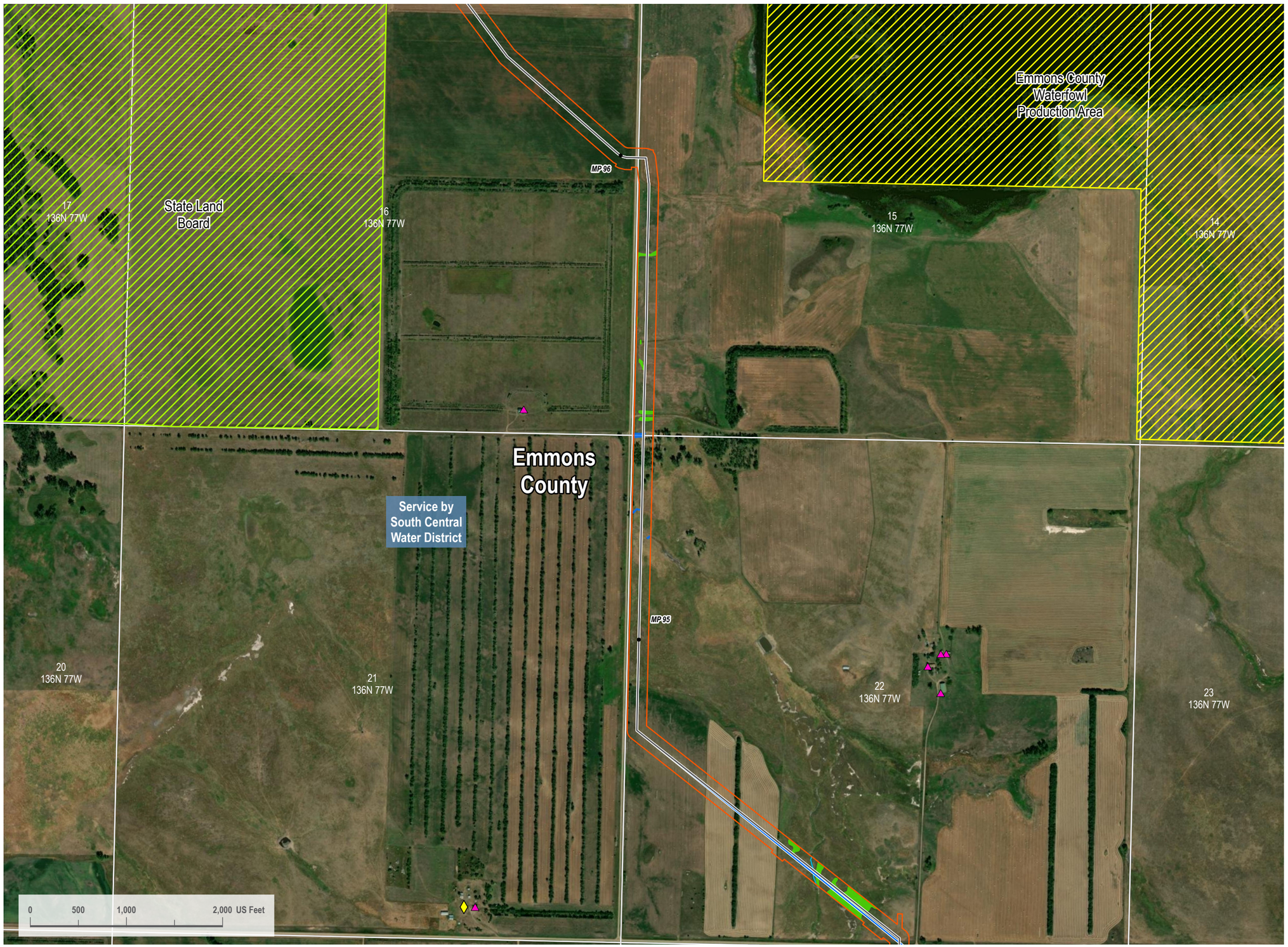
ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- Centerline Mileposts
- Water Well (Avoidance)
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Open Water
- PEM Wetland
- Stream
- 200-foot Siting Corridor
- Resource Management Area
- State Resource Management Area

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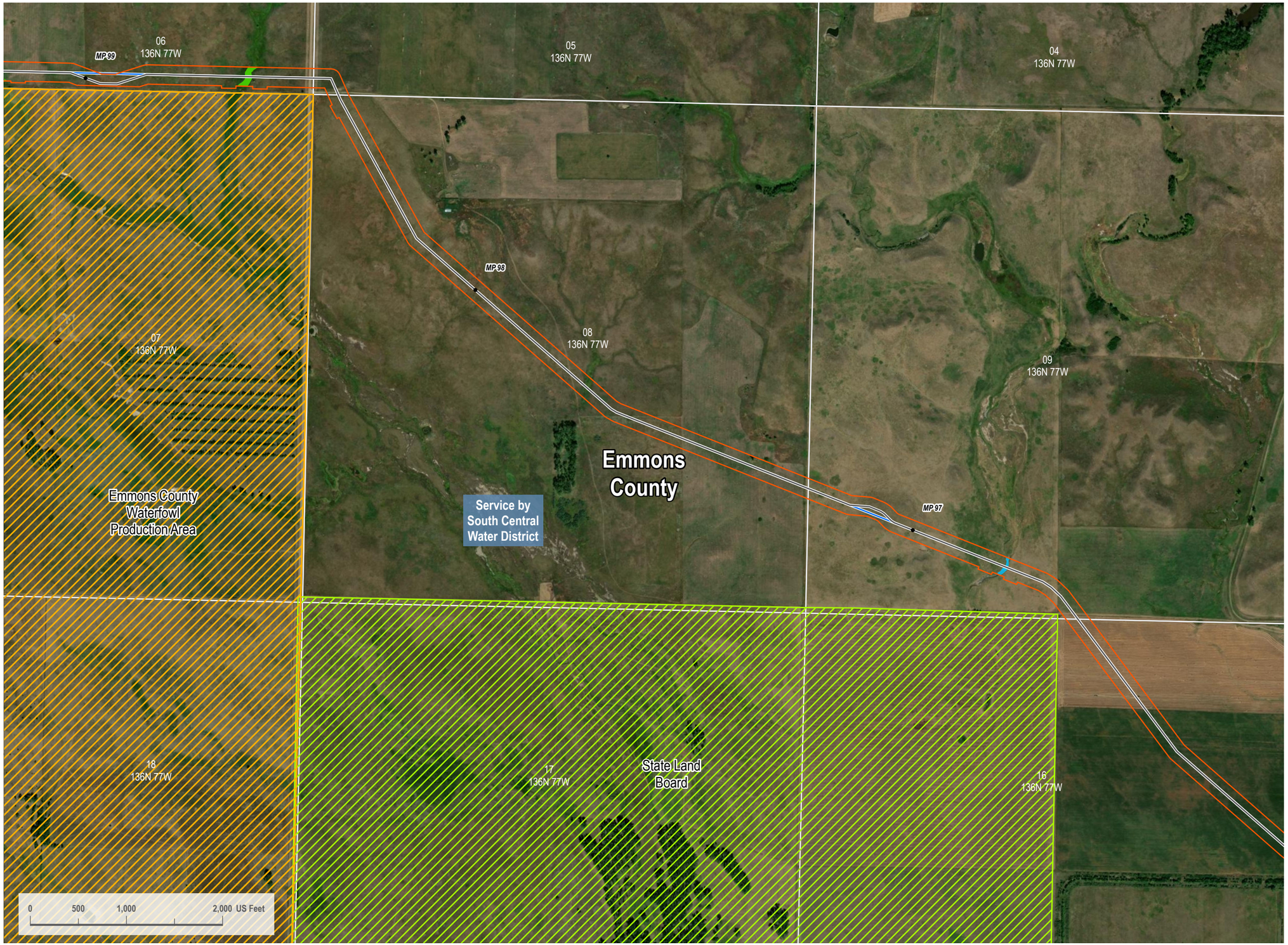

VICINITY MAP



LEGEND

- Centerline Mileposts
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Avoidance Area
- PEM Wetland
- Stream
- 200-foot Siting Corridor
- Resource Management Area
- State Resource Management Area

N

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PROJECT INFORMATION

Figure Title:

ND PSC - Aerial Map Book - NDM-106

Figure Number:

Map Book 1

Scale:	Projection:
1 : 12,000 1 inch equals 1,000 feet	Transverse Mercator NAD 1983 UTM Zone 14N
Sheet:	**Drawing Number:**
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VICINITY MAP



LEGEND

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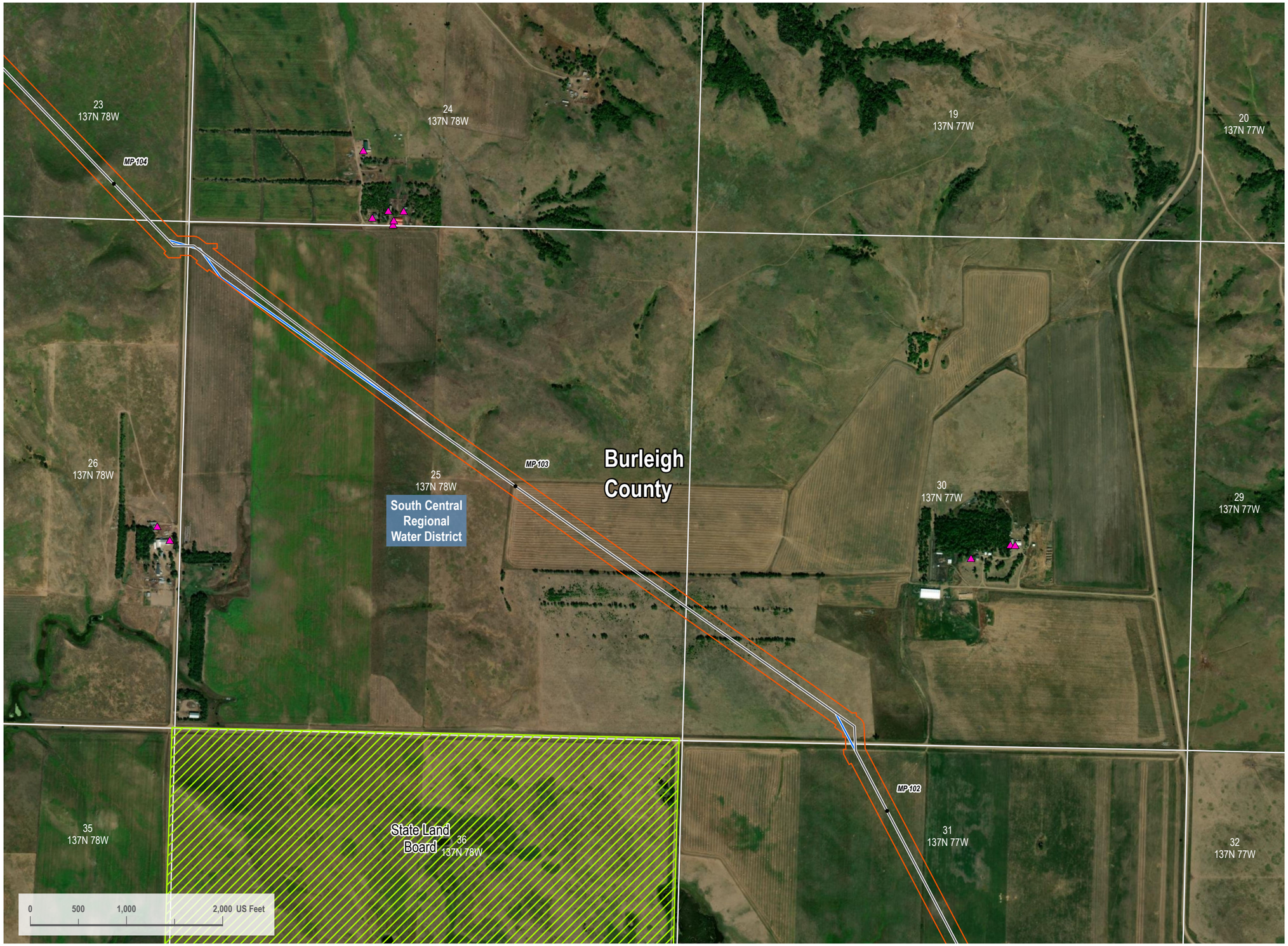

VICINITY MAP



LEGEND

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NAD 1983 UTM Zone 14N

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LEGEND

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VICINITY MAP



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ND PSC - AERIAL MAP BOOK



VICINITY MAP



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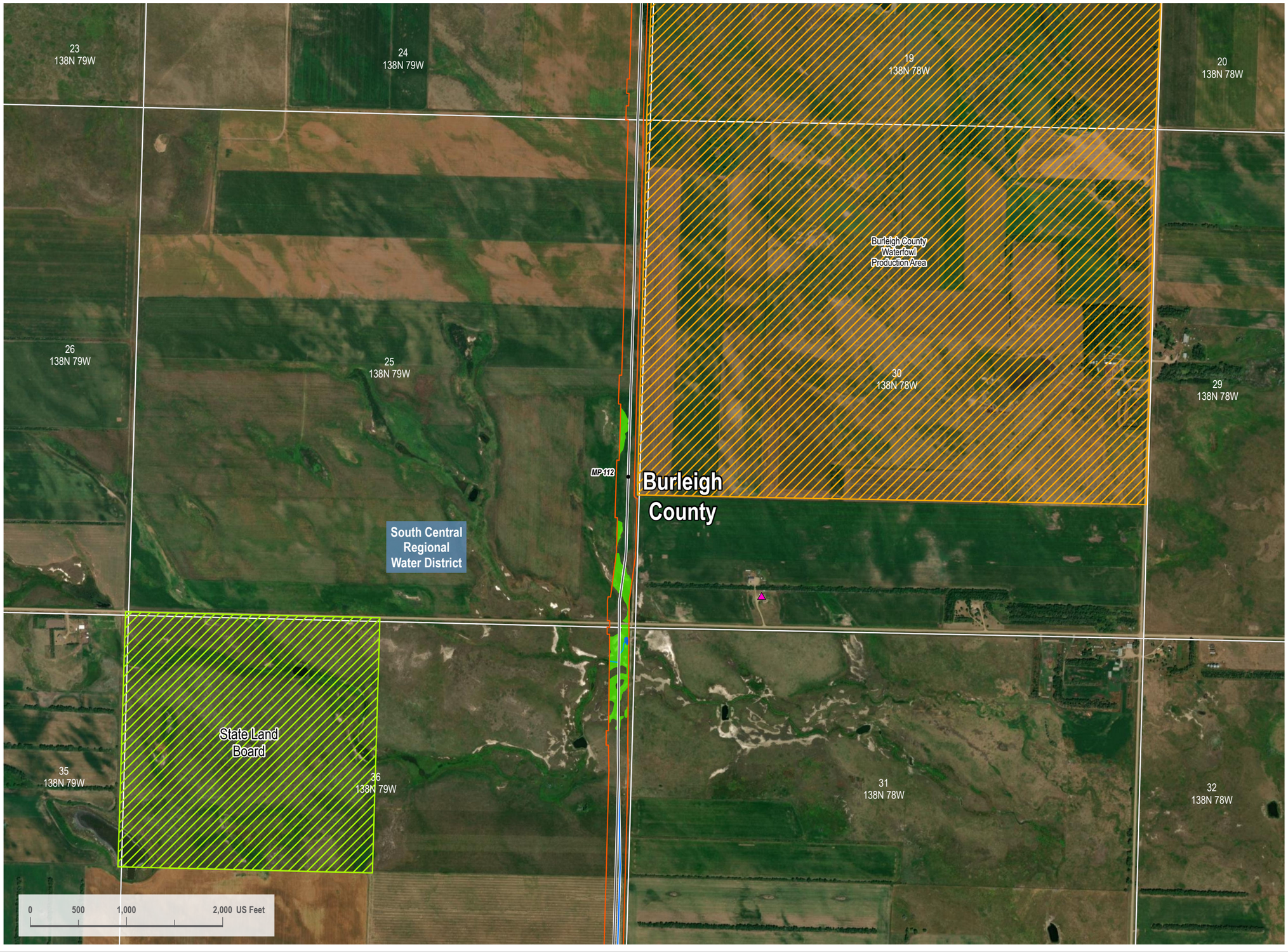

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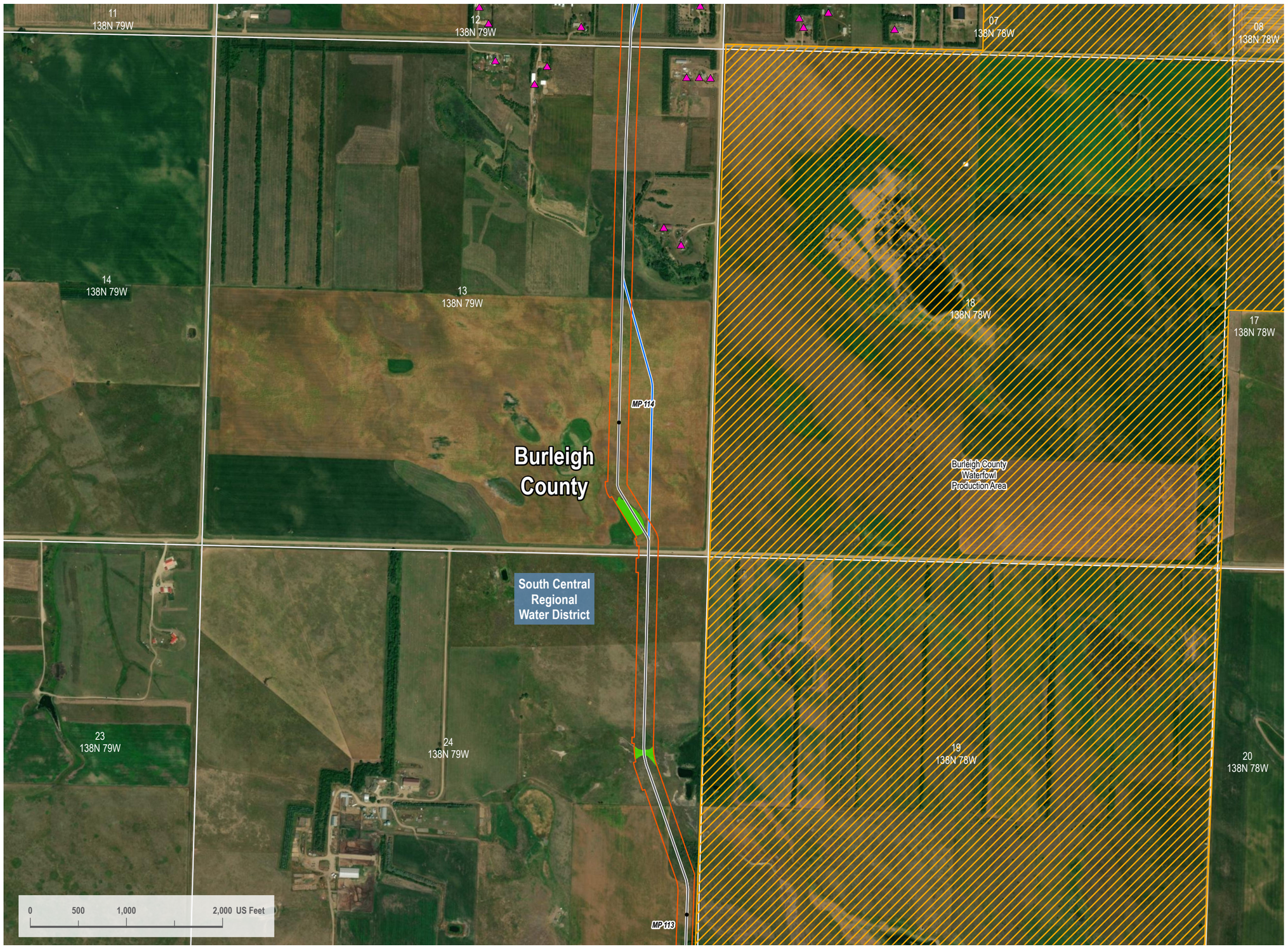

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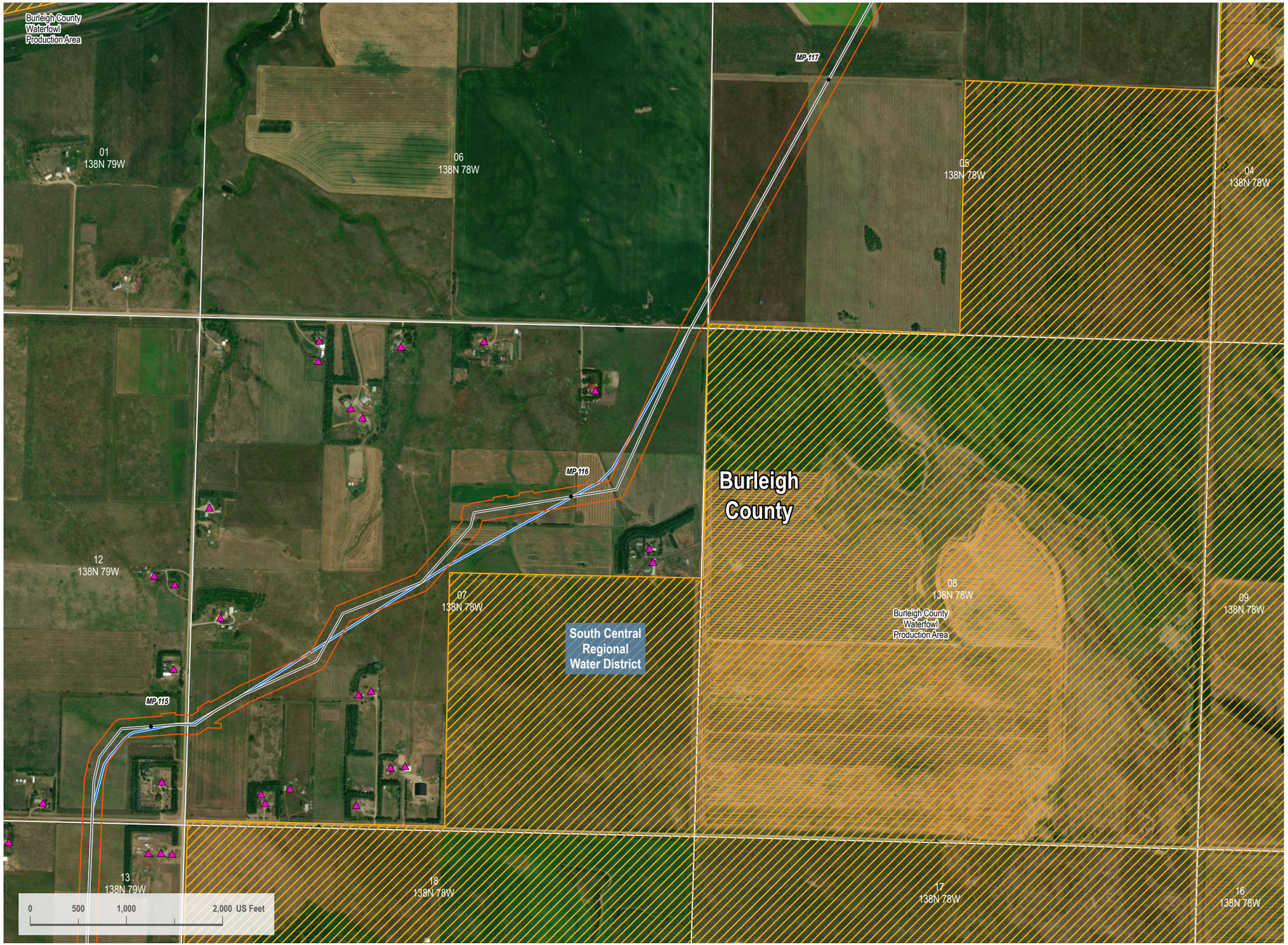

VICINITY MAP



LEGEND

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ND PSC - AERIAL MAP BOOK



VICINITY MAP



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- HDD Entry/Exit
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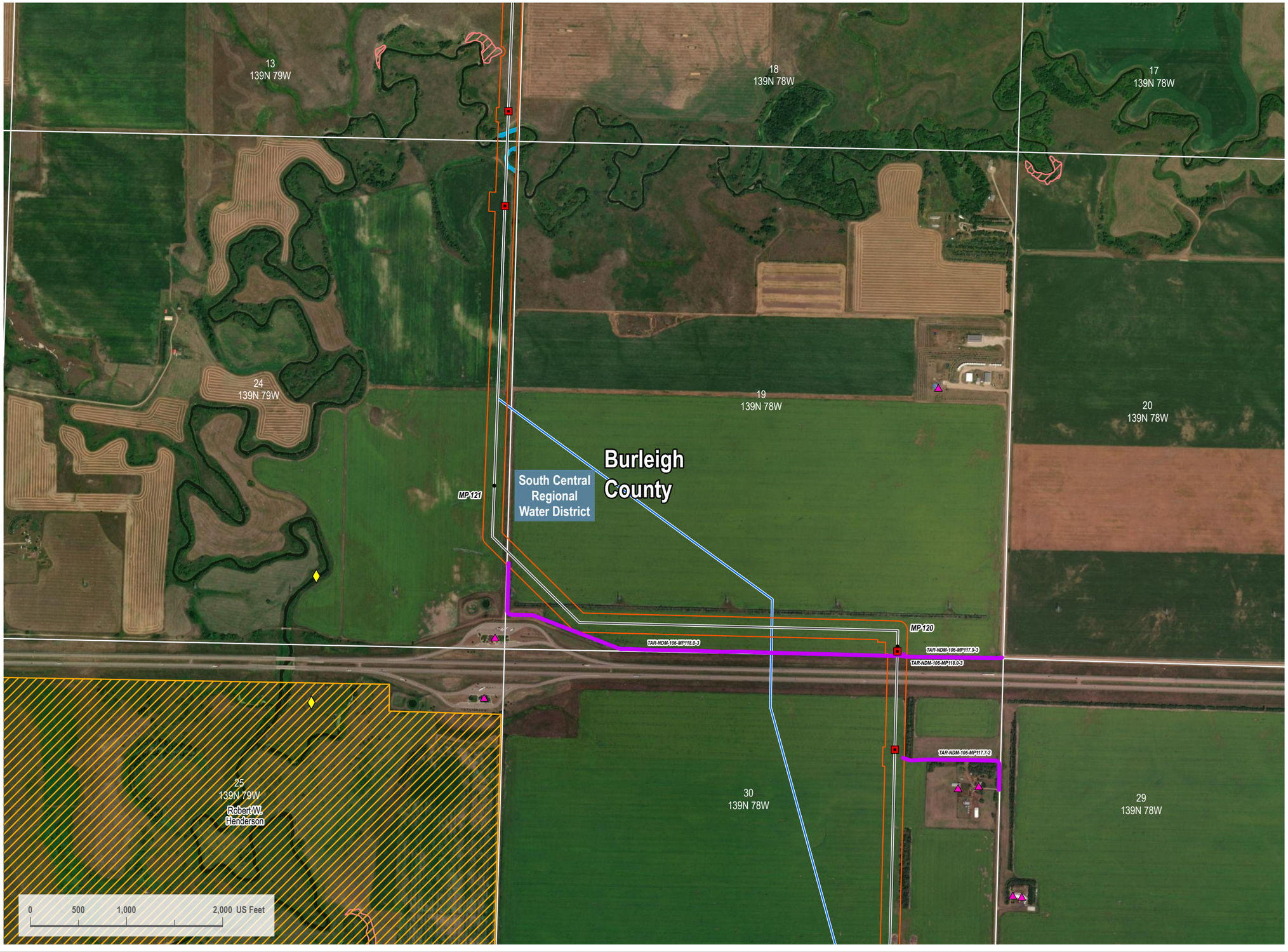

VICINITY MAP



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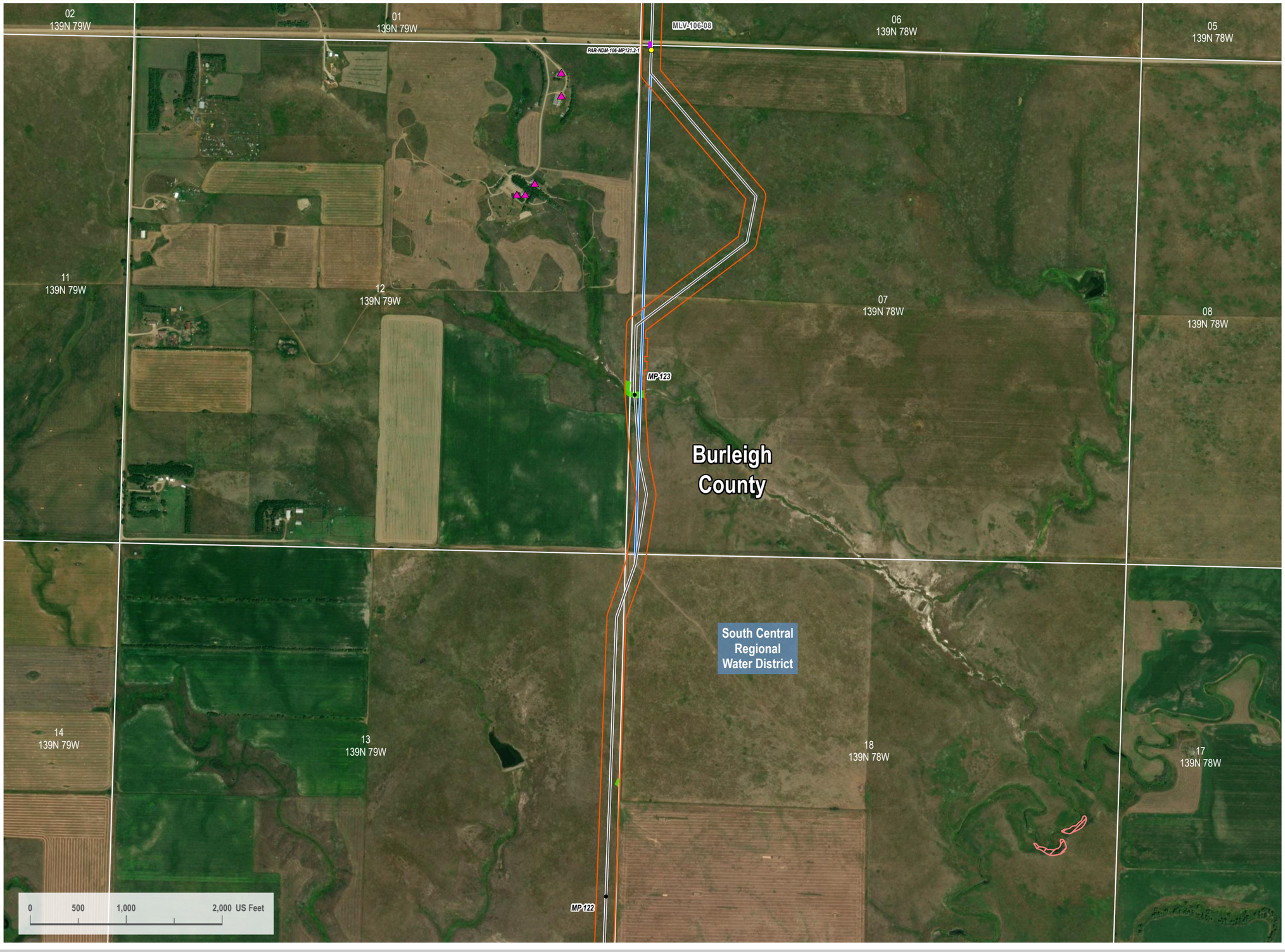

VICINITY MAP



LEGEND

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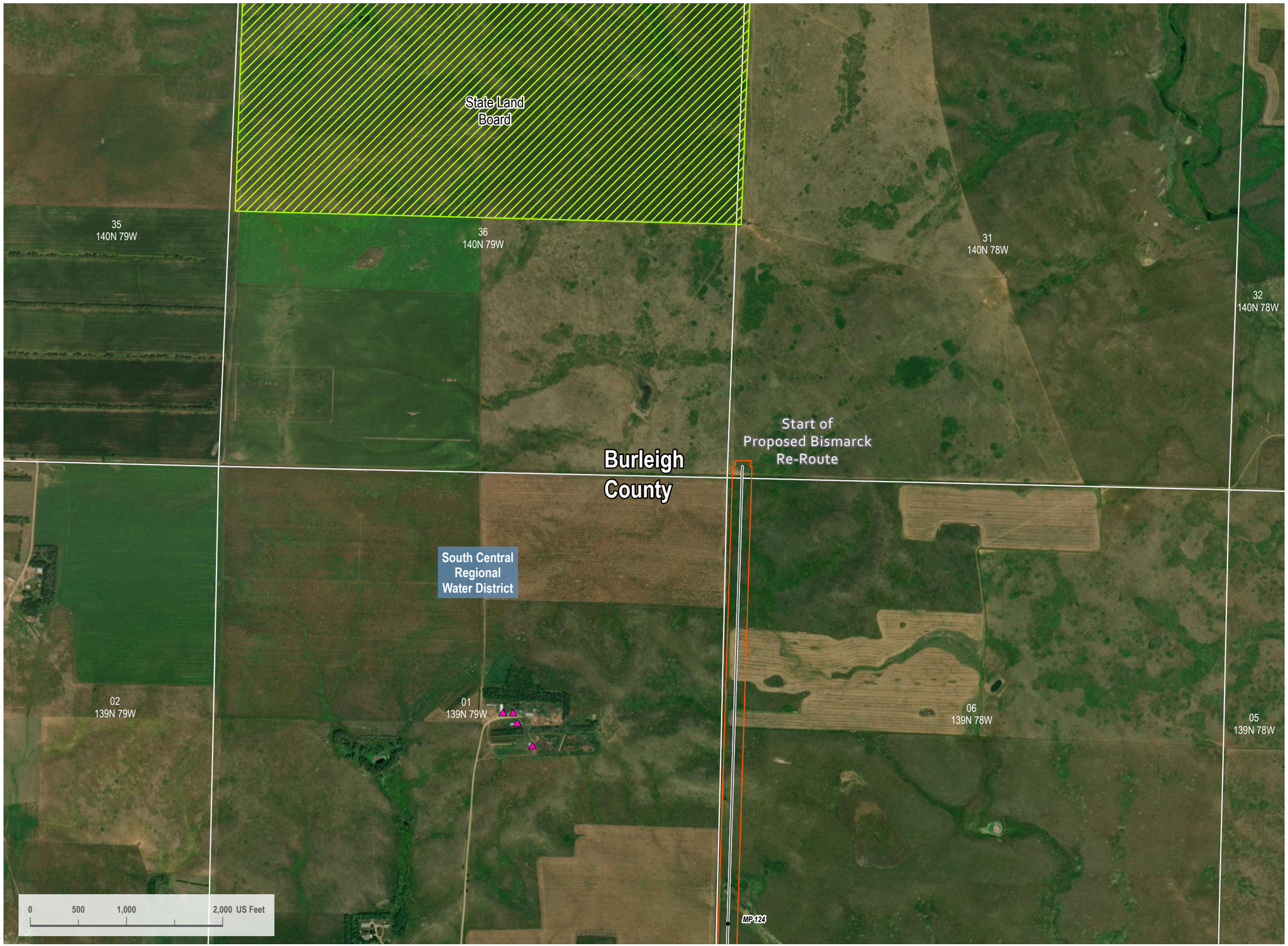
ND PSC - AERIAL MAP BOOK



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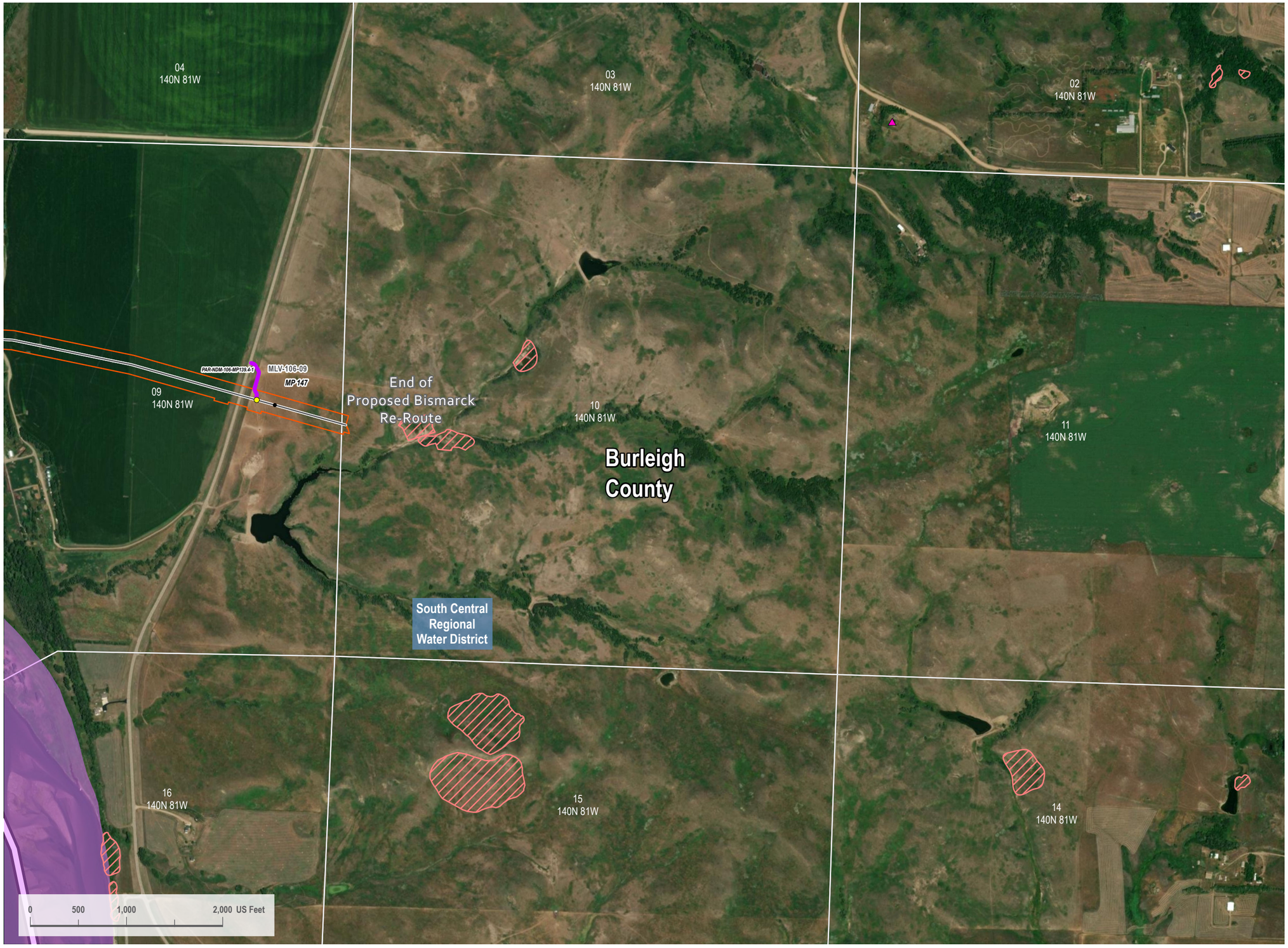

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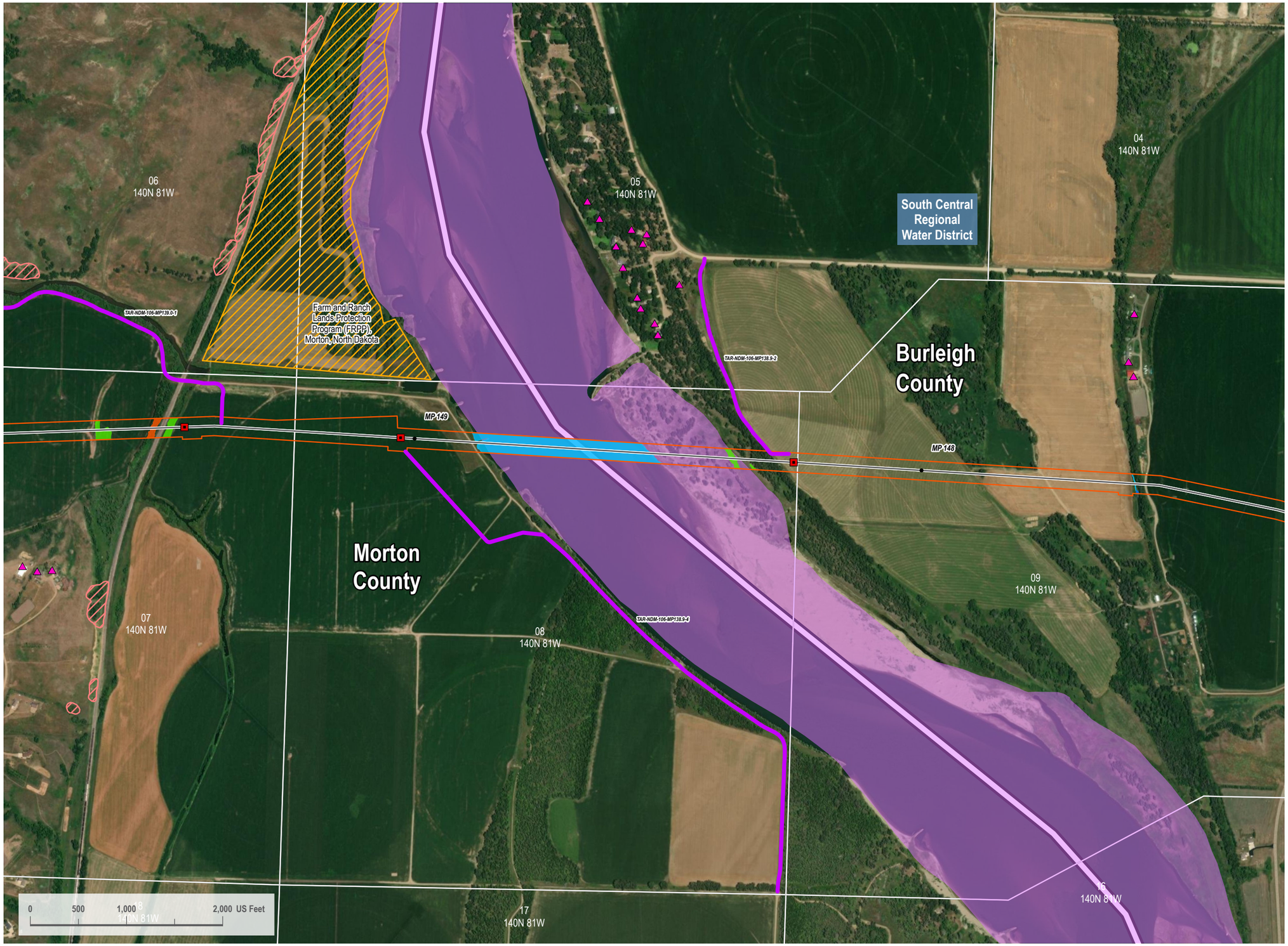

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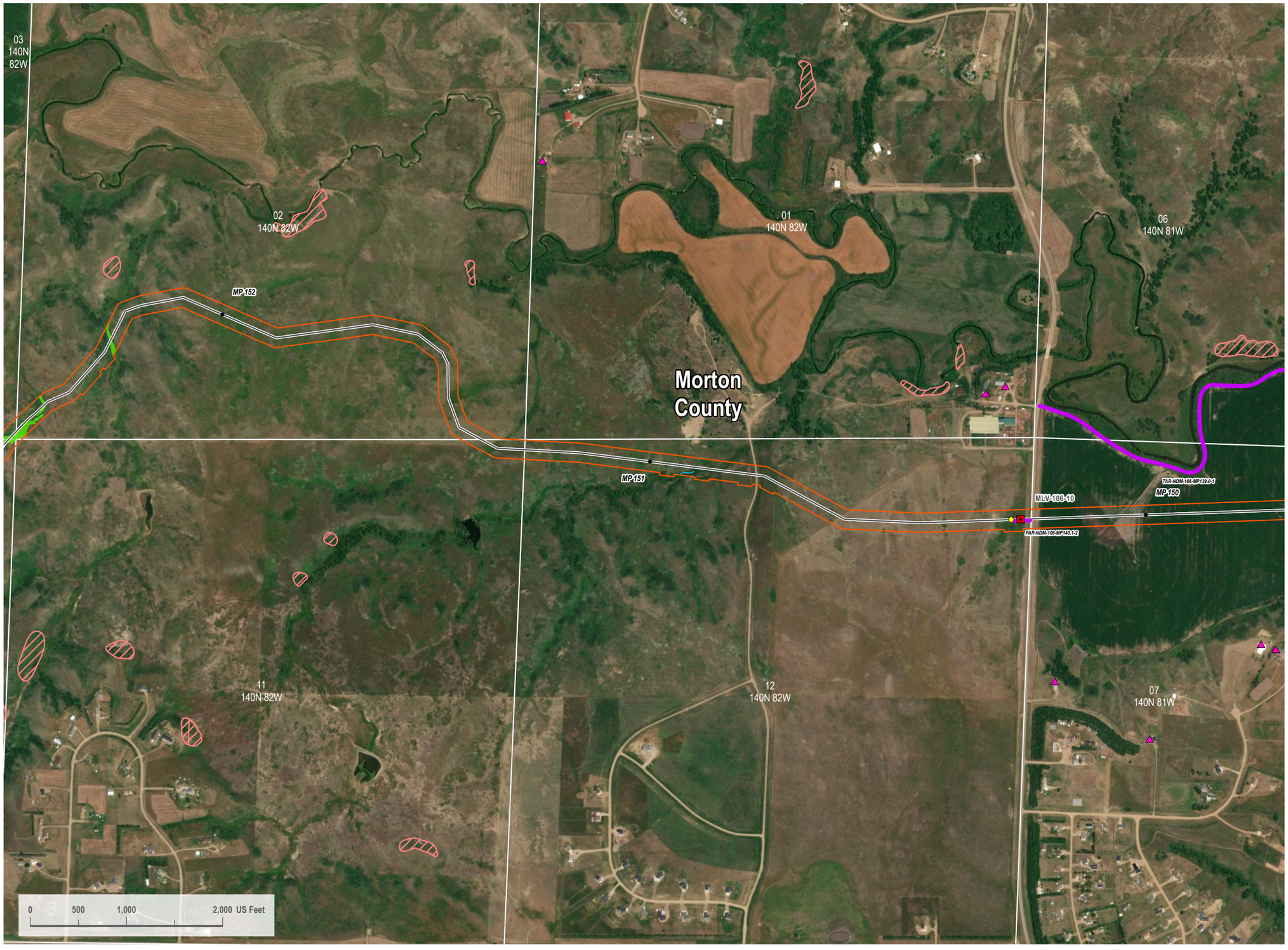

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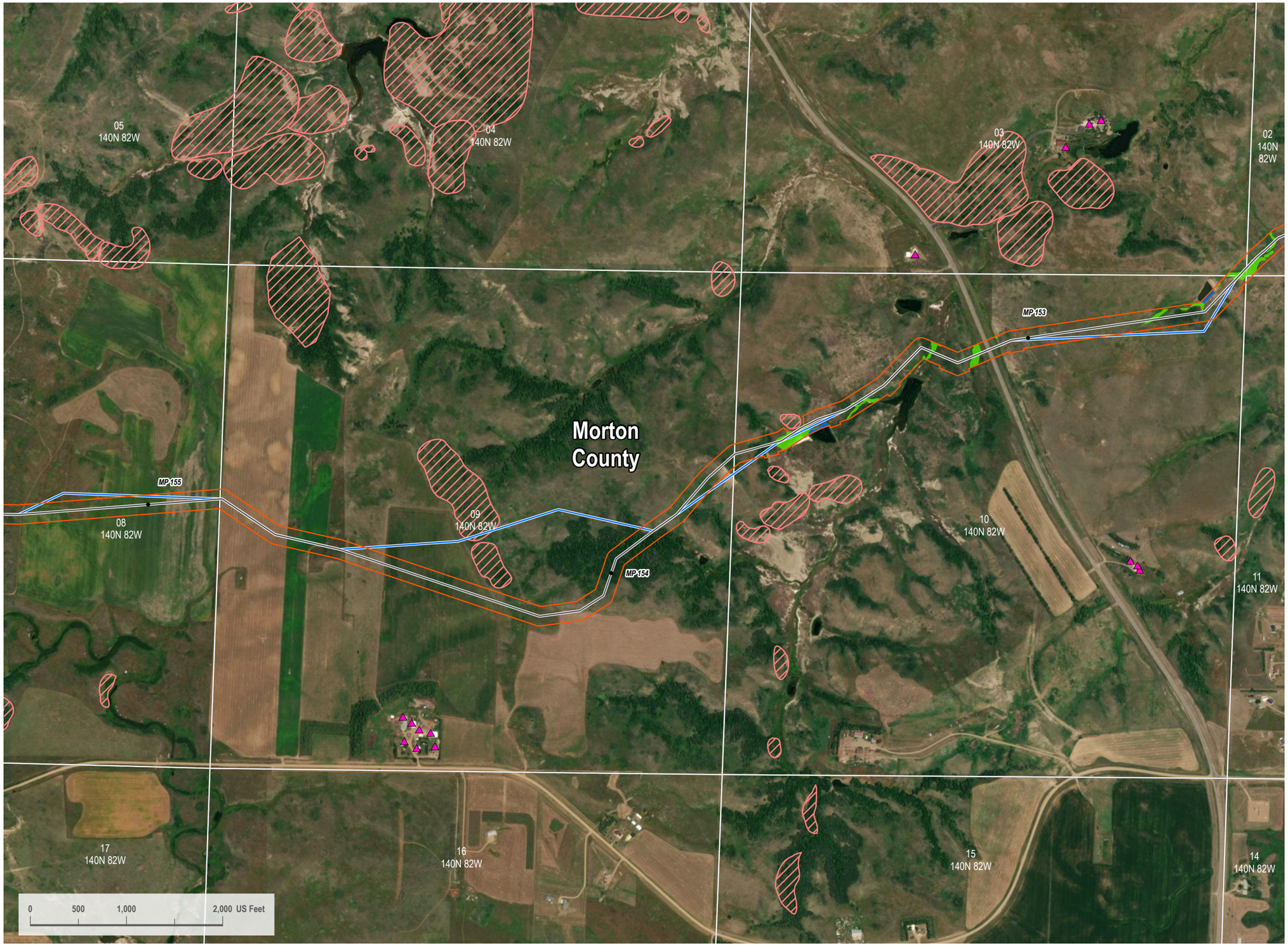
ND PSC - AERIAL MAP BOOK



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PROJECT INFORMATION

Figure Title:

ND PSC - Aerial Map Book - NDM-106

Figure Number:

Map Book 1

Scale:	Projection:
1 : 12,000 1 inch equals 1,000 feet	Transverse Mercator NAD 1983 UTM Zone 14N

Sheet:	Drawing Number:
48 48 of 139	1001-01-003 Revision A

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ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- Centerline Mileposts
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Landslide Deposit (Avoidance)
- PEM Wetland
- 200-foot Siting Corridor

N

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Sheet:	Drawing Number:
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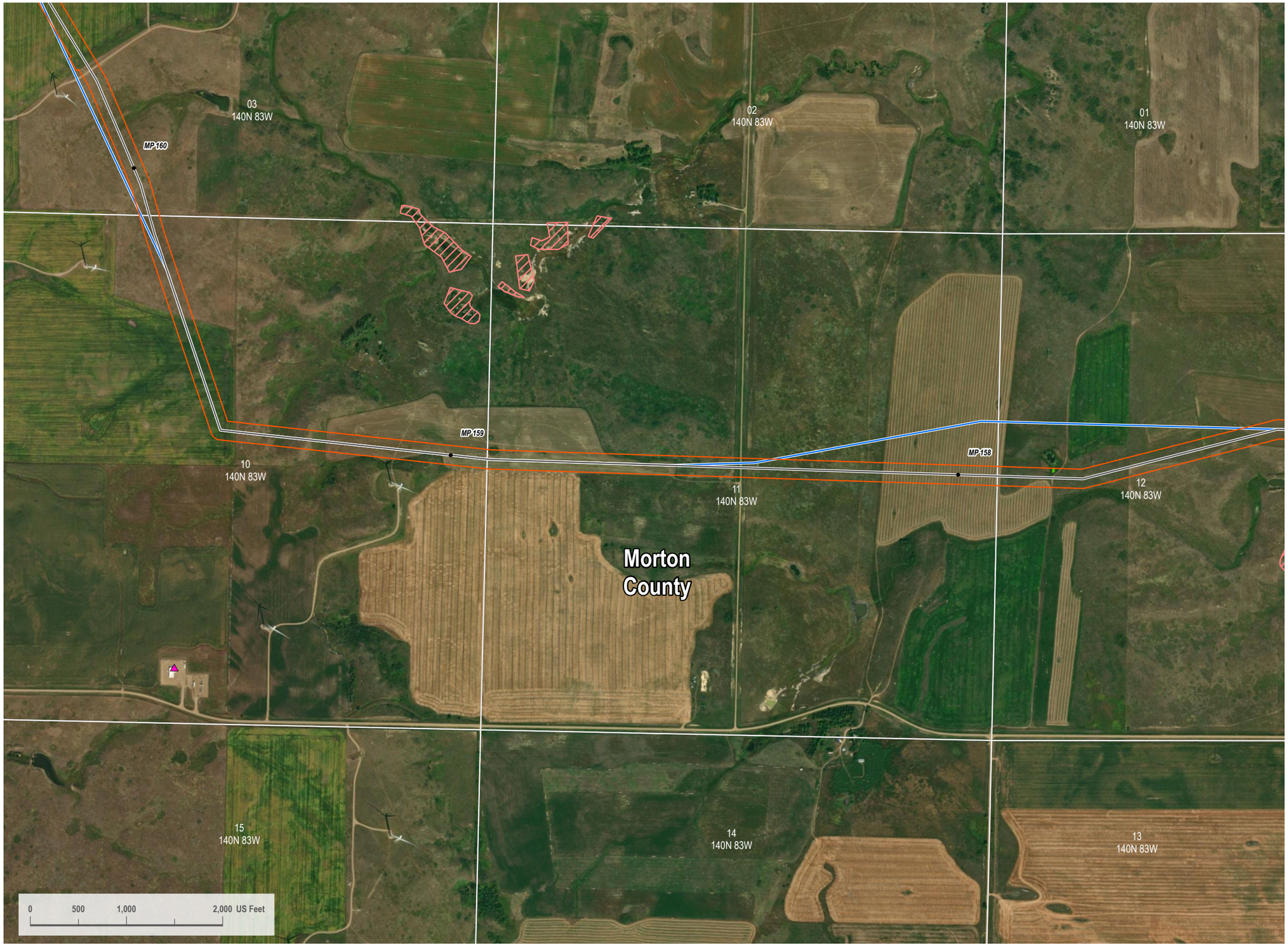
ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- Centerline Mileposts
- Domestic Structure or Business (Avoidance)
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Sheet:	Drawing Number:
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VICINITY MAP



LEGEND

- Centerline Mileposts
- Mainline Valve Location
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Access Road
- Landslide Deposit (Avoidance)
- Facility Boundary
- PEM Wetland
- 200-foot Siting Corridor

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PROJECT INFORMATION

Figure Title:
ND PSC - Aerial Map Book - NDM-106, NDL-328

Figure Number:
Map Book 1

Scale:
1 : 12,000
1 inch equals 1,000 feet

Projection:
Transverse Mercator
NAD 1983 UTM Zone 14N

Sheet:
51
51 of 139

Drawing Number:
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Revision A

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VICINITY MAP



LEGEND

- Centerline Mileposts
- Water Well (Avoidance)
- Mainline Valve Location
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Access Road
- Landslide Deposit (Avoidance)
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Figure Title:
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Figure Number:
Map Book 1

Scale:
1 : 12,000
1 inch equals 1,000 feet

Projection:
Transverse Mercator
NAD 1983 UTM Zone 14N

Sheet:
52
52 of 139

Drawing Number:
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Revision A

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ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- Centerline Mileposts
- Mainline Valve Location
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
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Figure Number:
Map Book 1

Scale:
1 : 12,000
1 inch equals 1,000 feet

Projection:
Transverse Mercator
NAD 1983 UTM Zone 14N

Sheet:
53
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Drawing Number:
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VICINITY MAP



LEGEND

- Centerline Mileposts
- 200-foot Siting Corridor
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line

N

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Figure Title:

ND PSC - Aerial Map Book - NDM-106

Figure Number:

Map Book 1

Scale:	Projection:
1 : 12,000 1 inch equals 1,000 feet	Transverse Mercator NAD 1983 UTM Zone 14N
Sheet:	**Drawing Number:**
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ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- Centerline Mileposts
- 200-foot Siting Corridor
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line

N

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Figure Title:
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Figure Number:
Map Book 1

Scale:
1 : 12,000
1 inch equals 1,000 feet

Projection:
Transverse Mercator
NAD 1983 UTM Zone 14N

Sheet:
55
55 of 139

Drawing Number:
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VICINITY MAP



LEGEND

- Centerline Mileposts
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Open Water
- PEM Wetland
- 200-foot Siting Corridor

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Figure Number:
Map Book 1

Scale:
1 : 12,000
1 inch equals 1,000 feet

Projection:
Transverse Mercator
NAD 1983 UTM Zone 14N

Sheet:
56
56 of 139

Drawing Number:
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Revision A

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VICINITY MAP



LEGEND

- Centerline Mileposts
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Open Water
- PEM Wetland
- 200-foot Siting Corridor

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ND PSC - Aerial Map Book - NDM-106

Figure Number:
Map Book 1

Scale:	Projection:
1 : 12,000 1 inch equals 1,000 feet	Transverse Mercator NAD 1983 UTM Zone 14N
Sheet: 57 57 of 139	**Drawing Number:** 1001-01-003 Revision A

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VICINITY MAP



LEGEND

- Centerline Mileposts
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- PEM Wetland
- 200-foot Siting Corridor

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Figure Title:
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Figure Number:
Map Book 1

Scale:
1 : 12,000
1 inch equals 1,000 feet

Projection:
Transverse Mercator
NAD 1983 UTM Zone 14N

Sheet:
58
58 of 139

Drawing Number:
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Revision A

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ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- Centerline Mileposts
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Avoidance Area
- PEM Wetland
- Stream
- 200-foot Siting Corridor

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Figure Number:
Map Book 1

Scale:
1 : 12,000
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Projection:
Transverse Mercator
NAD 1983 UTM Zone 14N

Sheet:
59
59 of 139

Drawing Number:
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Revision A

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ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- Centerline Mileposts
- Mainline Valve Location
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Access Road
- Landslide Deposit (Avoidance)
- Facility Boundary
- Avoidance Area
- PEM Wetland
- 200-foot Siting Corridor

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Figure Number:
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Scale:	Projection:
1 : 12,000 1 inch equals 1,000 feet	Transverse Mercator NAD 1983 UTM Zone 14N

Sheet:	Drawing Number:
60 60 of 139	1001-01-003 Revision A

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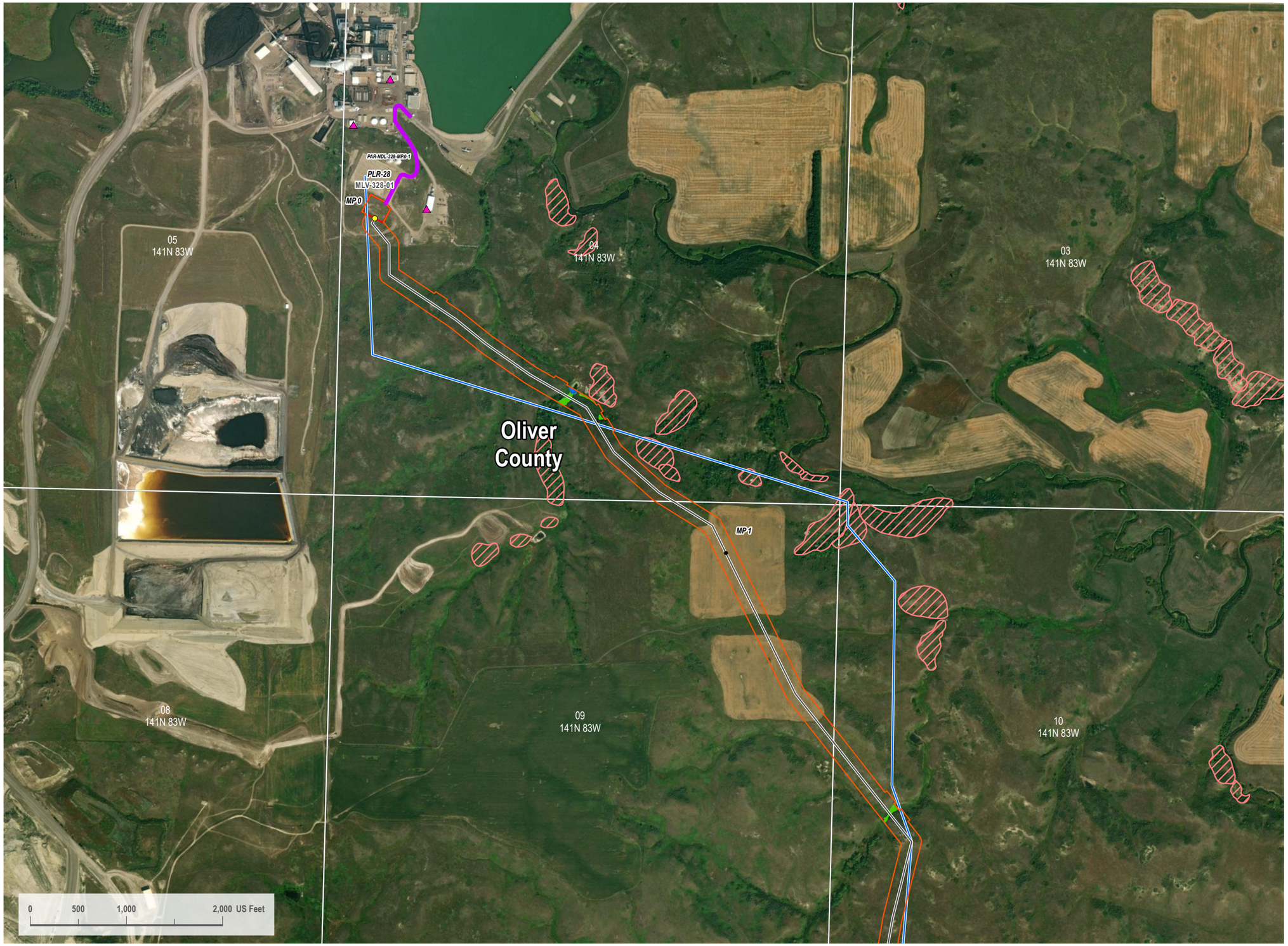
ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- Centerline Mileposts
- Mainline Valve Location
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
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- Access Road
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- Facility Boundary
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- PEM Wetland
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PROJECT INFORMATION

Figure Title:

ND PSC - Aerial Map Book - NDL-328

Figure Number:

Map Book 1

Scale:	Projection:
1 : 12,000 1 inch equals 1,000 feet	Transverse Mercator NAD 1983 UTM Zone 14N

Sheet:	Drawing Number:
61 61 of 139	1001-01-003 Revision A

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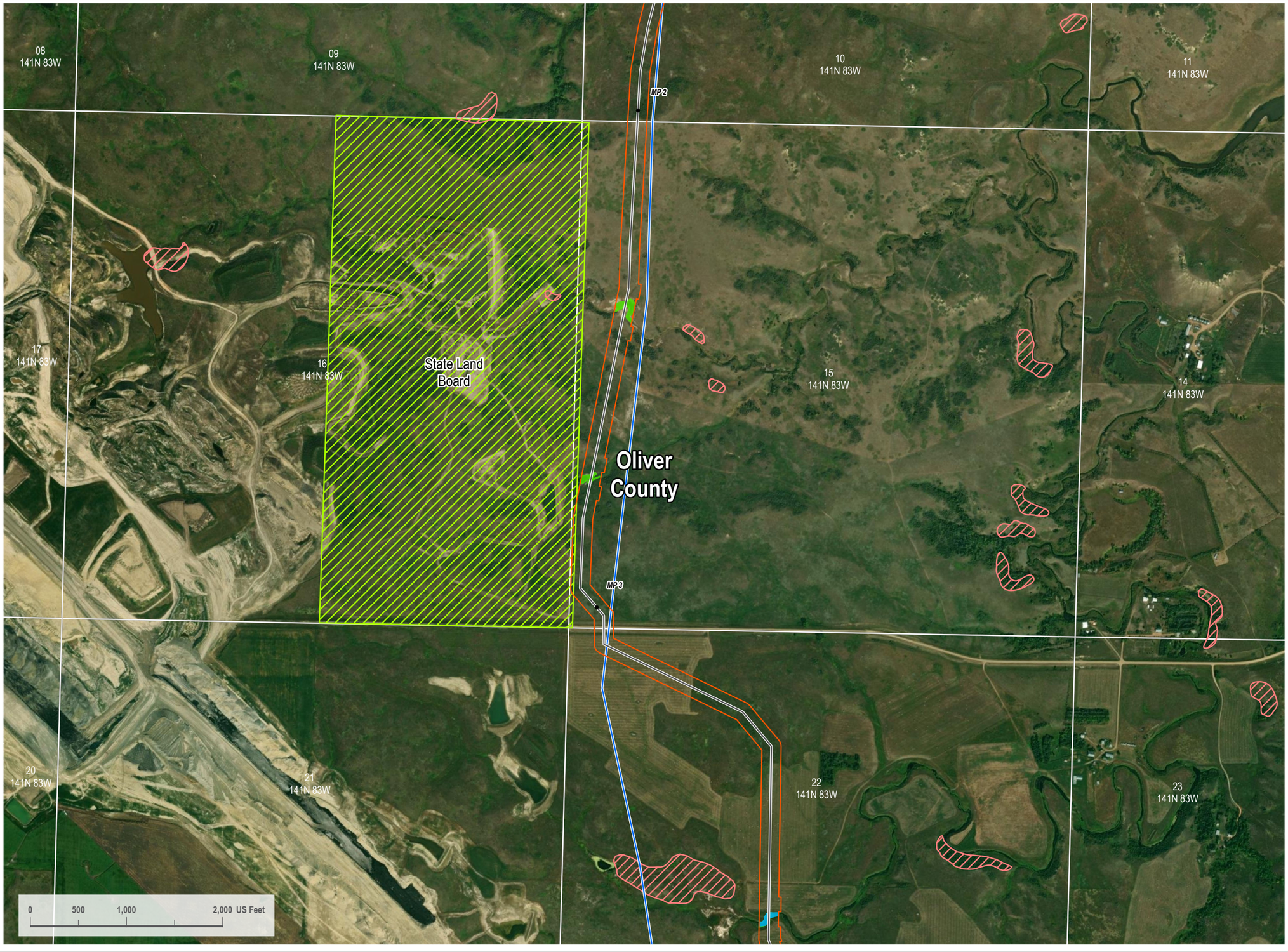

VICINITY MAP



LEGEND

- Centerline Mileposts
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Landslide Deposit (Avoidance)
- PEM Wetland
- Stream
- 200-foot Siting Corridor
- State Resource Management Area

N

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Sheet:	Drawing Number:
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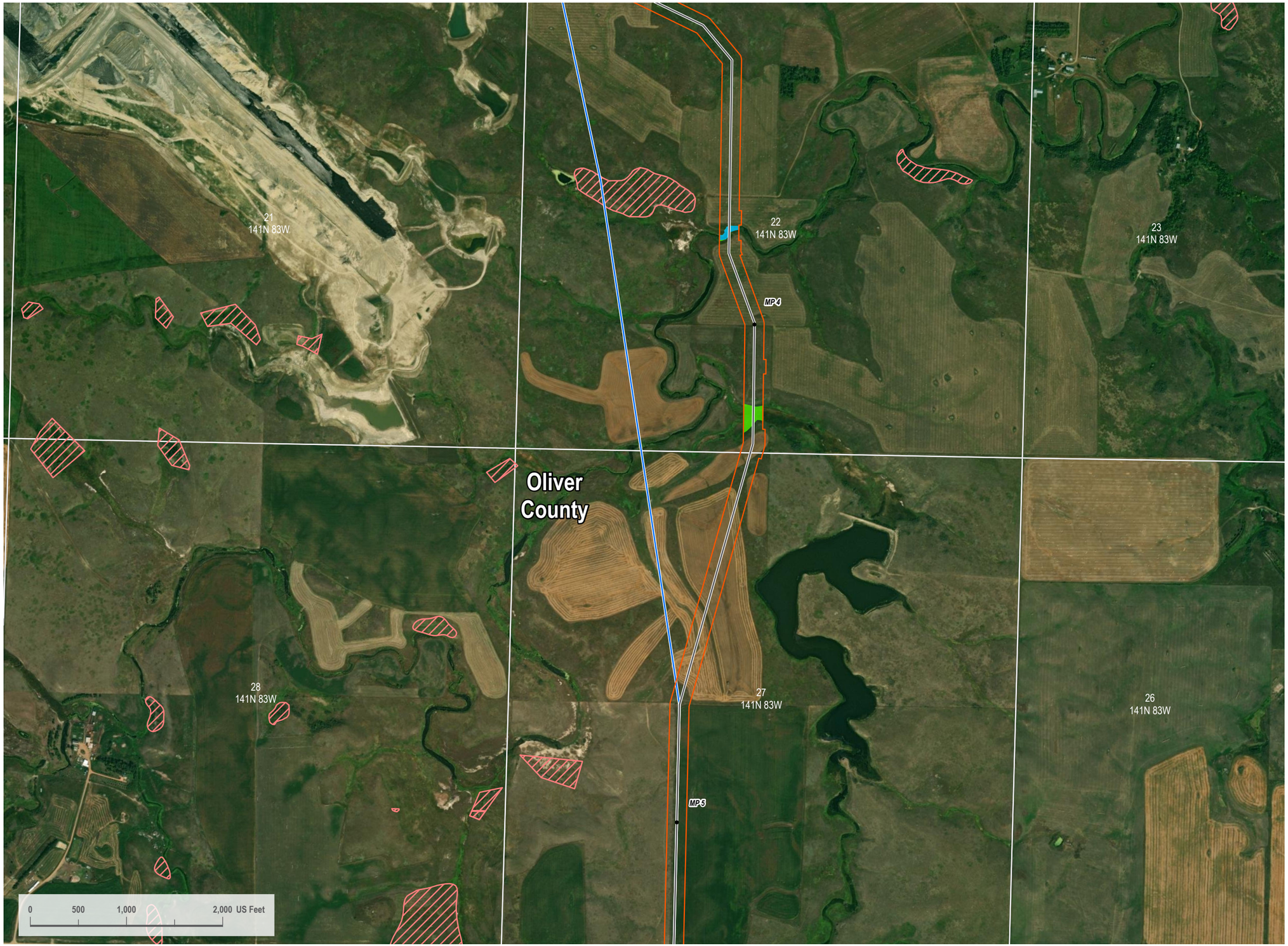
ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- Centerline Mileposts
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Landslide Deposit (Avoidance)
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- Stream
- 200-foot Siting Corridor

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Figure Number:
Map Book 1

Scale:	Projection:
1 : 12,000 1 inch equals 1,000 feet	Transverse Mercator NAD 1983 UTM Zone 14N

Sheet:	Drawing Number:
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ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- Centerline Mileposts
- Mainline Valve Location
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Access Road
- Landslide Deposit (Avoidance)
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Figure Title:
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Figure Number:
Map Book 1

Scale:
1 : 12,000
1 inch equals 1,000 feet

Projection:
Transverse Mercator
NAD 1983 UTM Zone 14N

Sheet:
64
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VICINITY MAP



LEGEND

- HDD Entry/Exit
- Centerline Mileposts
- Water Well (Avoidance)
- Mainline Valve Location
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Access Road
- Avoidance Area
- PEM Wetland
- Stream
- 200-foot Siting Corridor

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PROJECT INFORMATION

Figure Title:
ND PSC - Aerial Map Book - MNL-321

Figure Number:
Map Book 1

Scale:
1 : 12,000
1 inch equals 1,000 feet

Projection:
Transverse Mercator
NAD 1983 UTM Zone 14N

Sheet:
65
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Drawing Number:
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VICINITY MAP



LEGEND

- Centerline Mileposts
- Water Well (Avoidance)
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- PEM Wetland
- 200-foot Siting Corridor

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PROJECT INFORMATION

Figure Title:
ND PSC - Aerial Map Book - MNL-321

Figure Number:
Map Book 1

Scale:	Projection:
1 : 12,000 1 inch equals 1,000 feet	Transverse Mercator NAD 1983 UTM Zone 14N

Sheet:	Drawing Number:
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ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- Centerline Mileposts
- Water Well (Avoidance)
- Domestic Structure or Business (Avoidance)
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PROJECT INFORMATION

Figure Title:

ND PSC - Aerial Map Book - MNL-321 & NDL-323

Figure Number:

Map Book 1

Scale:	Projection:
1 : 12,000 1 inch equals 1,000 feet	Transverse Mercator NAD 1983 UTM Zone 14N

Sheet:	Drawing Number:
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VICINITY MAP



LEGEND

- Centerline Mileposts
- Water Well (Avoidance)
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- PEM Wetland
- 200-foot Siting Corridor

N

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PROJECT INFORMATION

Figure Title:
ND PSC - Aerial Map Book - NDL-323

Figure Number:
Map Book 1

Scale:
1 : 12,000
1 inch equals 1,000 feet

Projection:
Transverse Mercator
NAD 1983 UTM Zone 14N

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ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- HDD Entry/Exit
- Centerline Mileposts
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Sheet:	Drawing Number:
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ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

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Figure Number:
Map Book 1

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Projection:
Transverse Mercator
NAD 1983 UTM Zone 14N

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ND PSC - AERIAL MAP BOOK



VICINITY MAP



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Figure Number:
Map Book 1

Scale:
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1 inch equals 1,000 feet

Projection:
Transverse Mercator
NAD 1983 UTM Zone 14N

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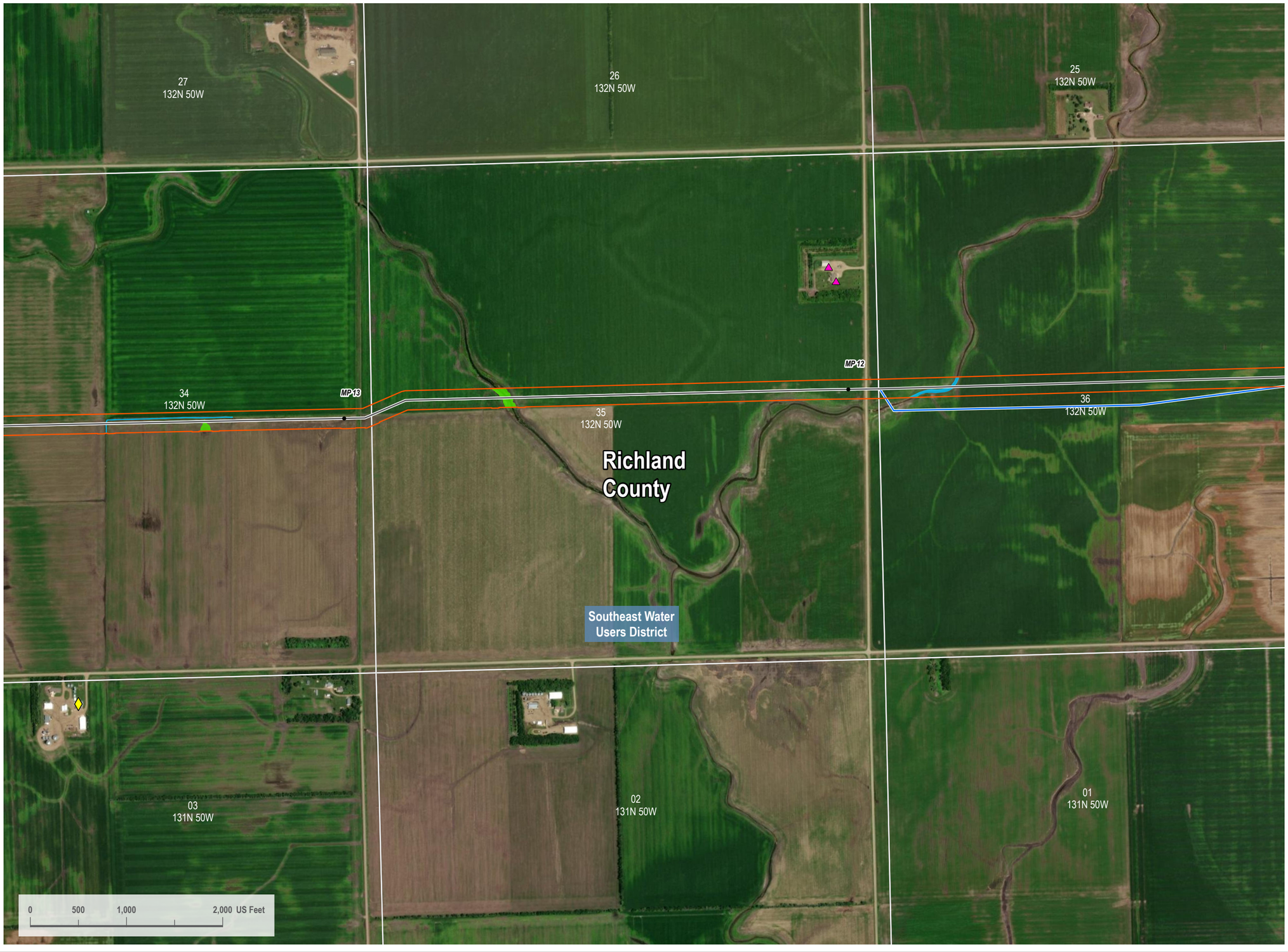

VICINITY MAP



LEGEND

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- Water Well (Avoidance)
- Domestic Structure or Business (Avoidance)
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Sheet:	Drawing Number:
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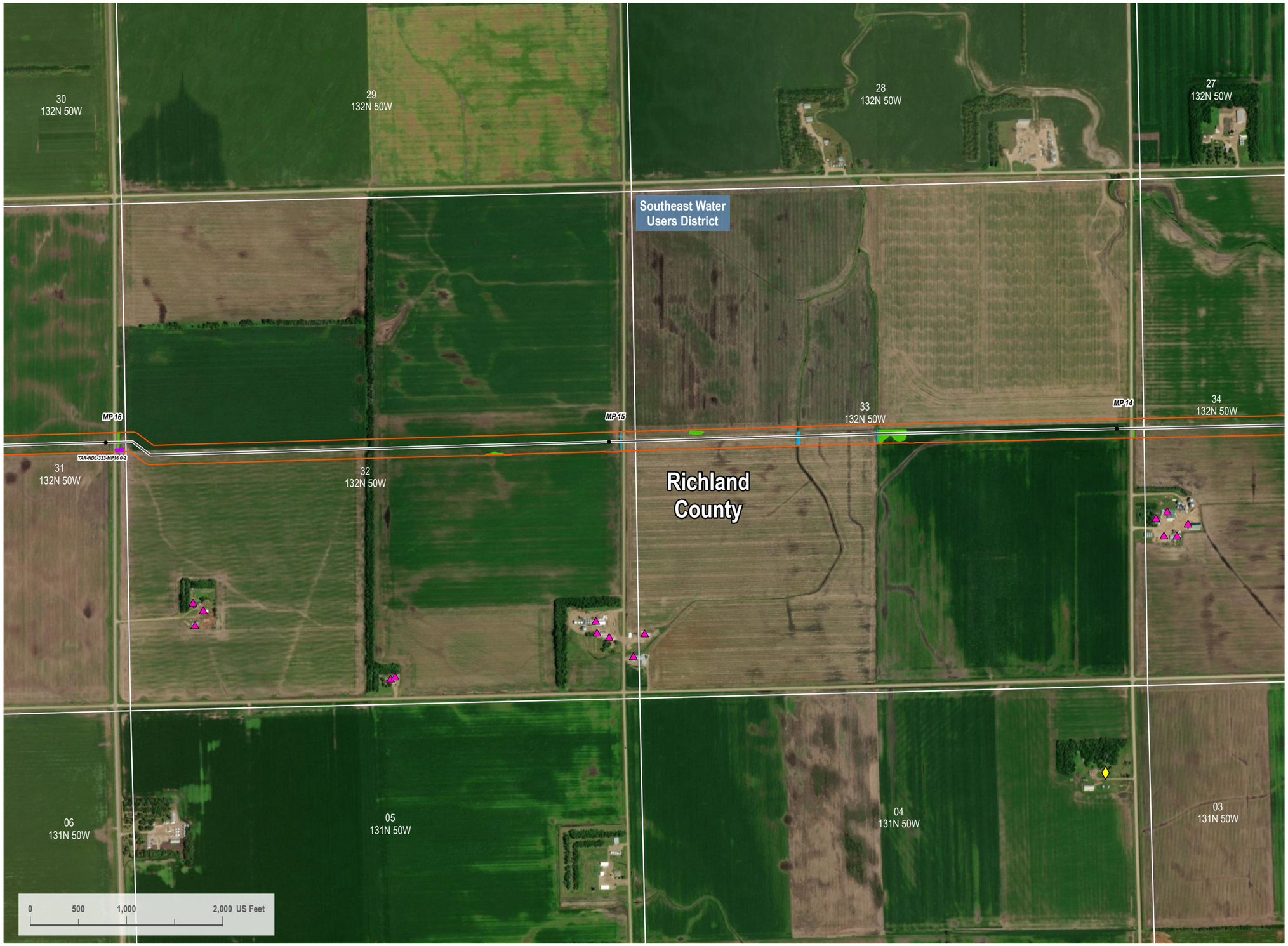

VICINITY MAP



LEGEND

- Centerline Mileposts
- Water Well (Avoidance)
- Domestic Structure or Business (Avoidance)
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Sheet:	Drawing Number:
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ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- HDD Entry/Exit
- Centerline Mileposts
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Figure Title:

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Figure Number:

Map Book 1

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1 : 12,000 1 inch equals 1,000 feet	Transverse Mercator NAD 1983 UTM Zone 14N

Sheet:	Drawing Number:
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ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- HDD Entry/Exit
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Figure Number:

Map Book 1

Scale:	Projection:
1 : 12,000 1 inch equals 1,000 feet	Transverse Mercator NAD 1983 UTM Zone 14N

Sheet:	Drawing Number:
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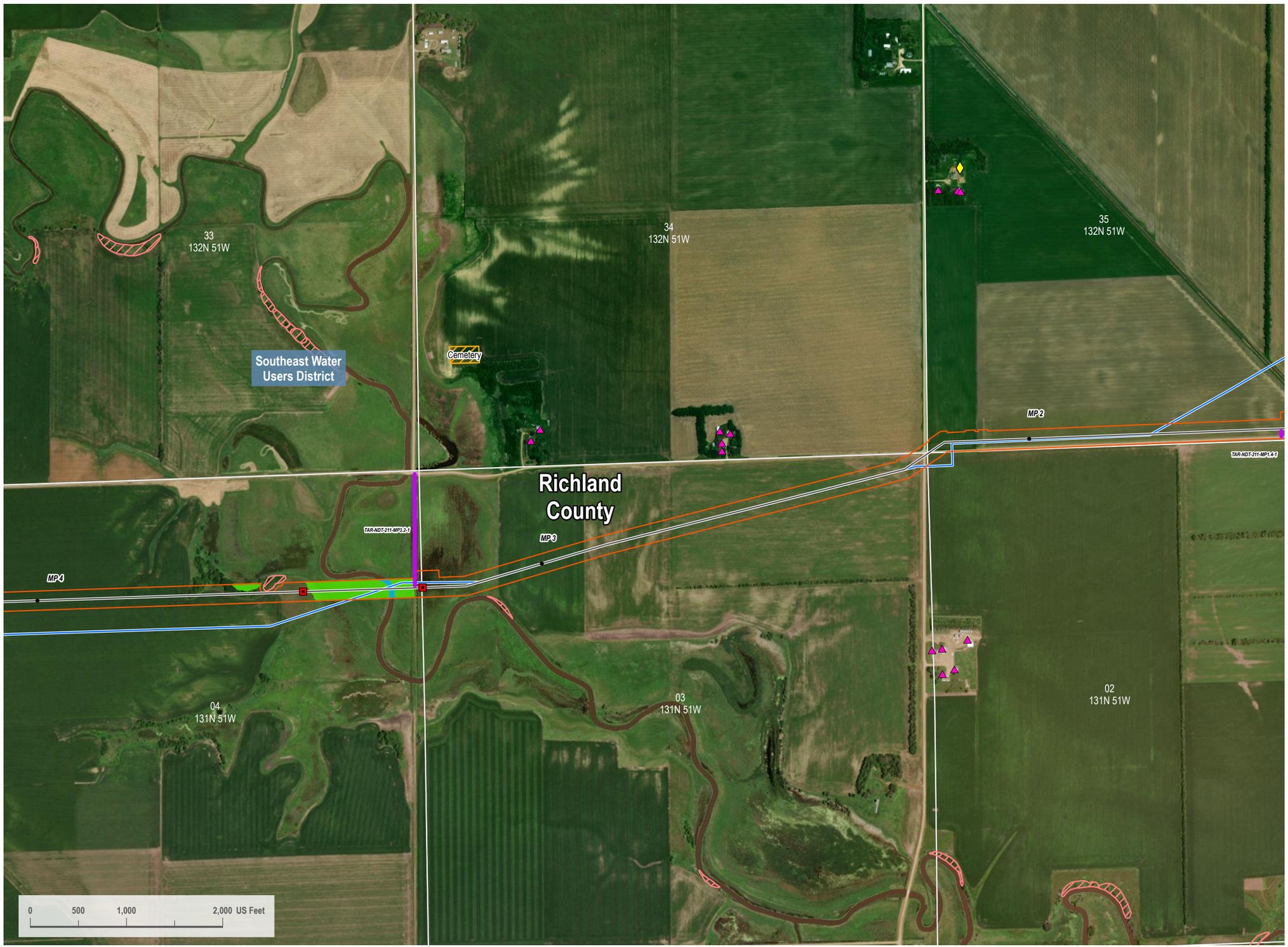

VICINITY MAP



LEGEND

- HDD Entry/Exit
- Centerline Mileposts
- Water Well (Avoidance)
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
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- Section Line
- Access Road
- Landslide Deposit (Avoidance)
- Avoidance Area
- PEM Wetland
- Stream
- 200-foot Siting Corridor

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Figure Title:
ND PSC - Aerial Map Book - NDT-211

Figure Number:
Map Book 1

Scale:	Projection:
1 : 12,000 1 inch equals 1,000 feet	Transverse Mercator NAD 1983 UTM Zone 14N

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VICINITY MAP



LEGEND

- Centerline Mileposts
- Water Well (Avoidance)
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Landslide Deposit (Avoidance)
- PEM Wetland
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Figure Number:
Map Book 1

Scale:
1 : 12,000
1 inch equals 1,000 feet

Projection:
Transverse Mercator
NAD 1983 UTM Zone 14N

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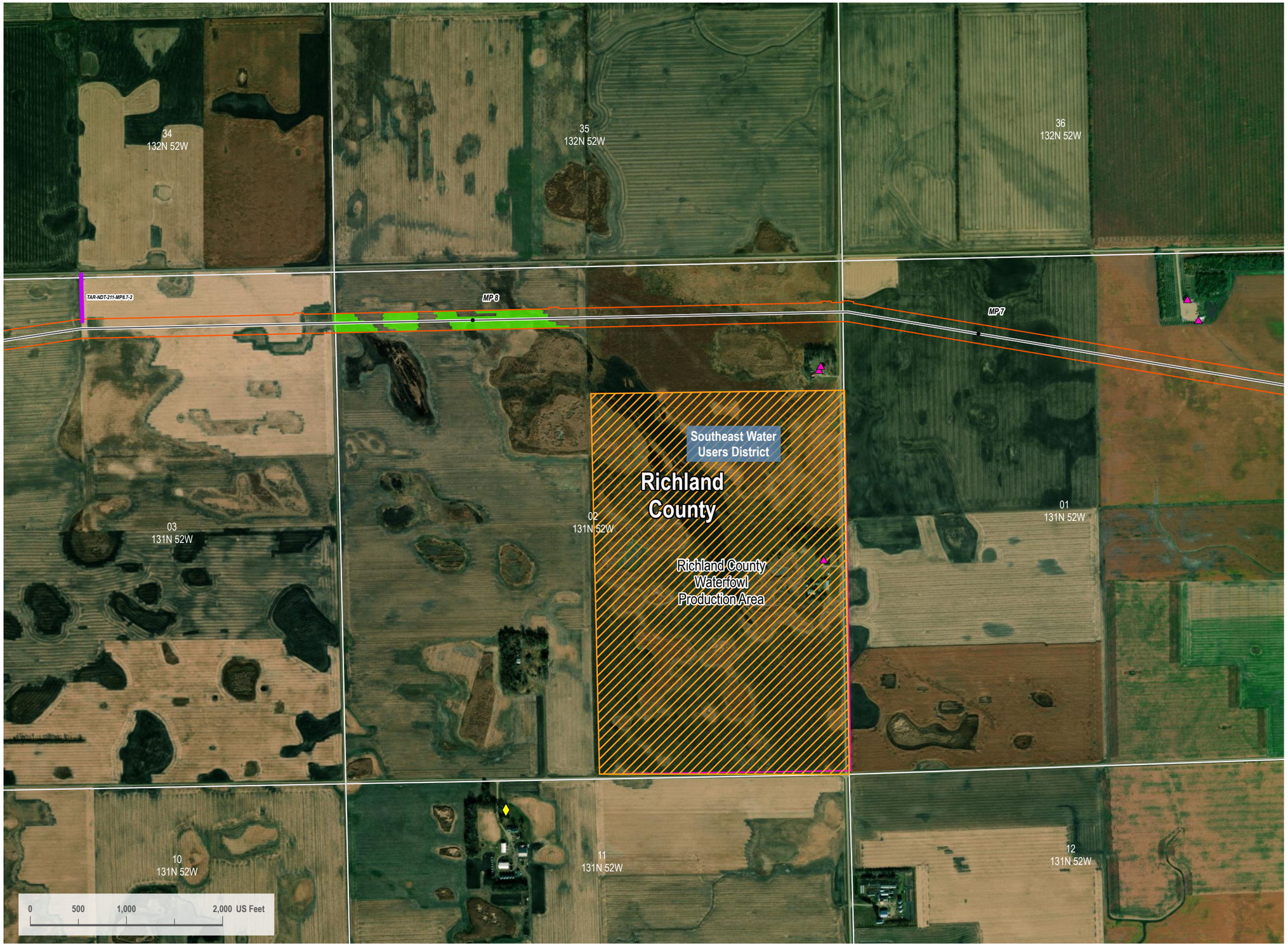

VICINITY MAP



LEGEND

- Centerline Mileposts
- Water Well (Avoidance)
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Access Road
- Avoidance Area
- PEM Wetland
- 200-foot Siting Corridor
- Conservation Easement

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Figure Number:
Map Book 1

Scale:
1 : 12,000
1 inch equals 1,000 feet

Projection:
Transverse Mercator
NAD 1983 UTM Zone 14N

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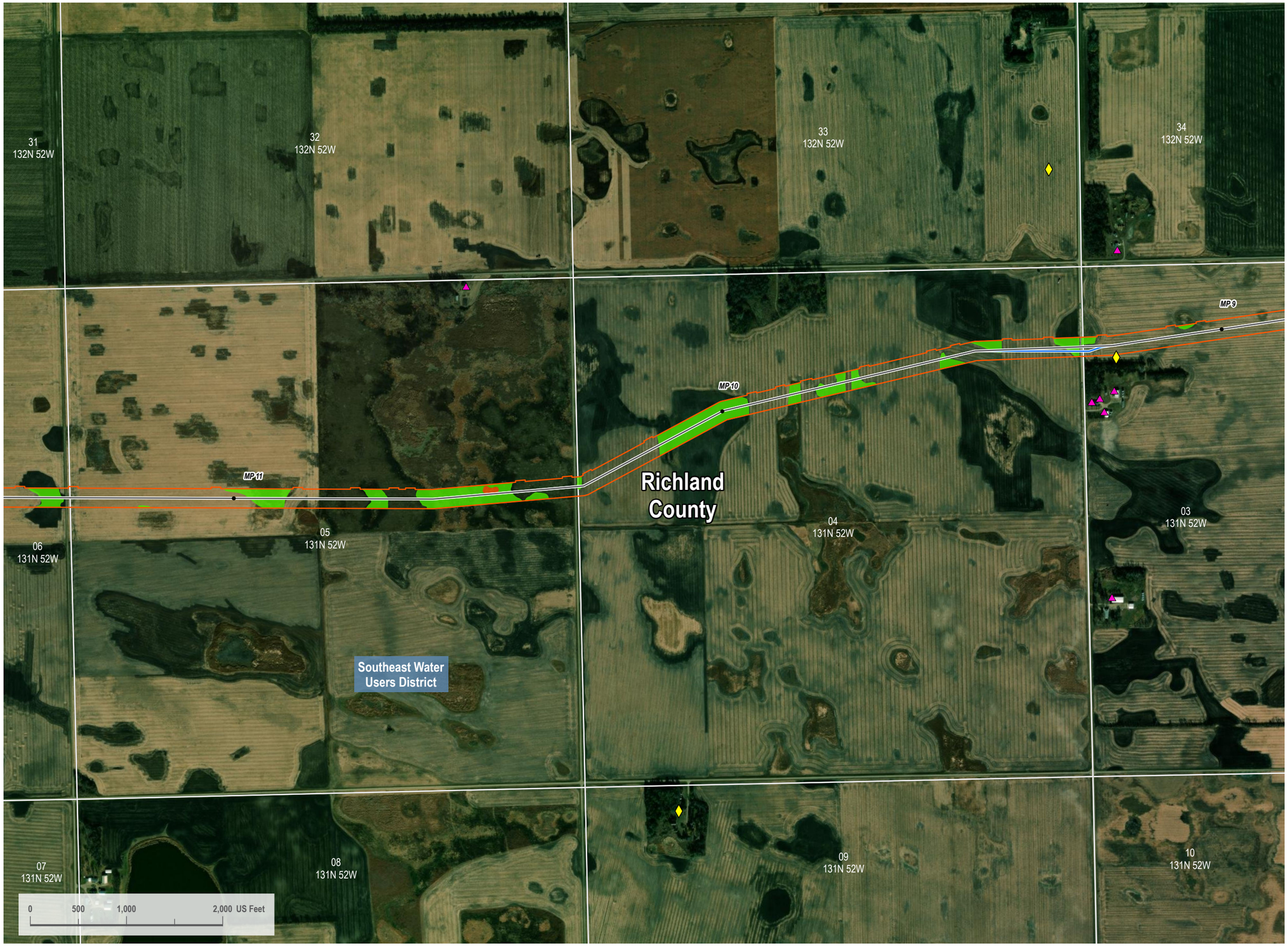

VICINITY MAP



LEGEND

- Centerline Mileposts
- Water Well (Avoidance)
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
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- PEM Wetland
- PFO Wetland
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N

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Figure Number:
Map Book 1

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1 : 12,000 1 inch equals 1,000 feet	Transverse Mercator NAD 1983 UTM Zone 14N

Sheet:	Drawing Number:
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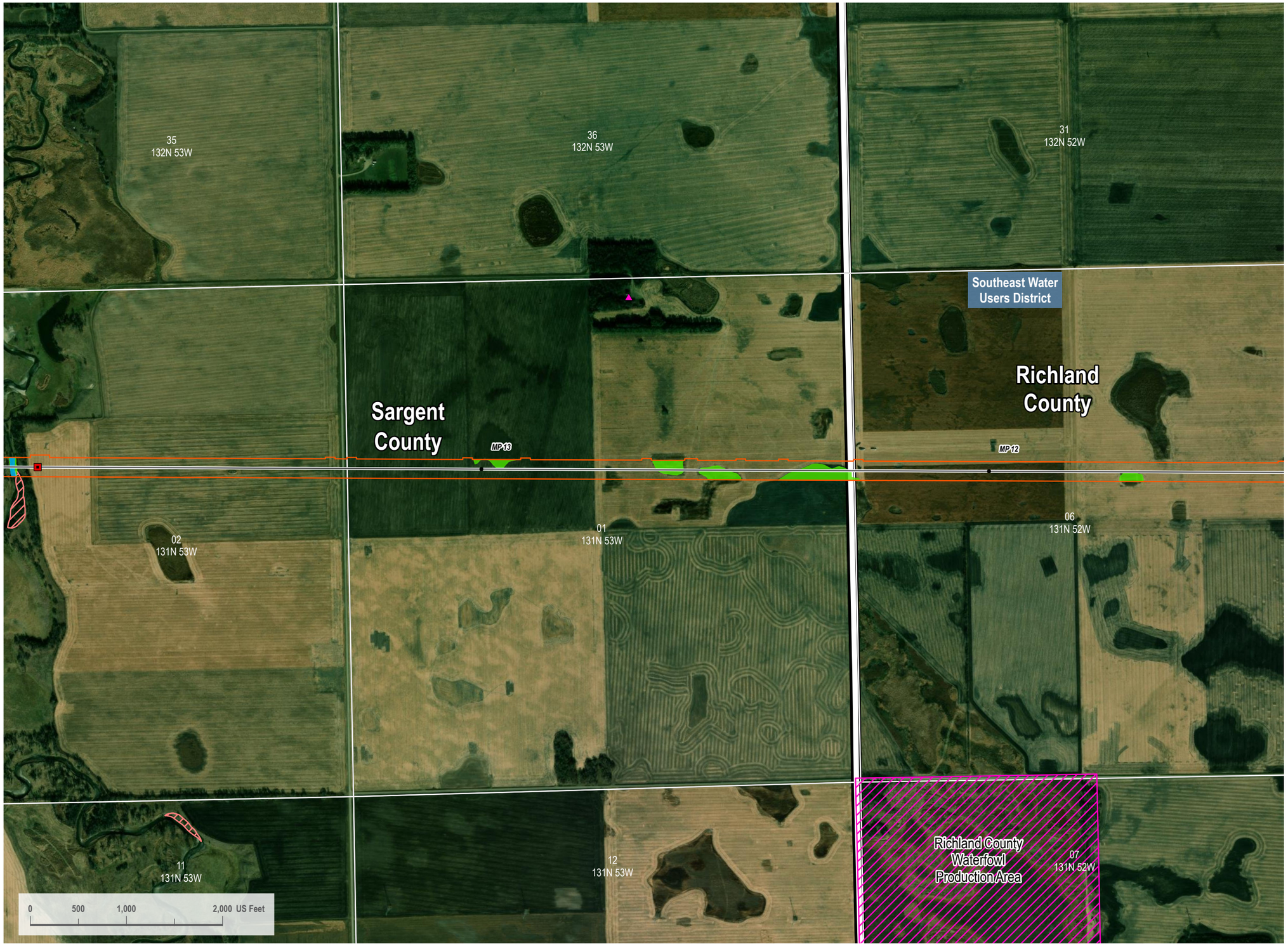

VICINITY MAP



LEGEND

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- 200-foot Siting Corridor
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Figure Number:
Map Book 1

Scale:
1 : 12,000
1 inch equals 1,000 feet

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ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

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- Water Well (Avoidance)
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- Section Line
- Landslide Deposit (Avoidance)
- Avoidance Area
- PEM Wetland
- PFO Wetland
- Stream
- 200-foot Siting Corridor

N

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Map Book 1

Scale:	Projection:
1 : 12,000 1 inch equals 1,000 feet	Transverse Mercator NAD 1983 UTM Zone 14N

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VICINITY MAP



LEGEND

- Centerline Mileposts
- Water Well (Avoidance)
- Mainline Valve Location
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
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- Access Road
- PEM Wetland
- Stream
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Map Book 1

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Transverse Mercator
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VICINITY MAP



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Projection:
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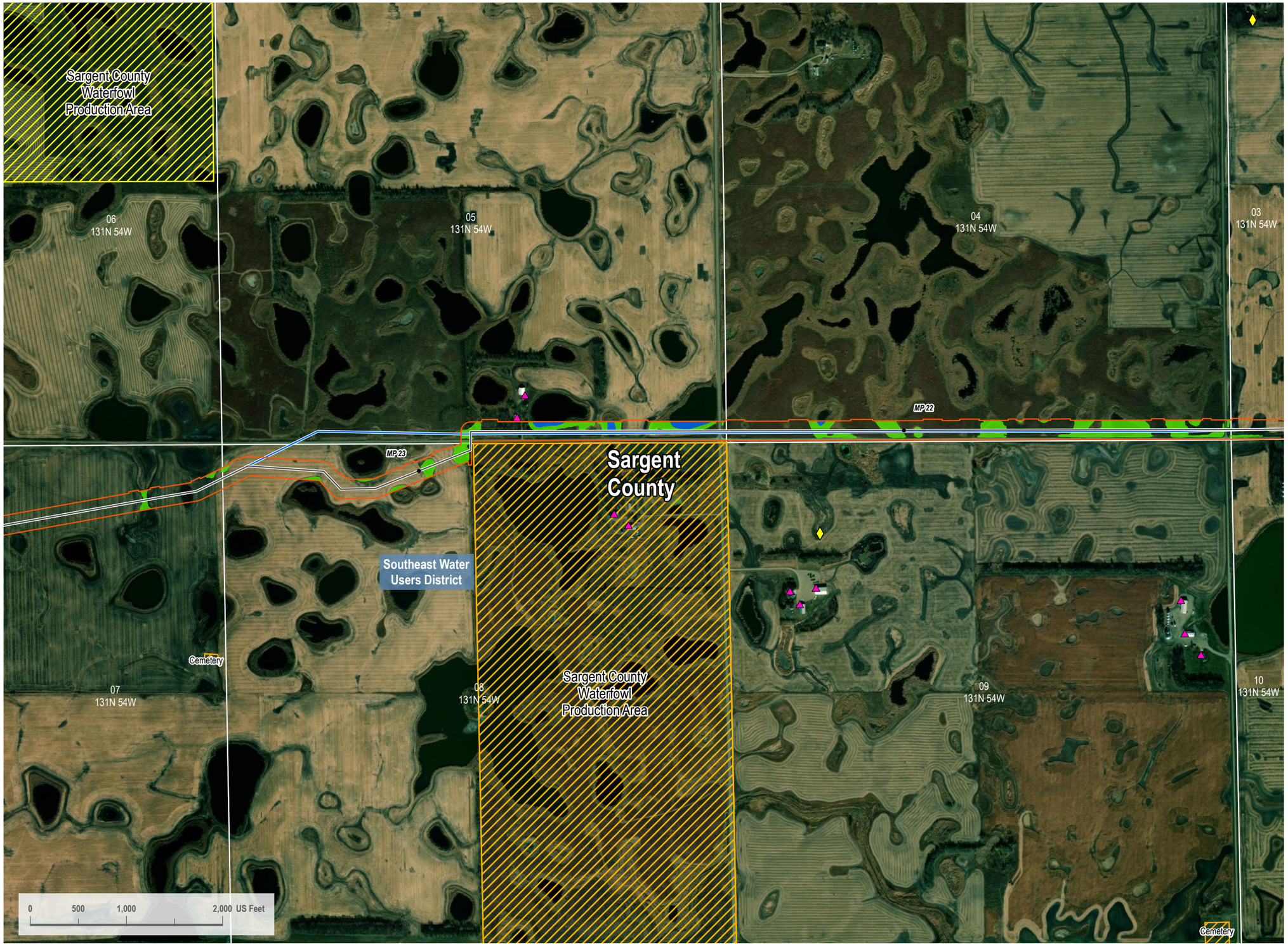

VICINITY MAP



LEGEND

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- Section Line
- Avoidance Area
- Open Water
- PEM Wetland
- 200-foot Siting Corridor
- Resource Management Area

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Figure Number:
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1 : 12,000
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Projection:
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VICINITY MAP



LEGEND

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PROJECT INFORMATION

Figure Title:

ND PSC - Aerial Map Book - NDT-211

Figure Number:

Map Book 1

Scale:	Projection:
1 : 12,000 1 inch equals 1,000 feet	Transverse Mercator NAD 1983 UTM Zone 14N

Sheet:	Drawing Number:
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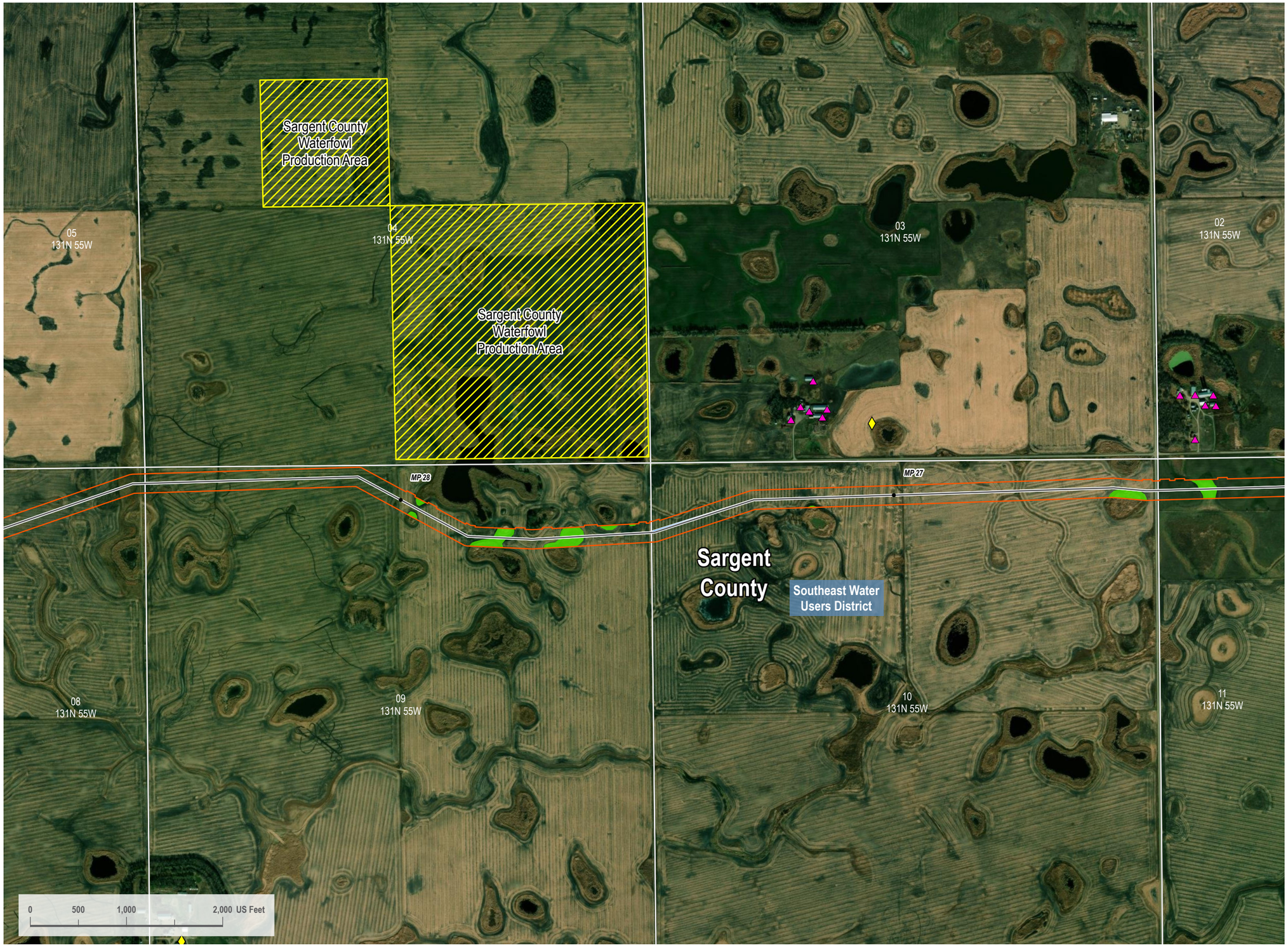

VICINITY MAP



LEGEND

- Centerline Mileposts
- Water Well (Avoidance)
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- PEM Wetland
- 200-foot Siling Corridor
- Resource Management Area

N

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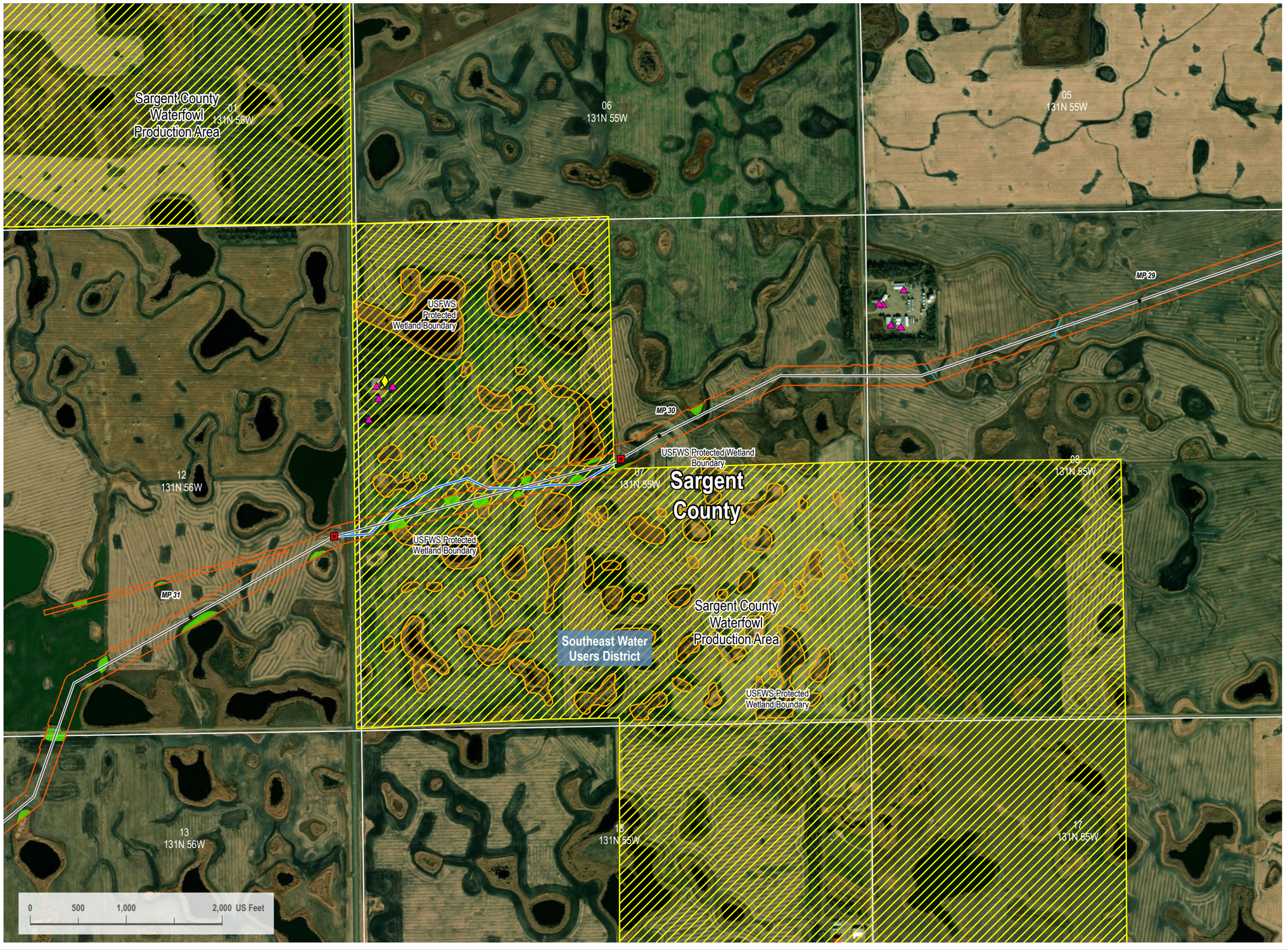
ND PSC - AERIAL MAP BOOK



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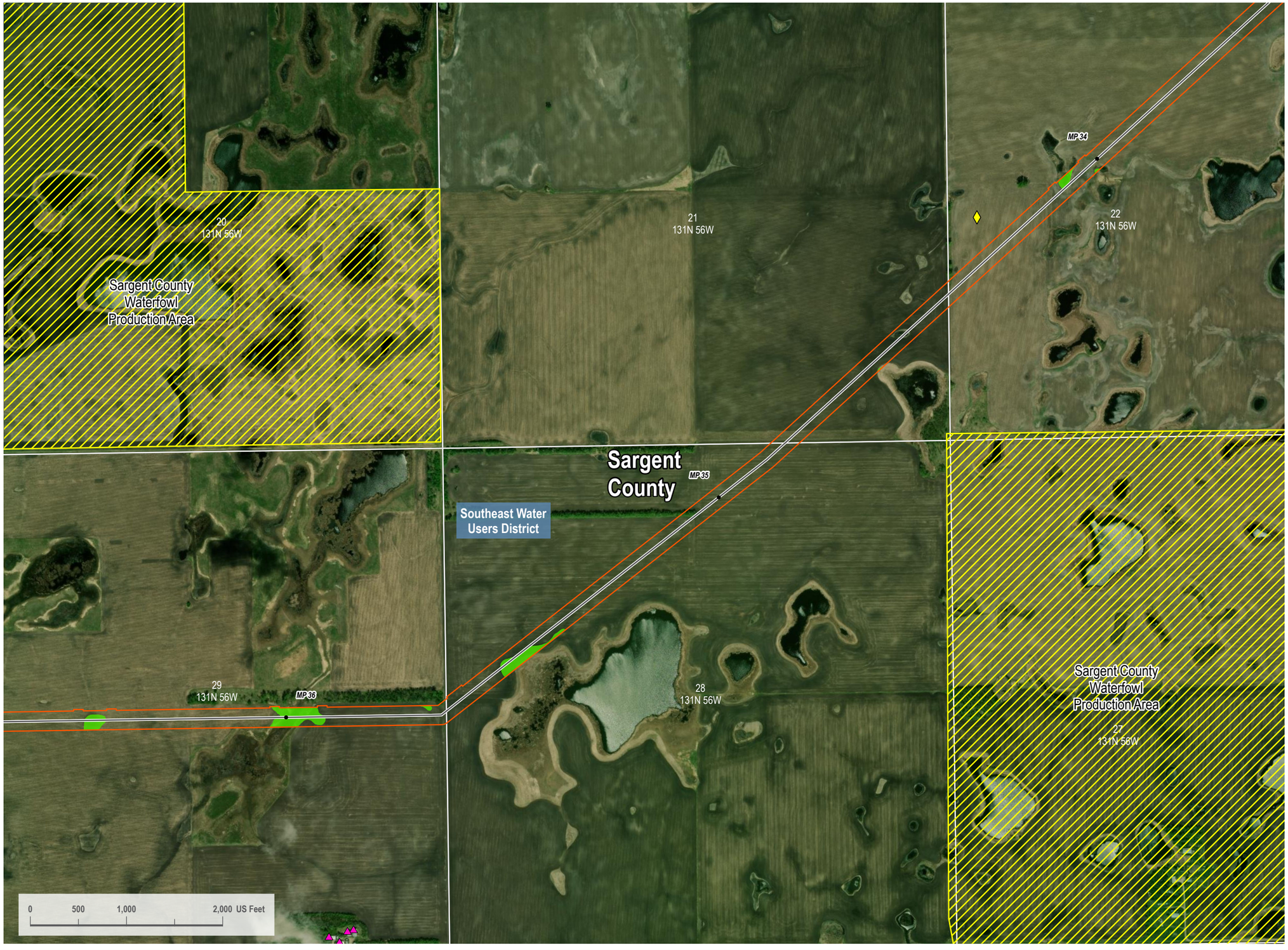

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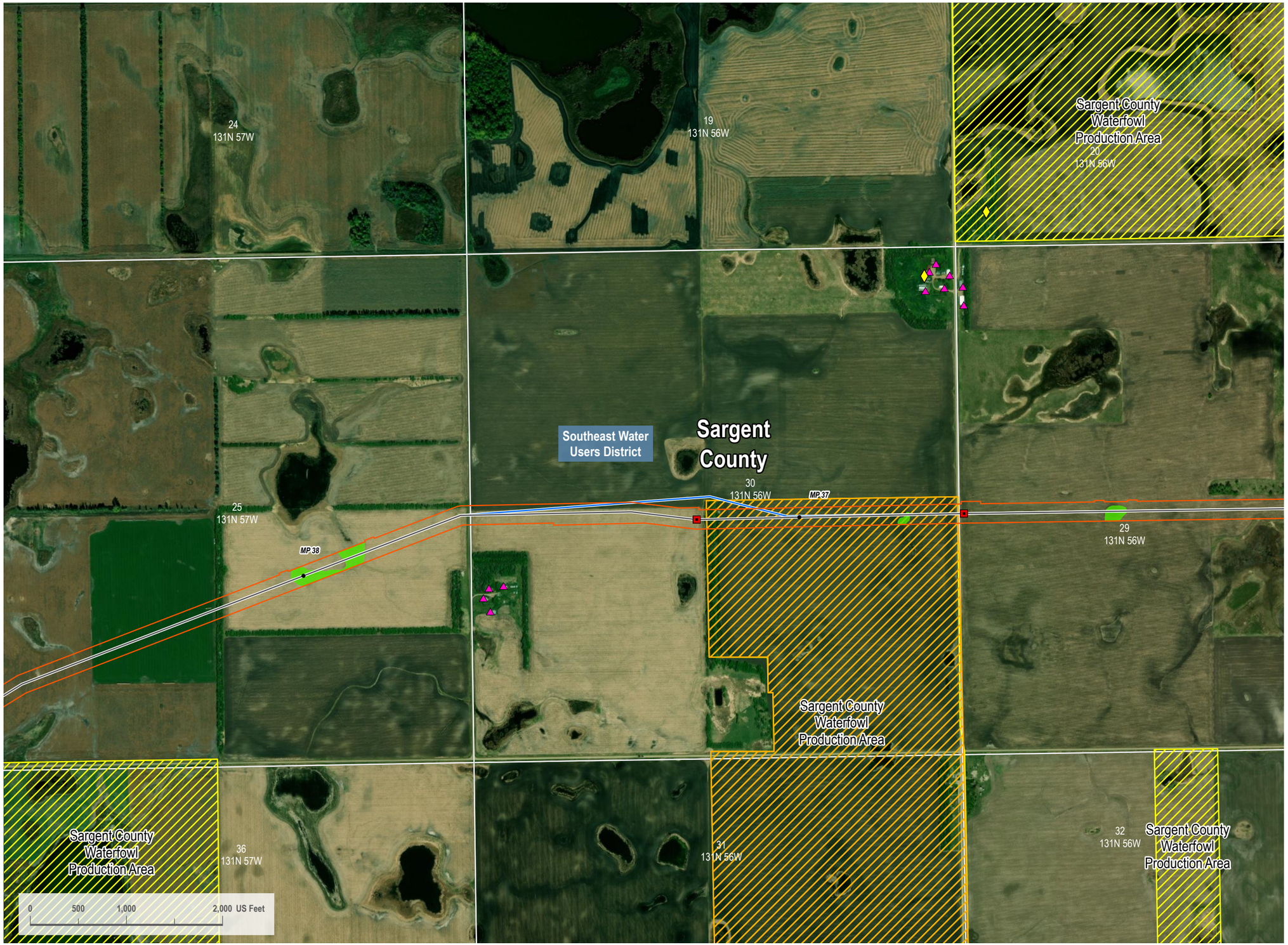

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VICINITY MAP



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ND PSC - AERIAL MAP BOOK



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ND PSC - AERIAL MAP BOOK

09
130N 58W

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130N 58W

11
130N 58W

16
130N 58W

15
130N 58W

14
130N 58W

MP 47

MP 48

MP 49

Sargent
County

Southeast Water
Users District

21
130N 58W

22
130N 58W

23
130N 58W

0 500 1,000 2,000 US Feet

VICINITY MAP



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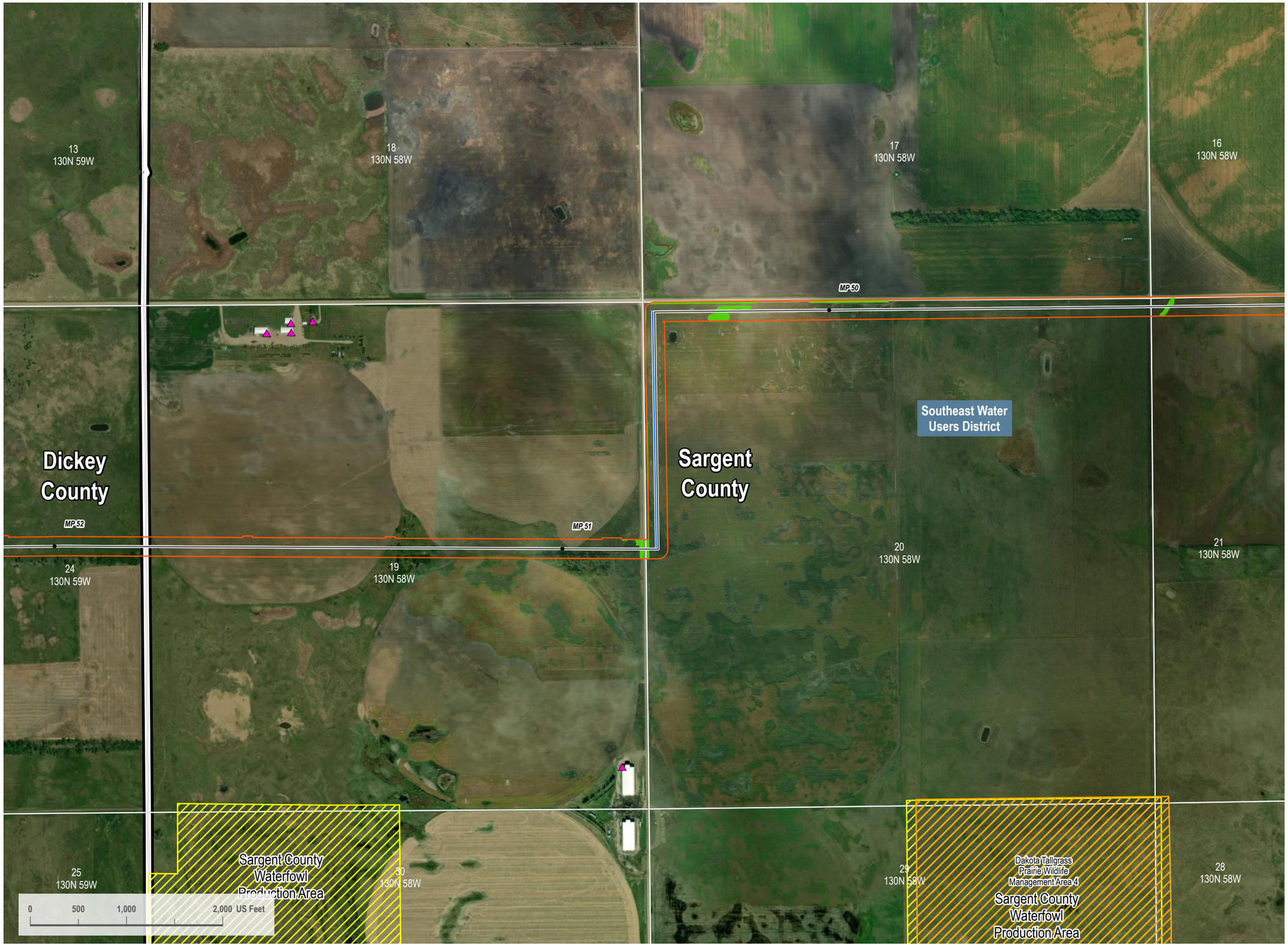
ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

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VICINITY MAP



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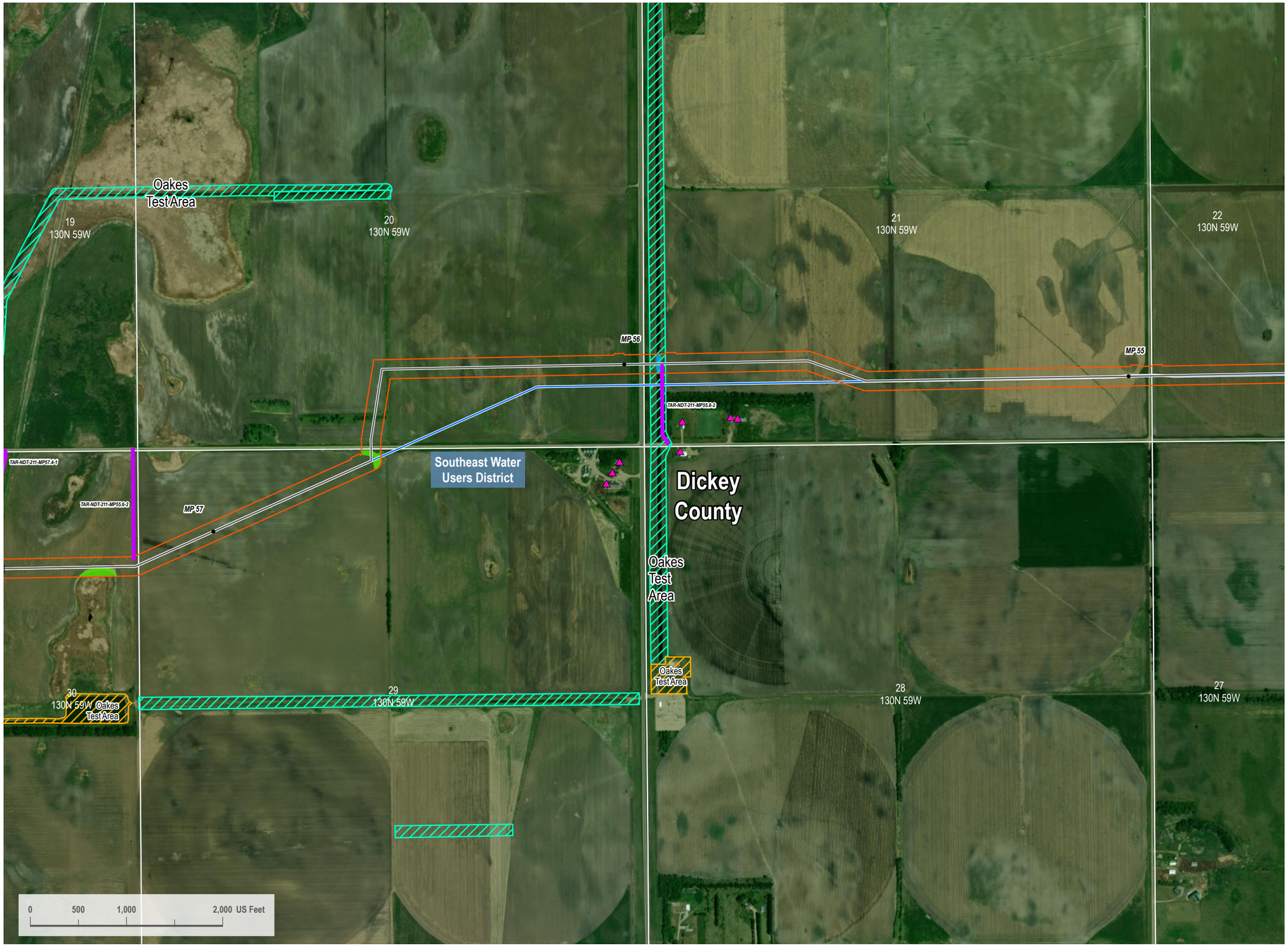

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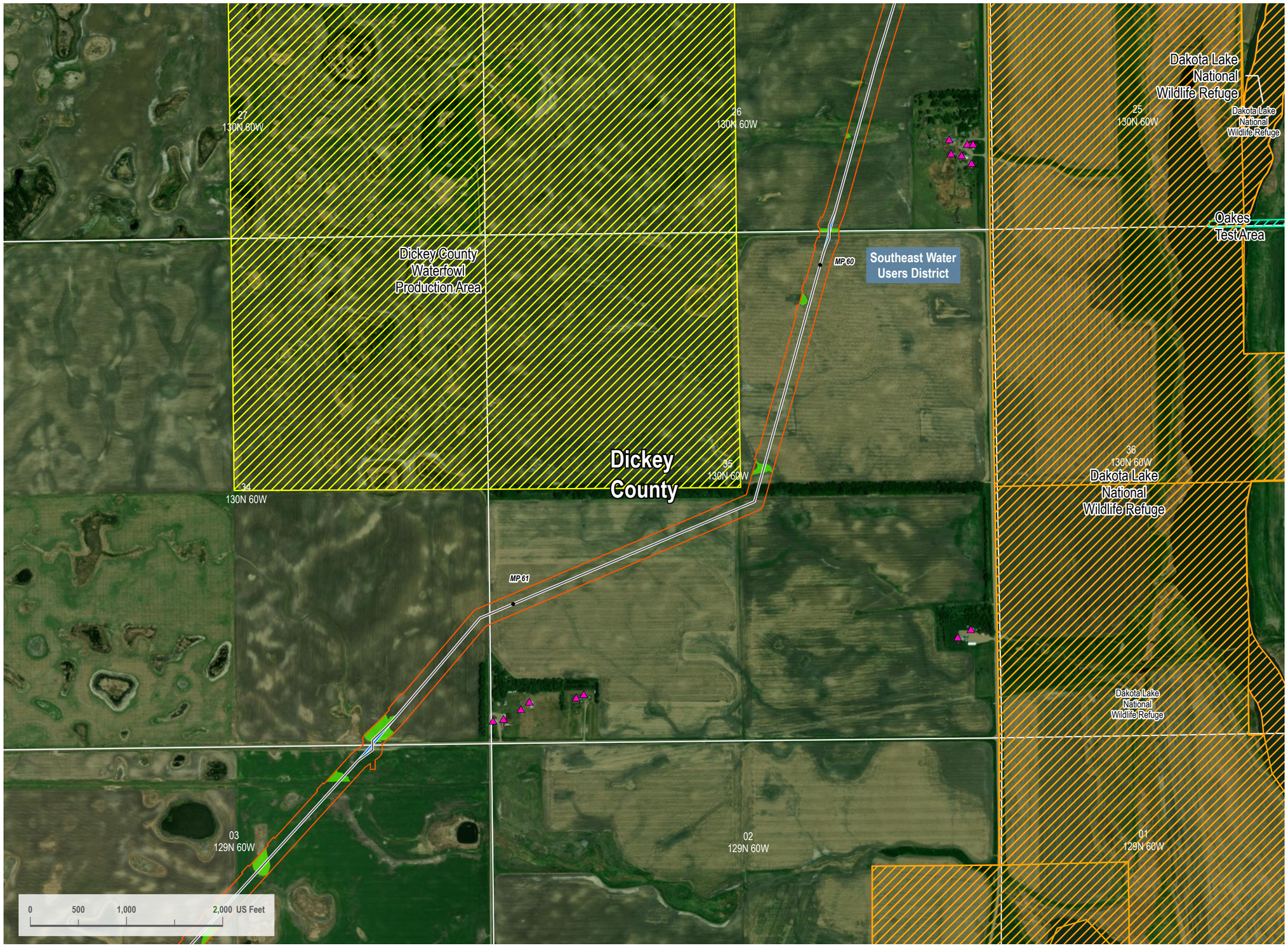

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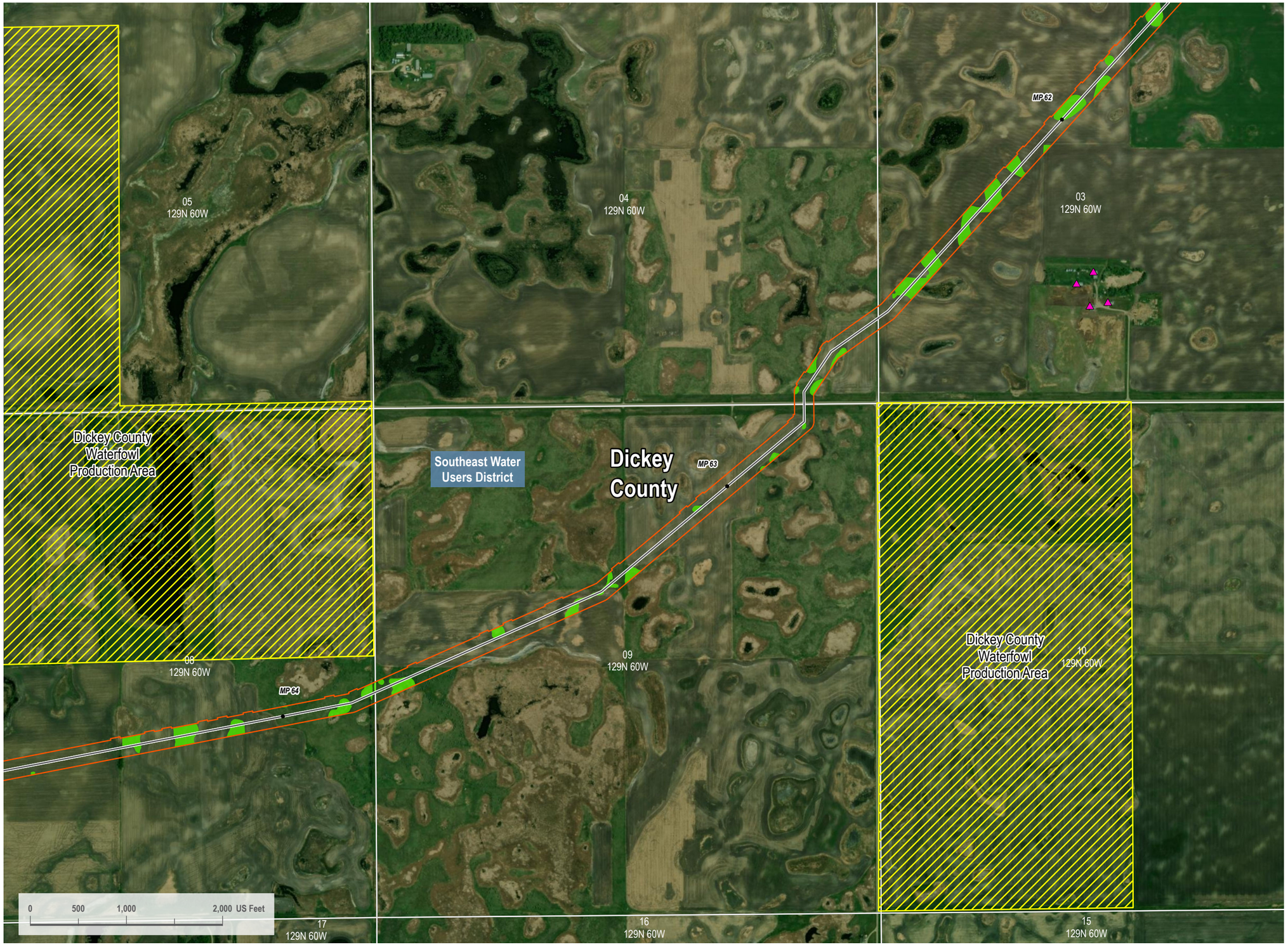

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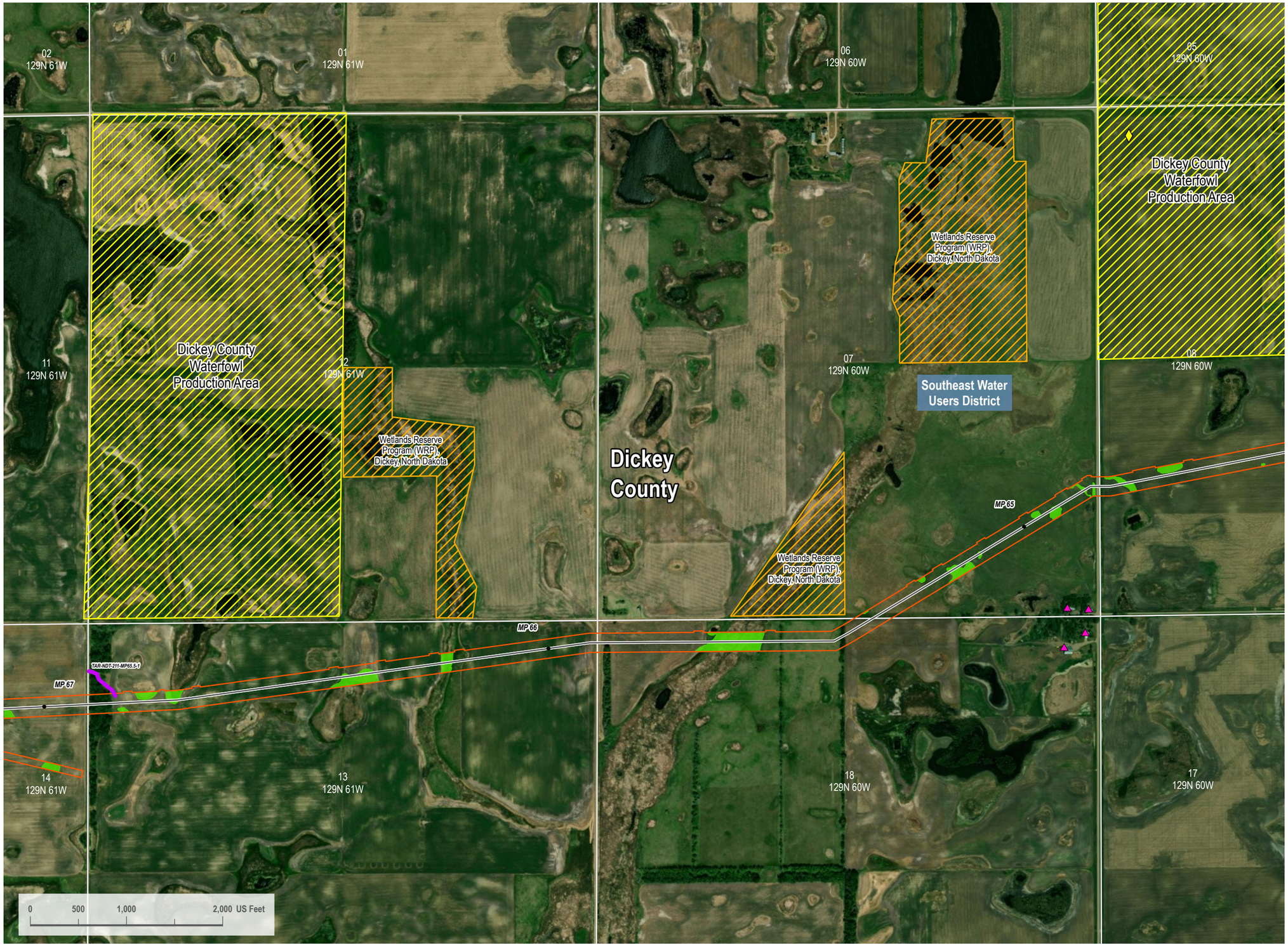

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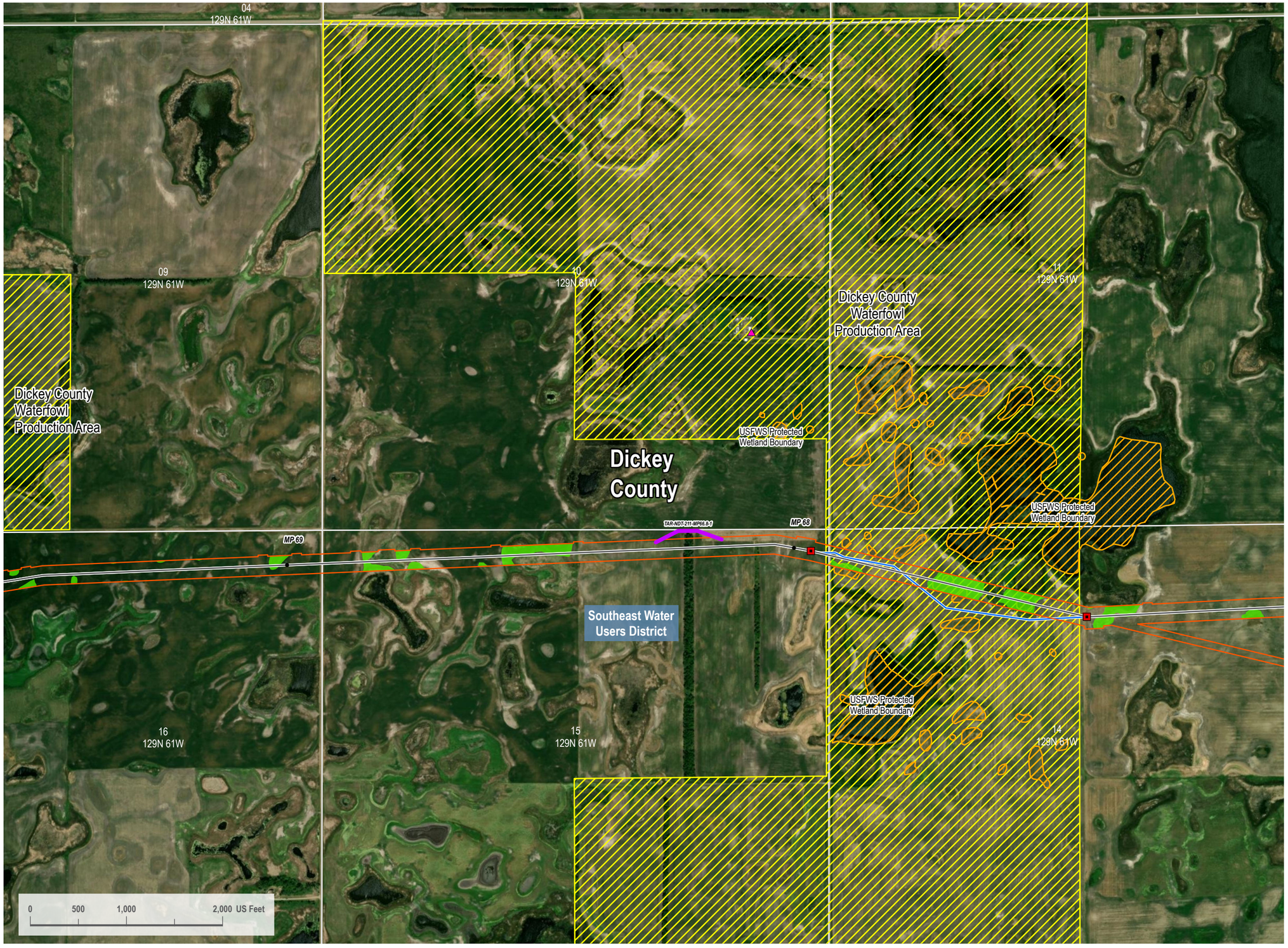

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- Section Line
- Access Road
- Avoidance Area
- PEM Wetland
- 200-foot Siting Corridor
- Resource Management Area

N

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PROJECT INFORMATION

Figure Title:
ND PSC - Aerial Map Book - NDT-211

Figure Number:
Map Book 1

Scale:
1 : 12,000
1 inch equals 1,000 feet

Projection:
Transverse Mercator
NAD 1983 UTM Zone 14N

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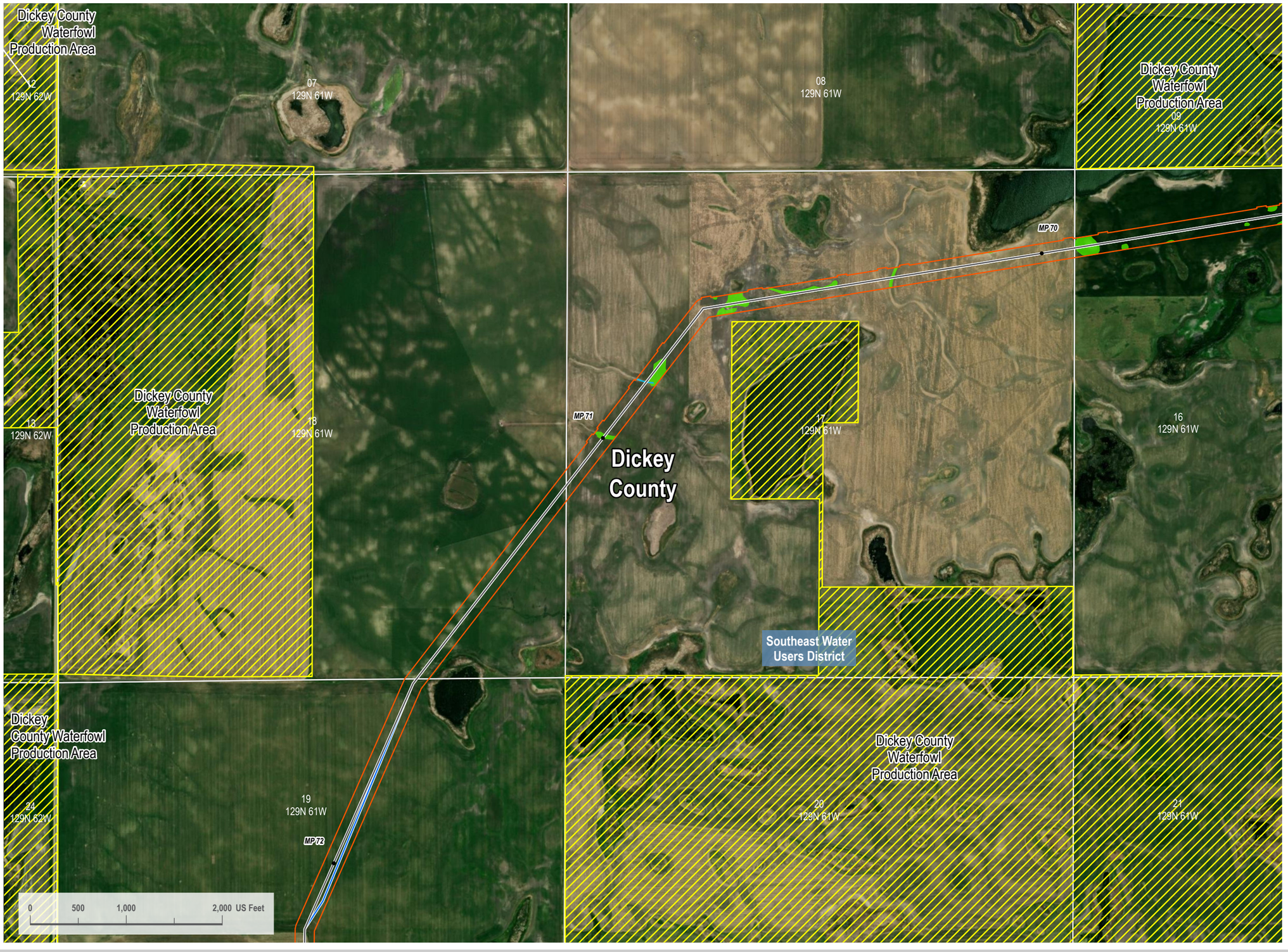

VICINITY MAP



LEGEND

- Centerline Mileposts
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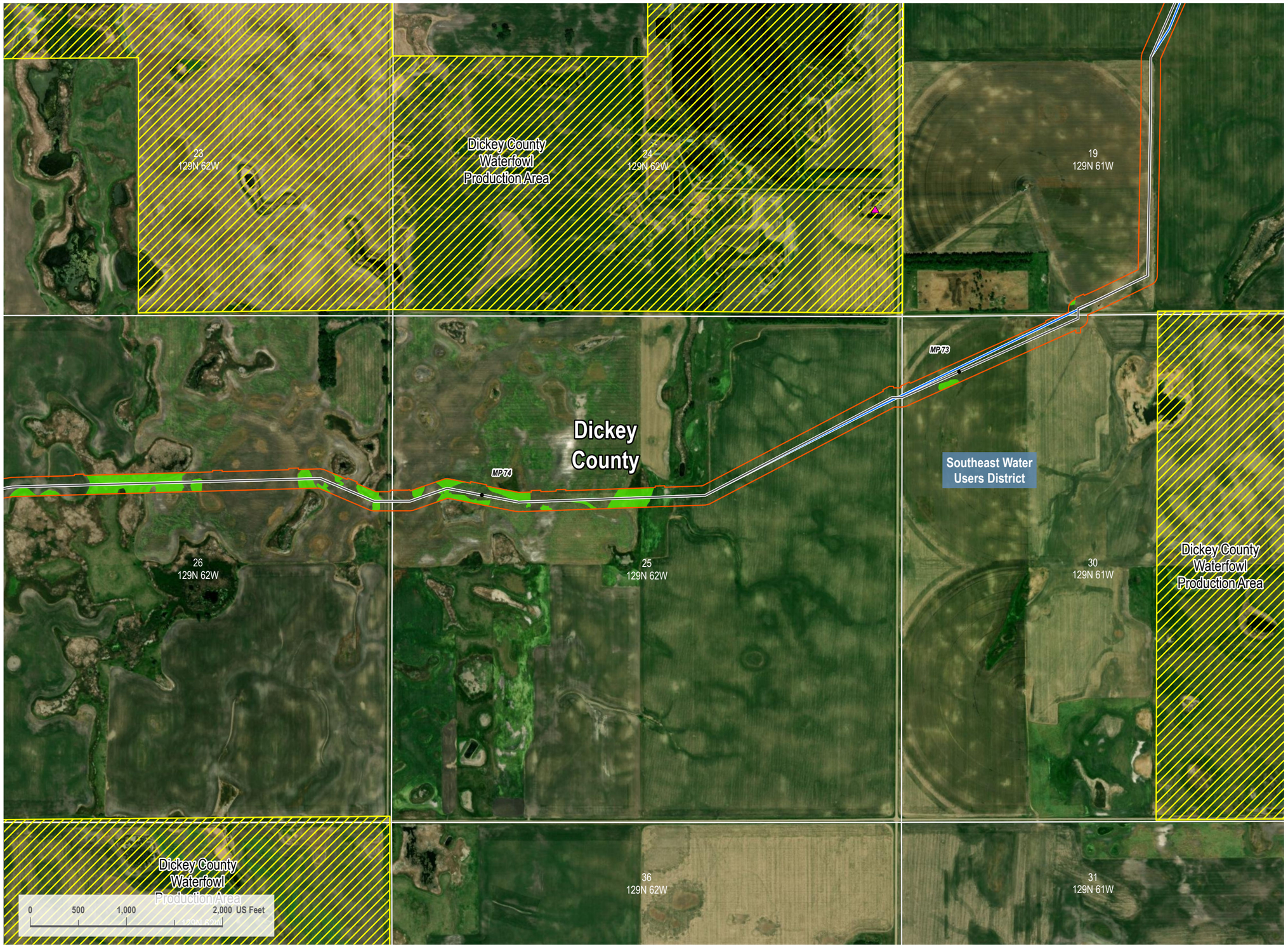

VICINITY MAP



LEGEND

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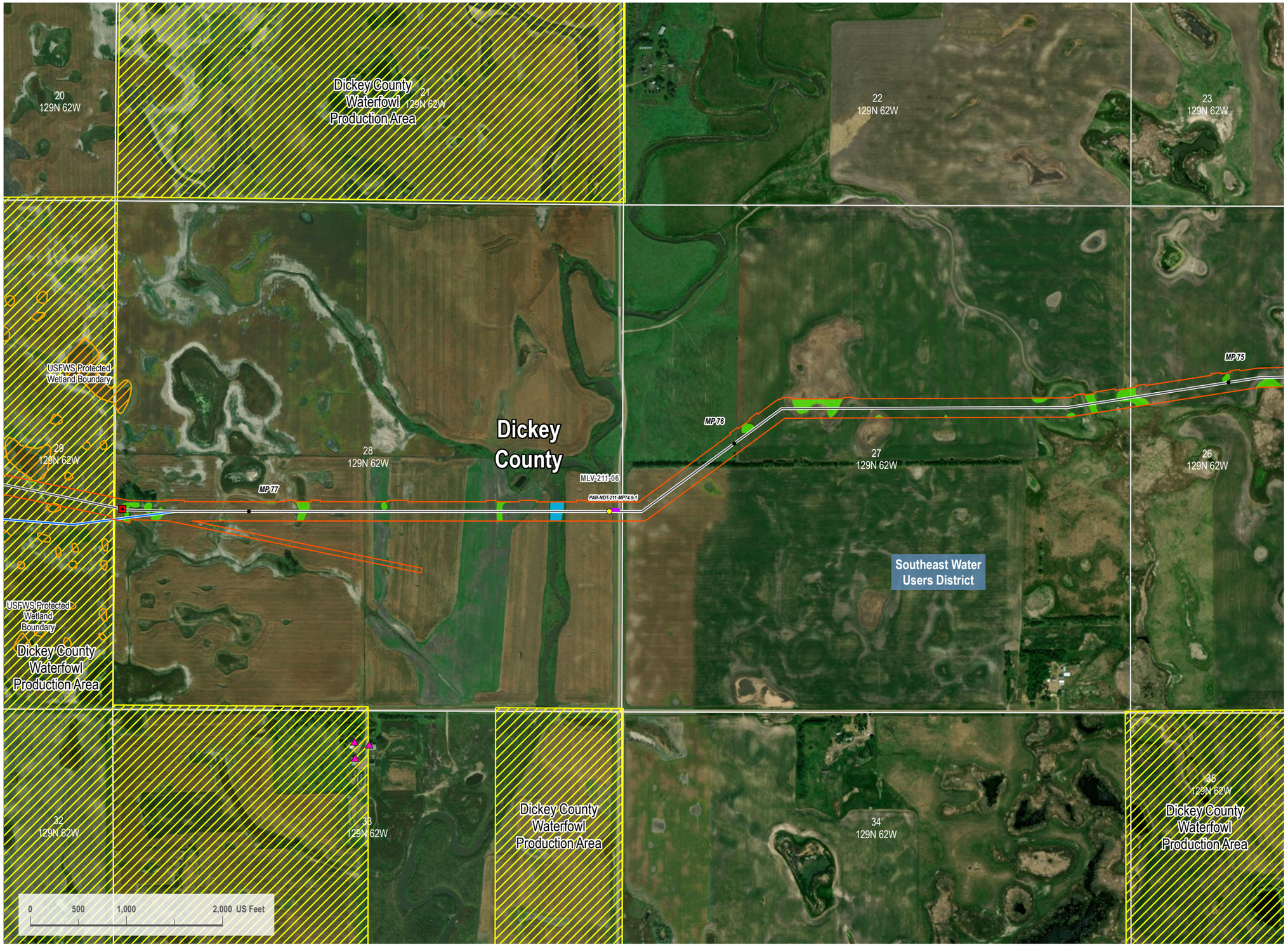

VICINITY MAP



LEGEND

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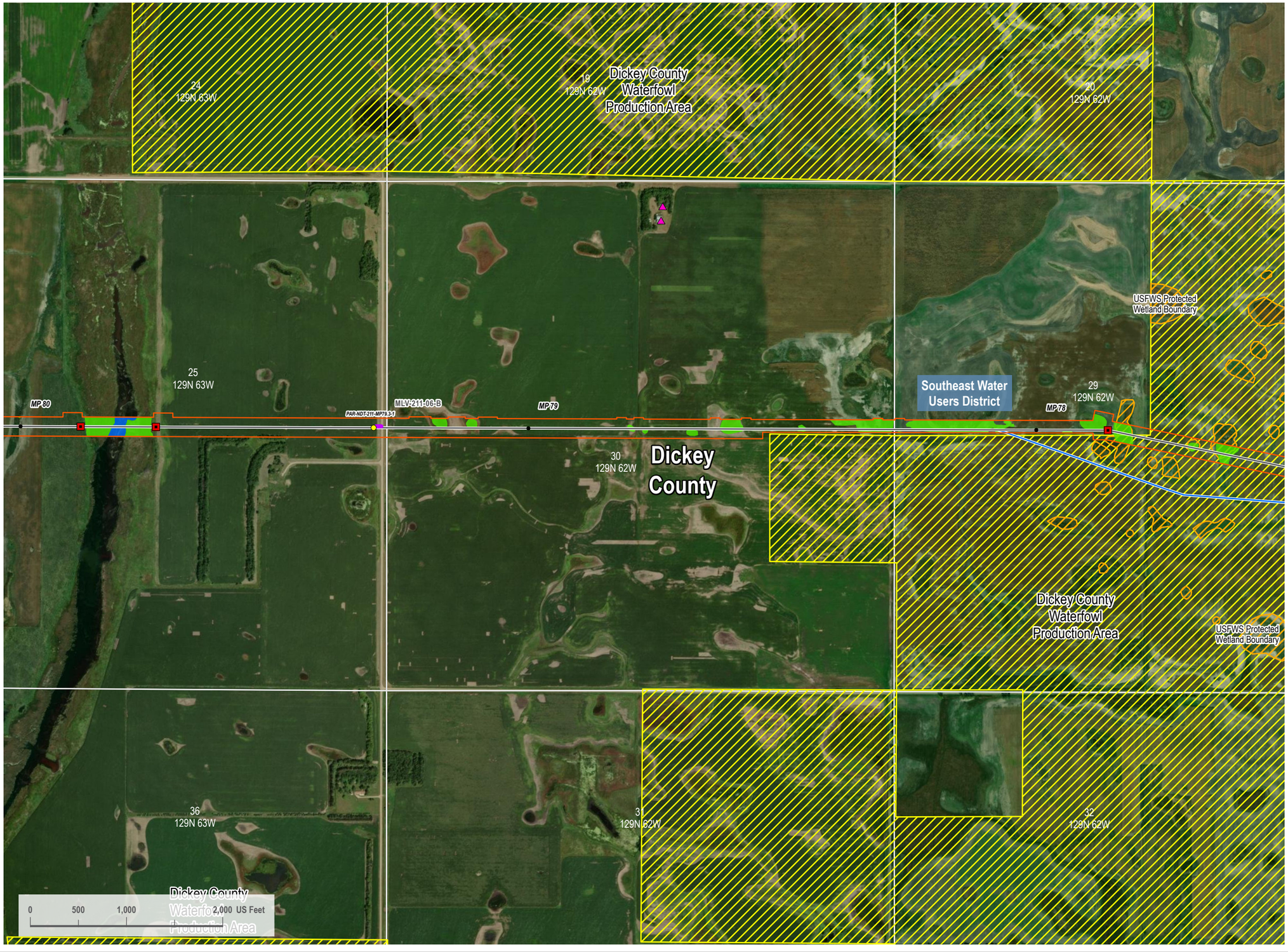

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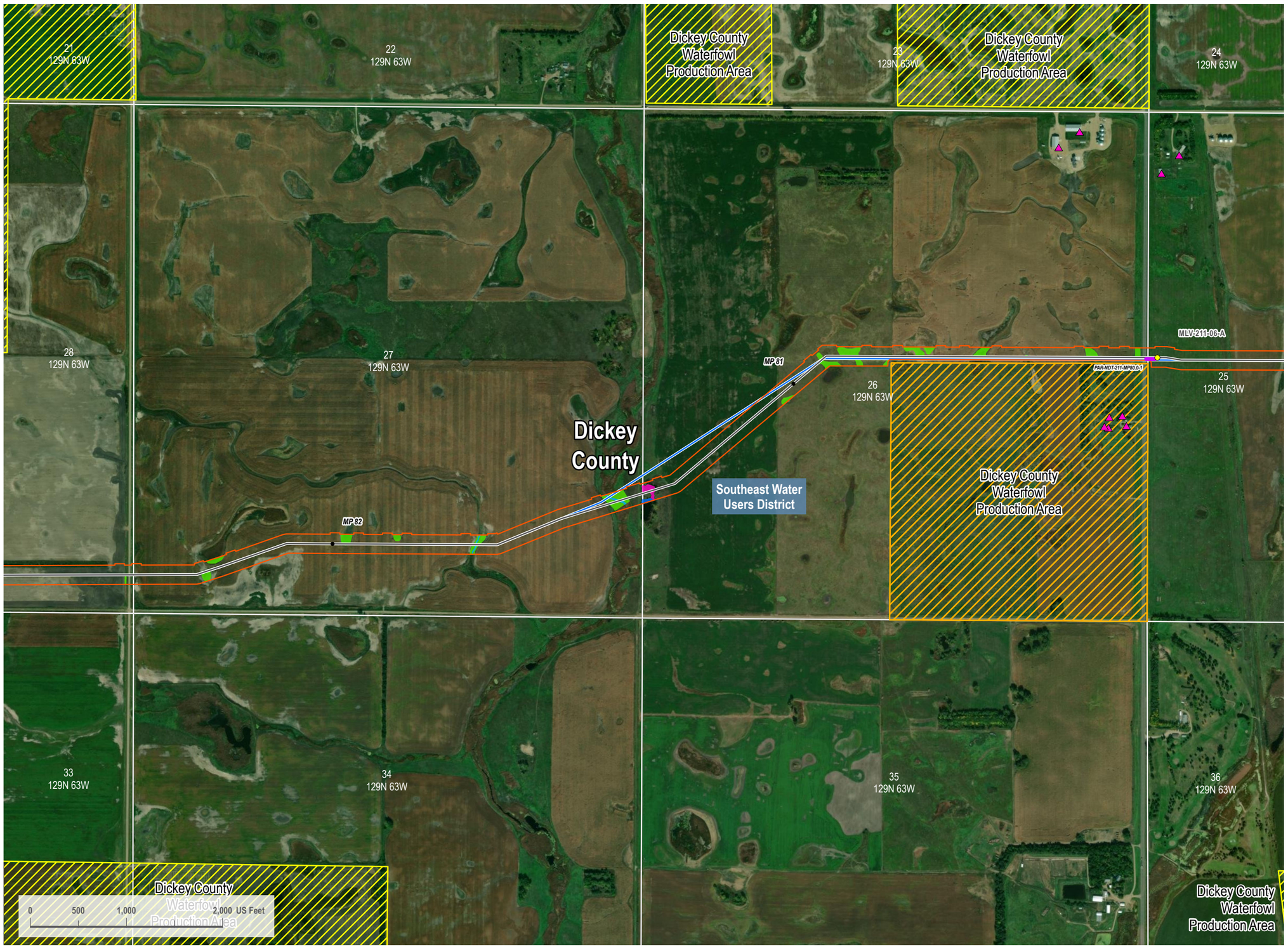

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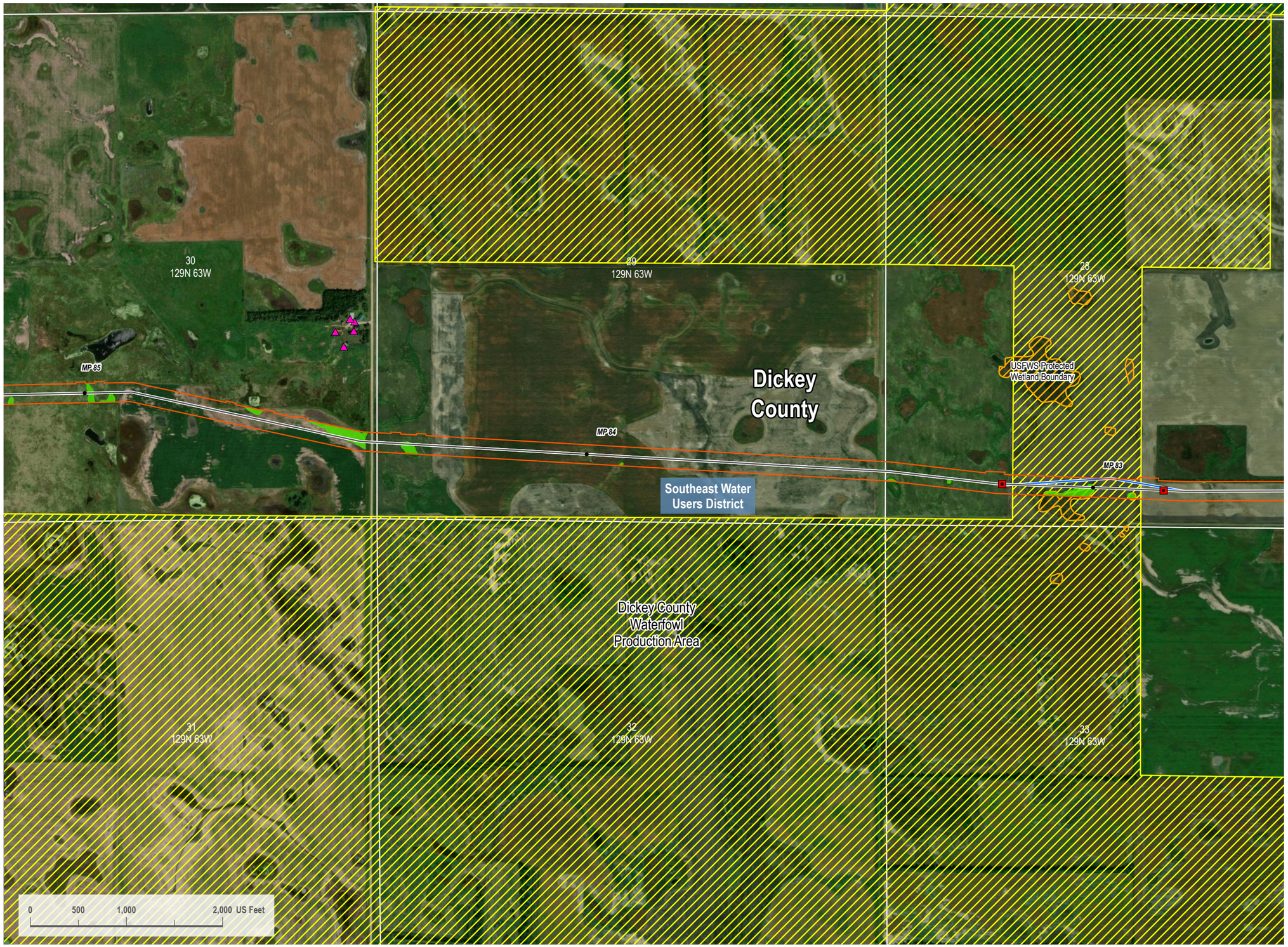

VICINITY MAP



LEGEND

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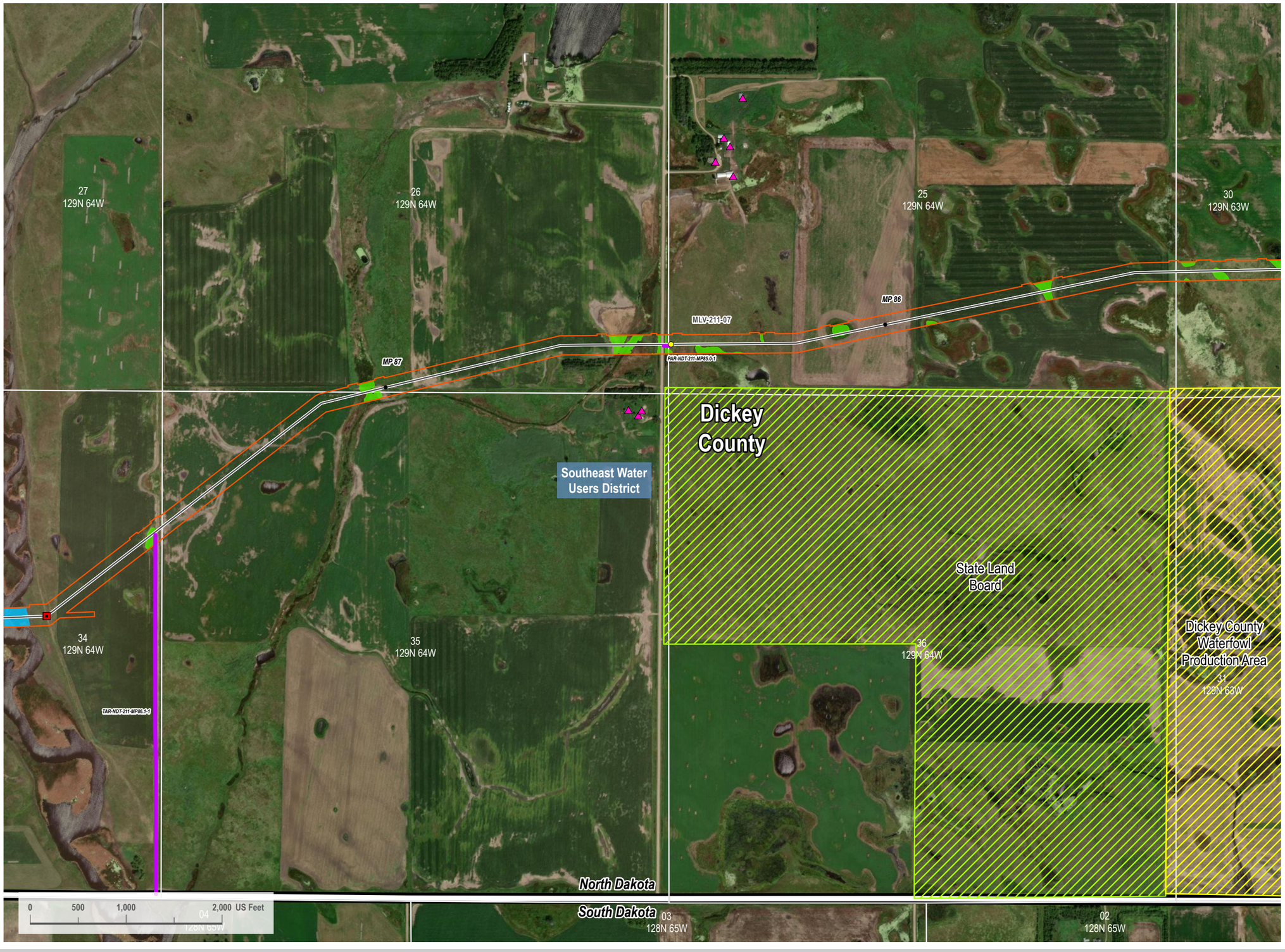

VICINITY MAP



LEGEND

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- Stream
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- Resource Management Area
- State Resource Management Area

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VICINITY MAP



LEGEND

- HDD Entry/Exit
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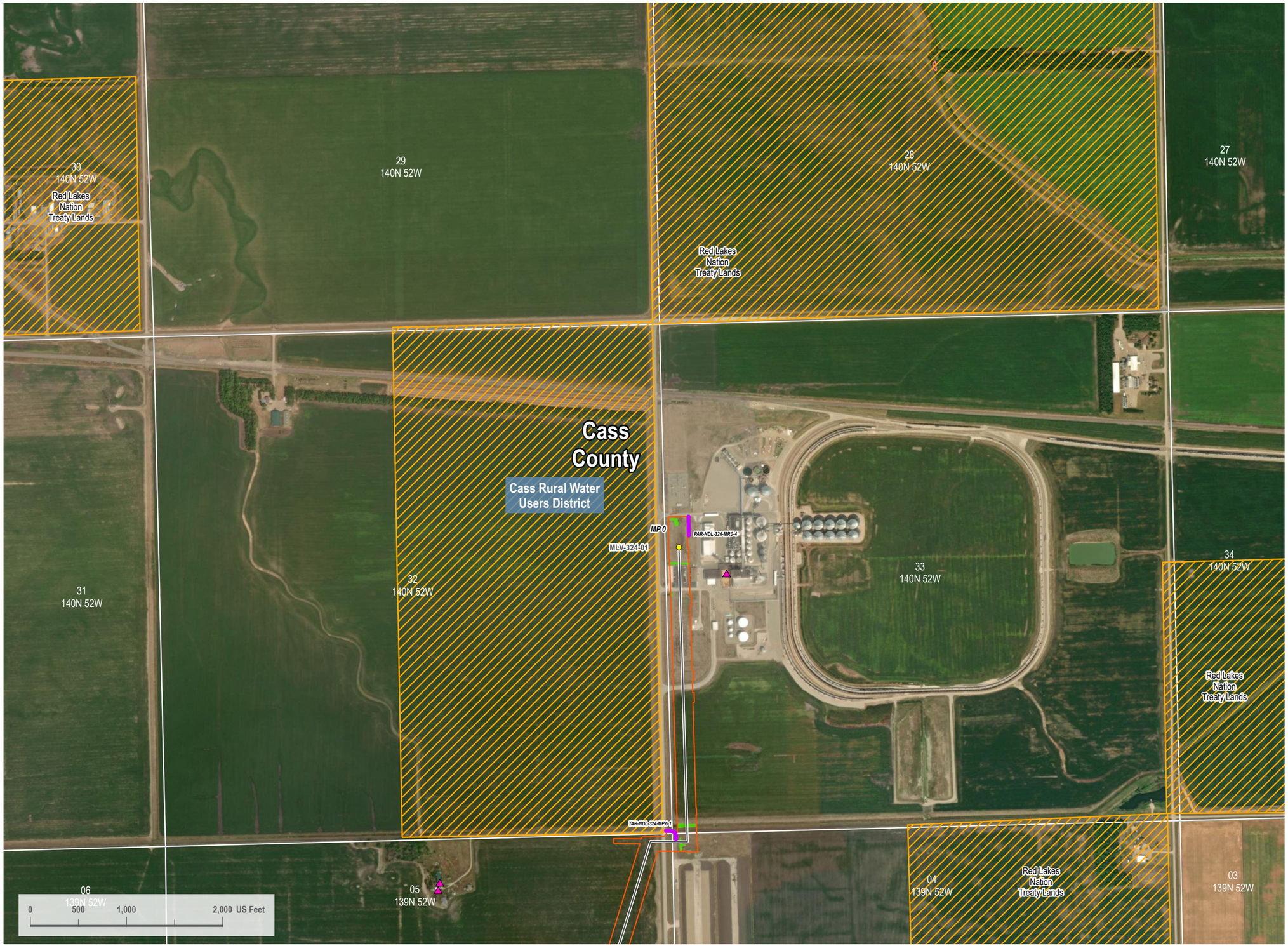

VICINITY MAP



LEGEND

- Centerline Mileposts
- Mainline Valve Location
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PROJECT INFORMATION

Figure Title:
ND PSC - Aerial Map Book - NDL-324

Figure Number:
Map Book 1

Scale:
1 : 12,000
1 inch equals 1,000 feet

Projection:
Transverse Mercator
NAD 1983 UTM Zone 14N

Sheet:
111
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Drawing Number:
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Revision A

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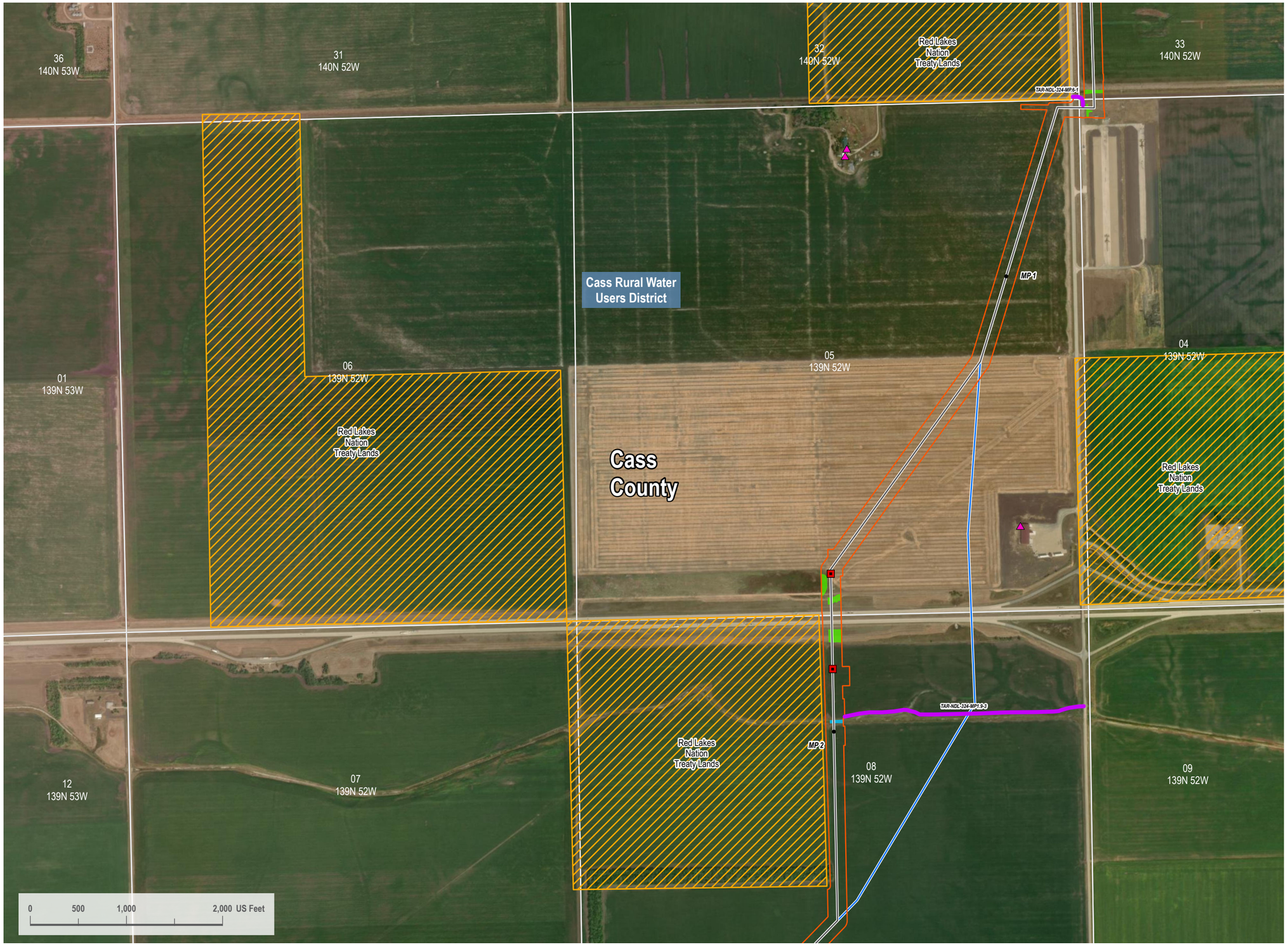

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VICINITY MAP



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ND PSC - AERIAL MAP BOOK



VICINITY MAP



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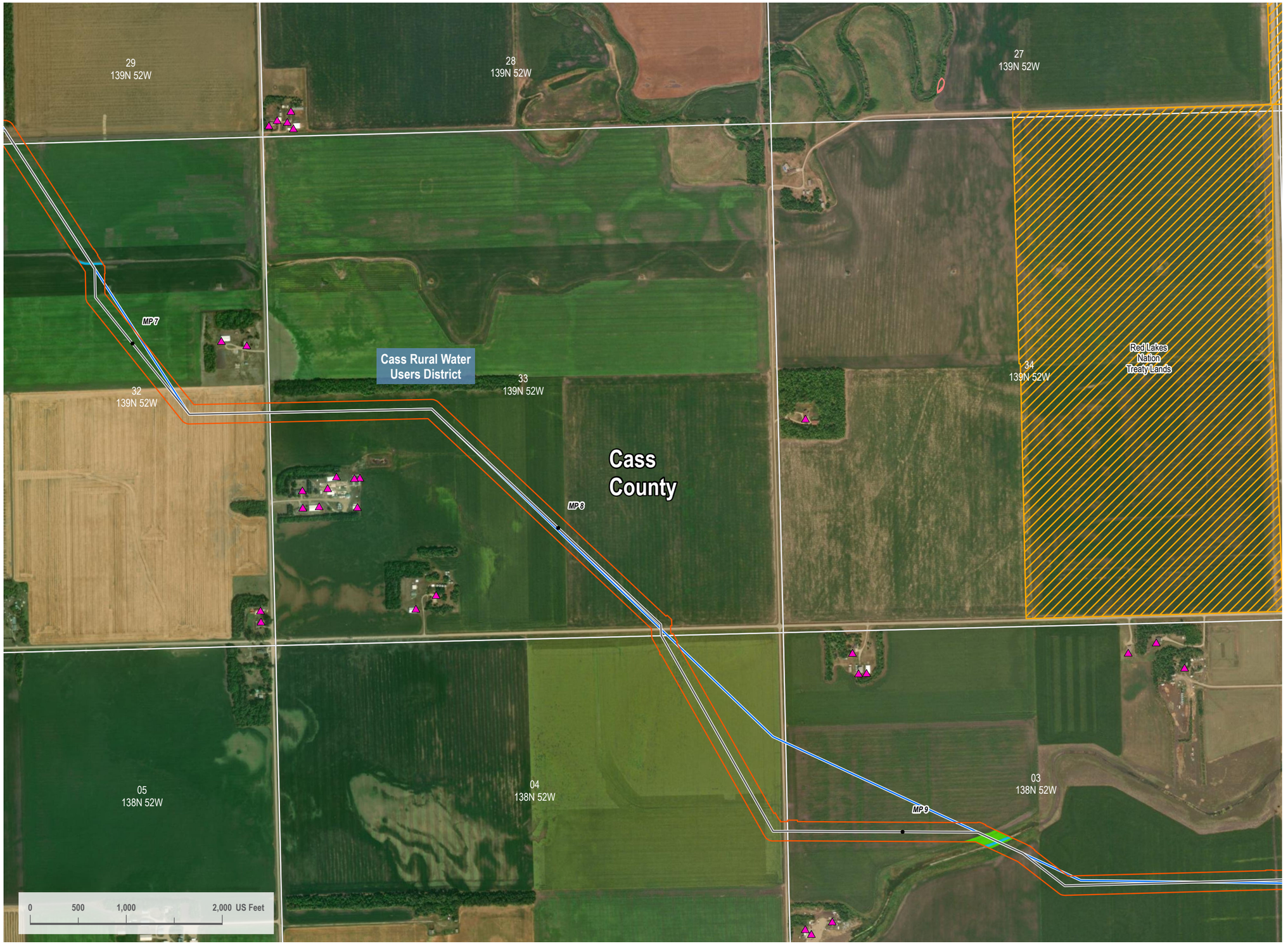

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VICINITY MAP



LEGEND

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VICINITY MAP



LEGEND

- Centerline Mileposts
- Water Well (Avoidance)
- Mainline Valve Location
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Access Road
- Avoidance Area
- PEM Wetland
- Stream
- 200-foot Siting Corridor

N

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Date:	Revised by:	Checked by:
2023-08-17	CW	RC

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PREPARED BY

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2321 North Loop Drive, Suite 221
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PROJECT INFORMATION

Figure Title:
ND PSC - Aerial Map Book - NDL-324

Figure Number:
Map Book 1

Scale:
1 : 12,000
1 inch equals 1,000 feet

Projection:
Transverse Mercator
NAD 1983 UTM Zone 14N

Sheet:
119
119 of 139

Drawing Number:
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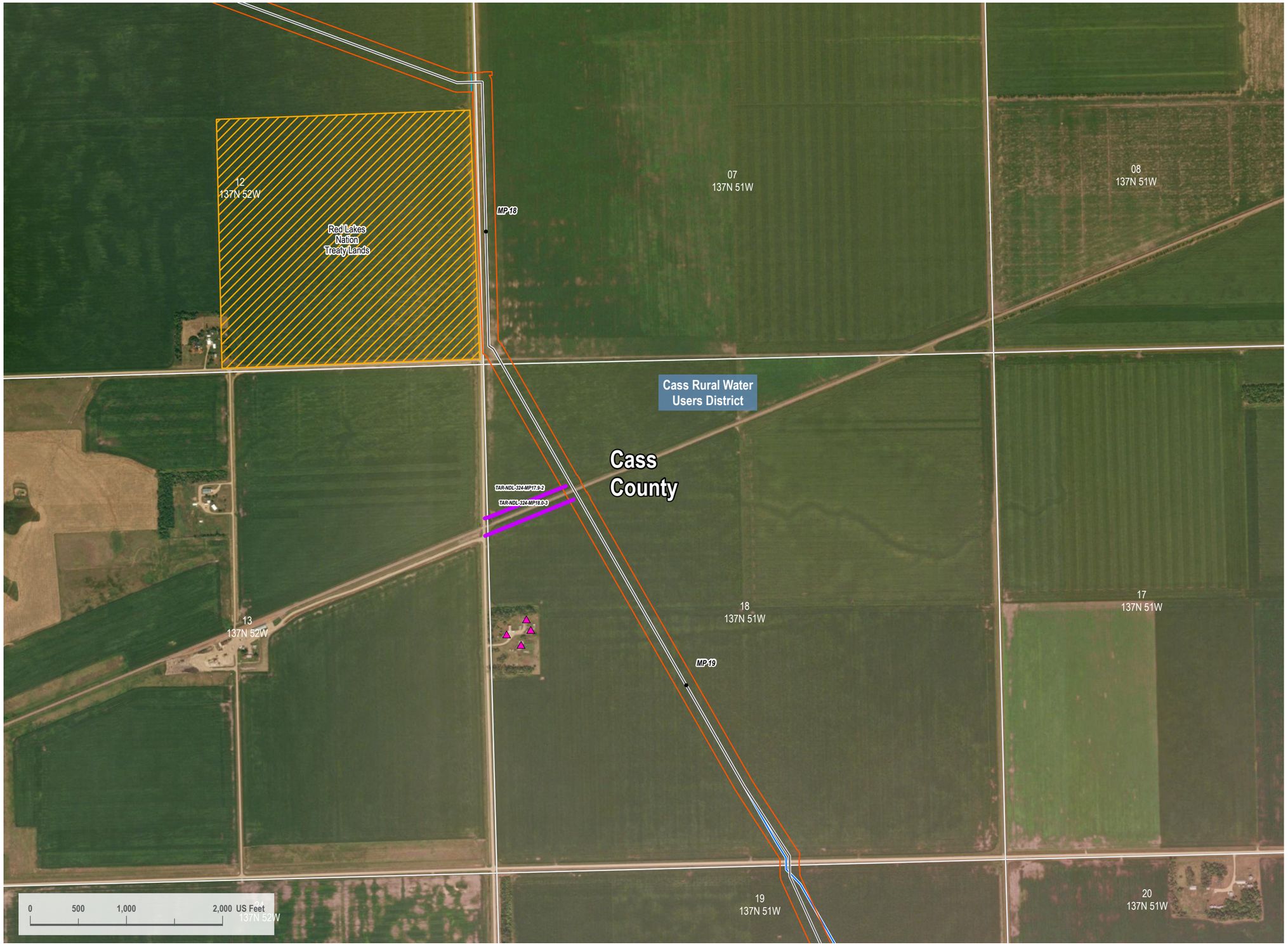
ND PSC - AERIAL MAP BOOK



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ND PSC - AERIAL MAP BOOK



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ND PSC - AERIAL MAP BOOK



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VICINITY MAP



LEGEND

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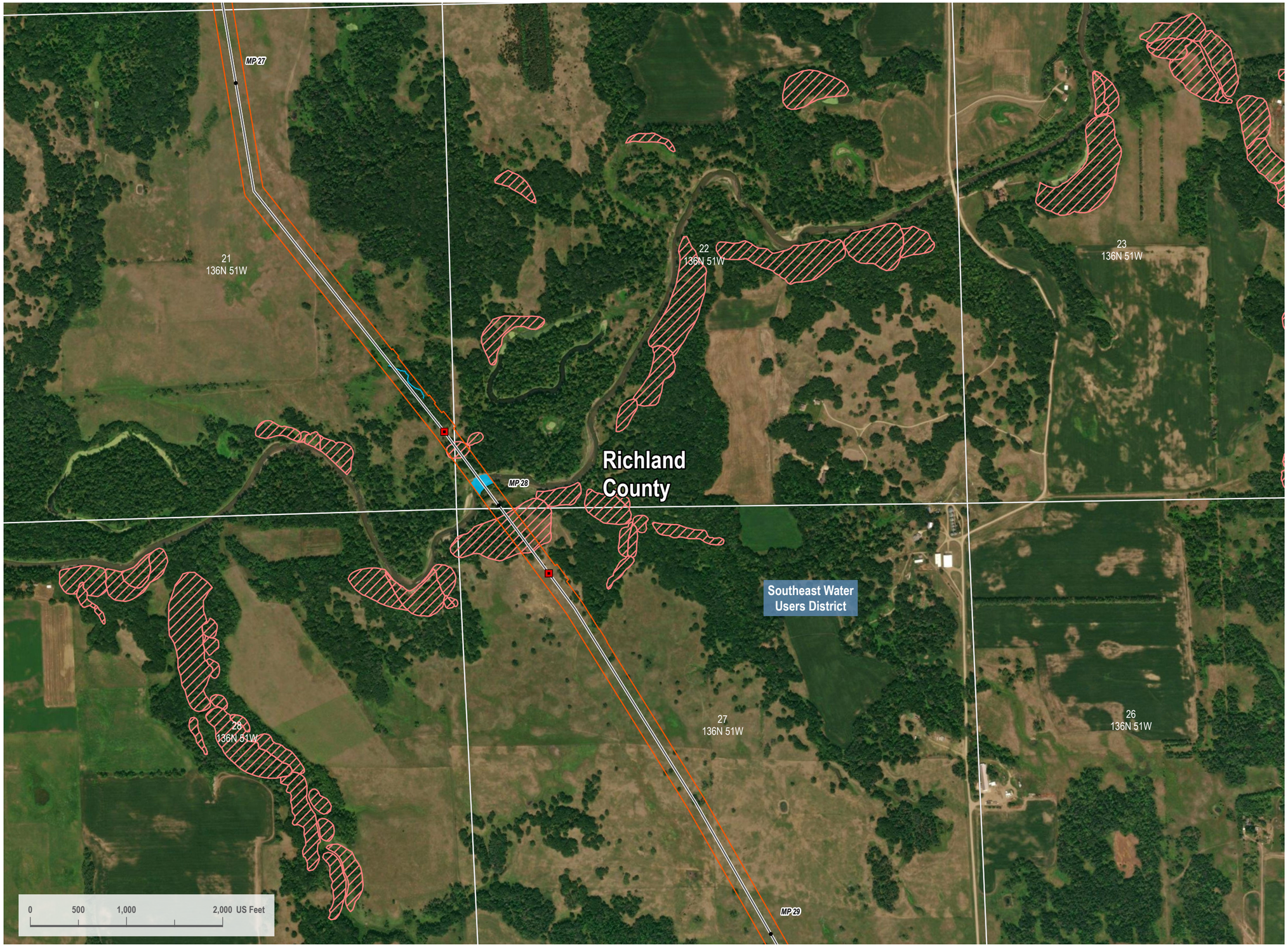

VICINITY MAP



LEGEND

- HDD Entry/Exit
- Centerline Mileposts
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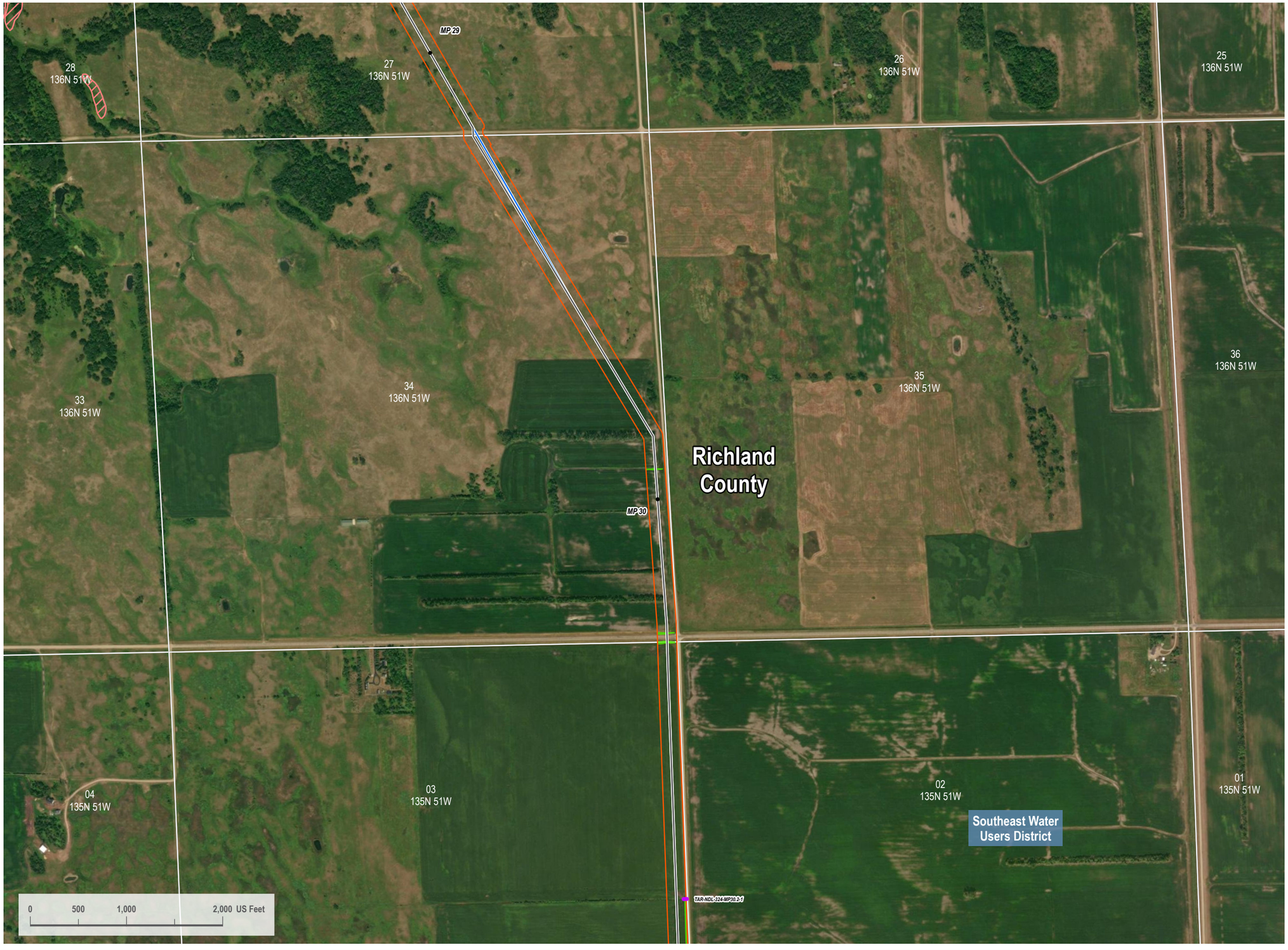

VICINITY MAP



LEGEND

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ND PSC - AERIAL MAP BOOK



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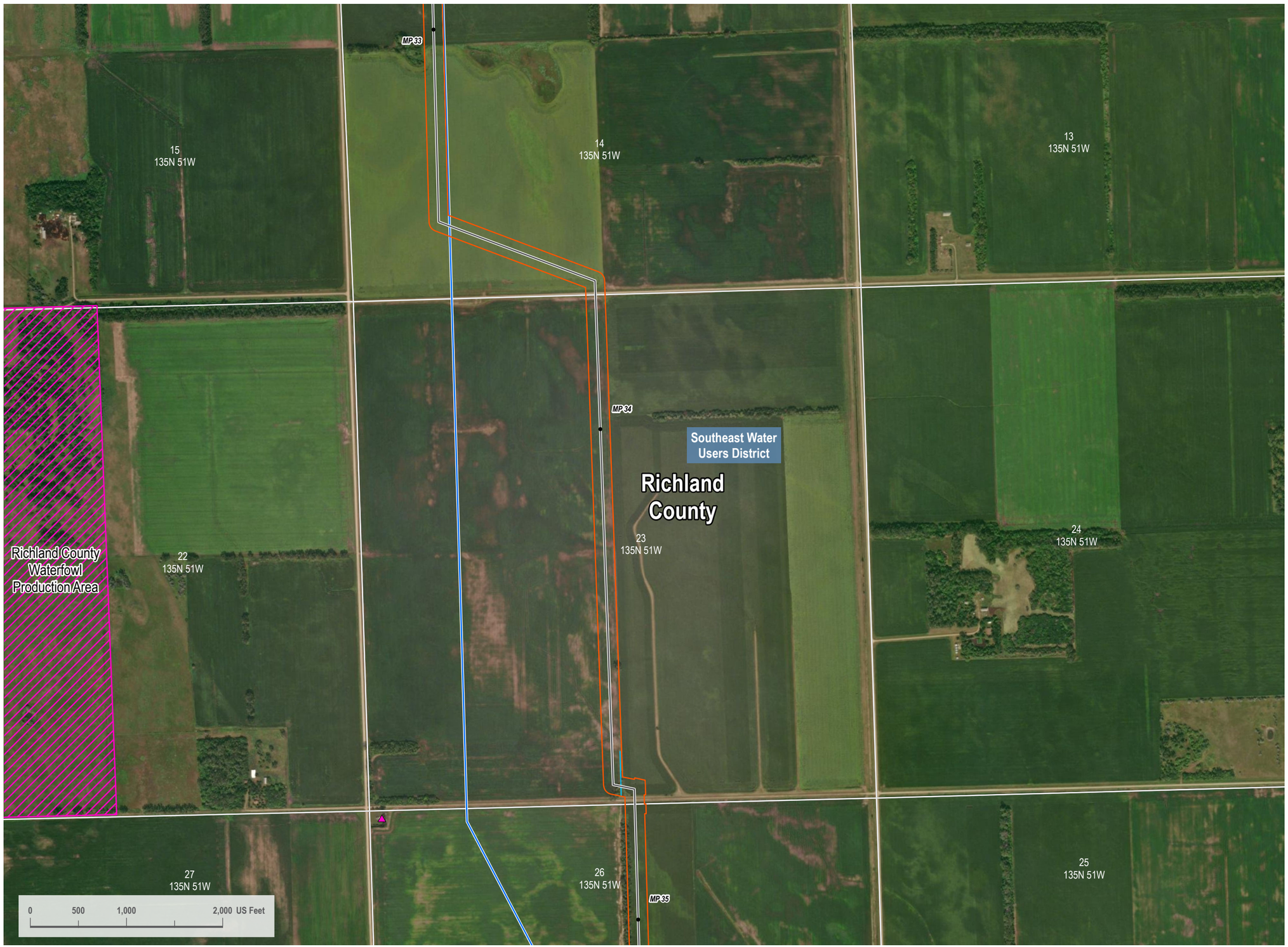

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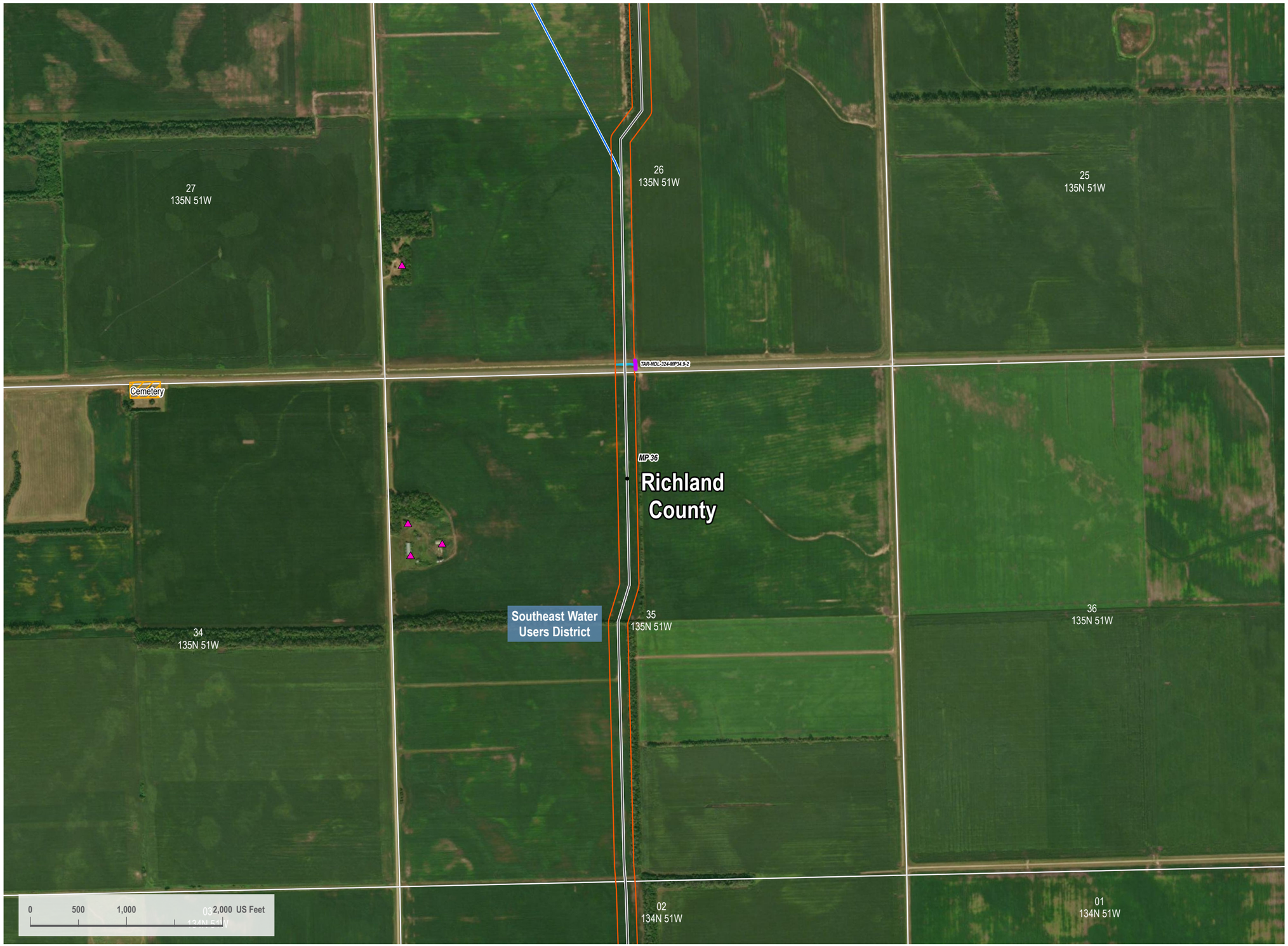

VICINITY MAP



LEGEND

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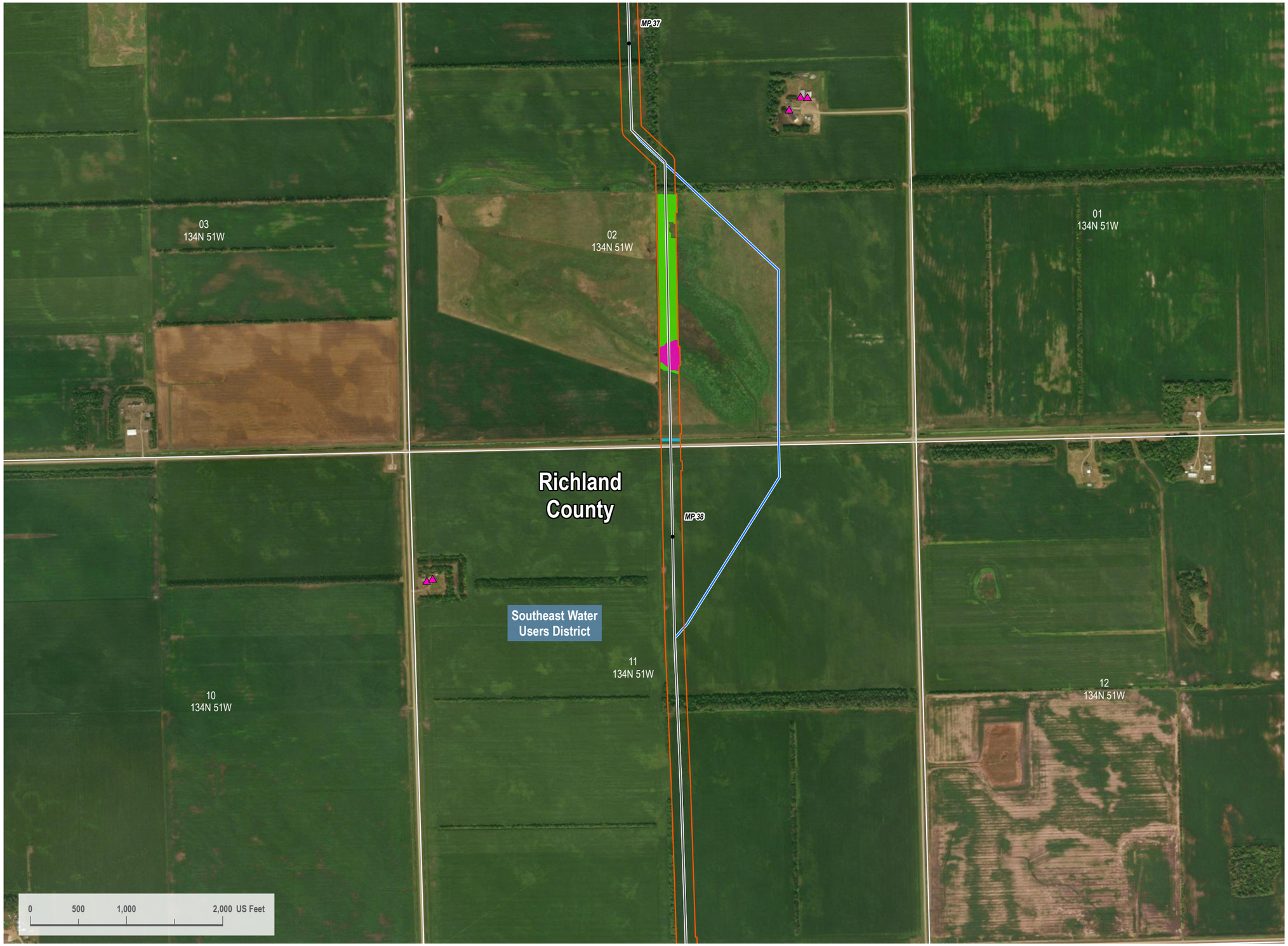

VICINITY MAP



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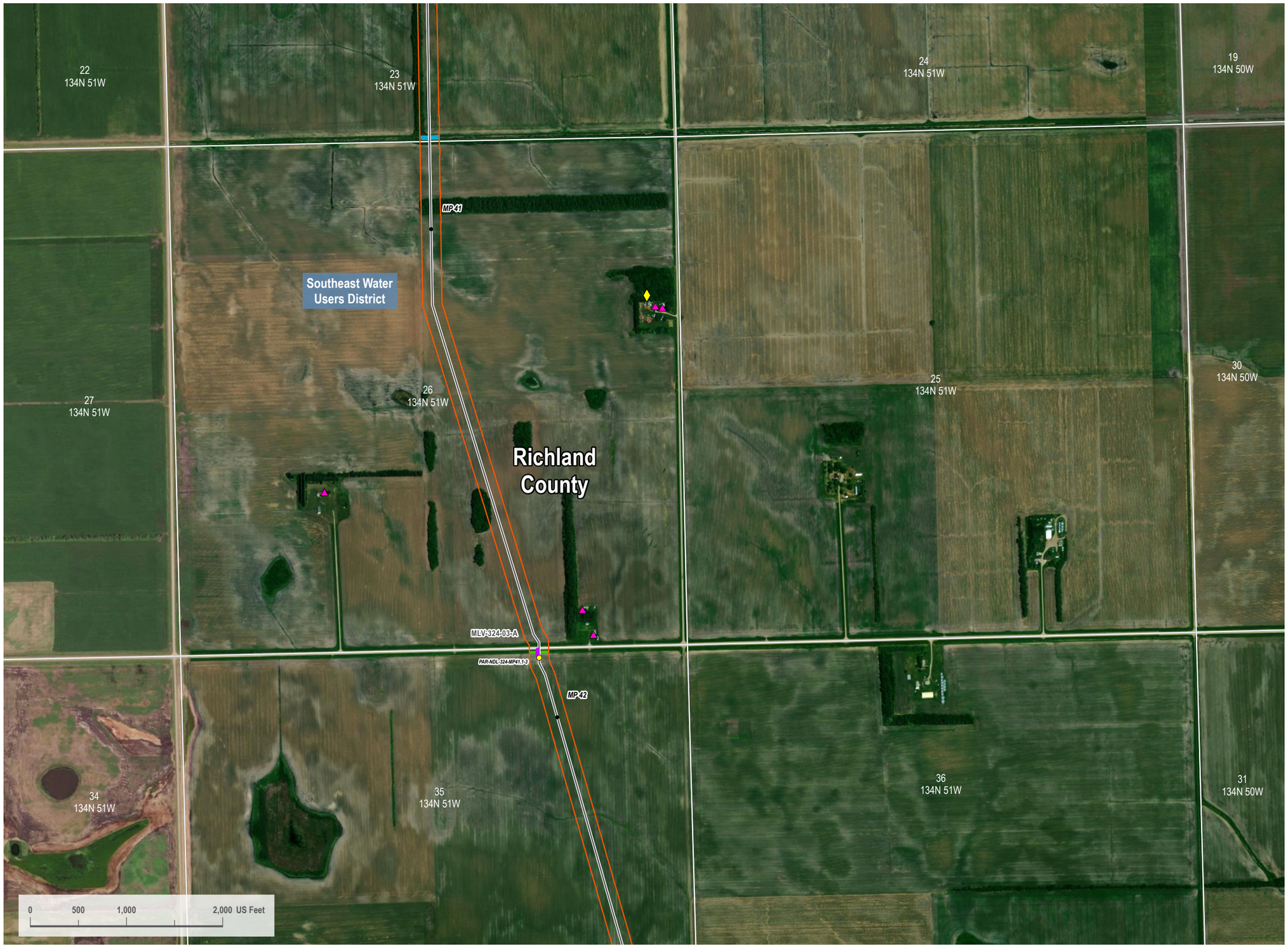

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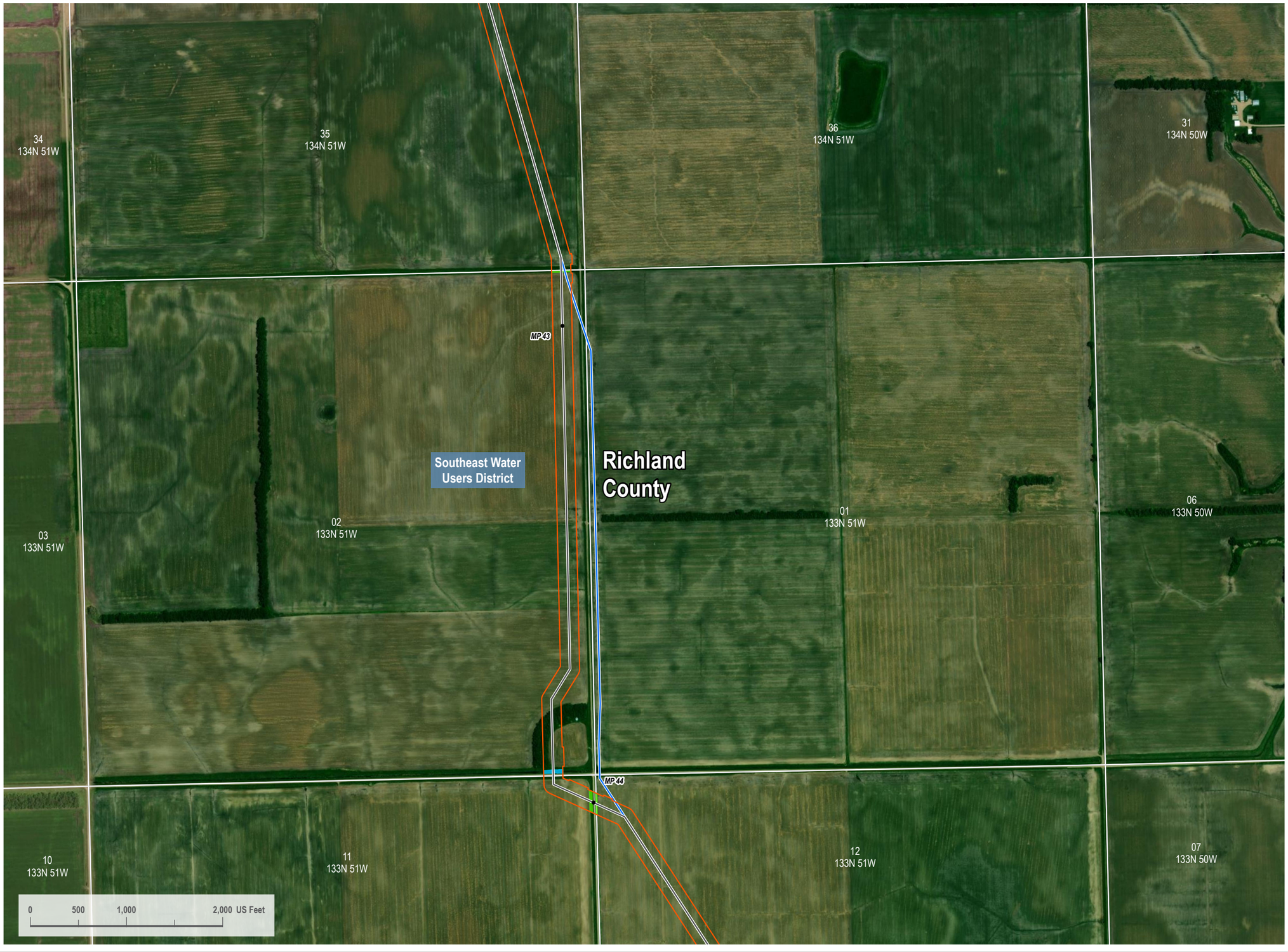

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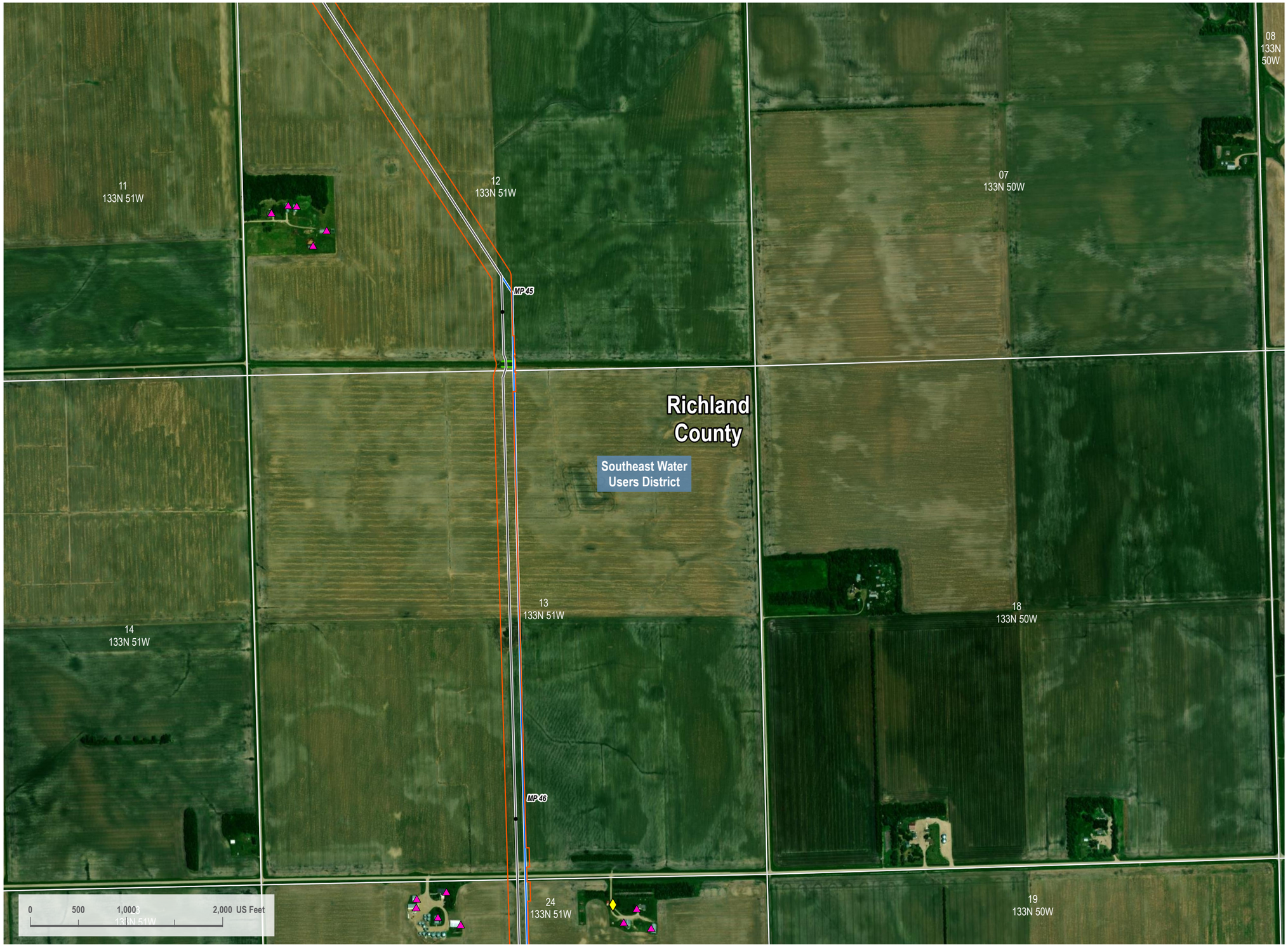

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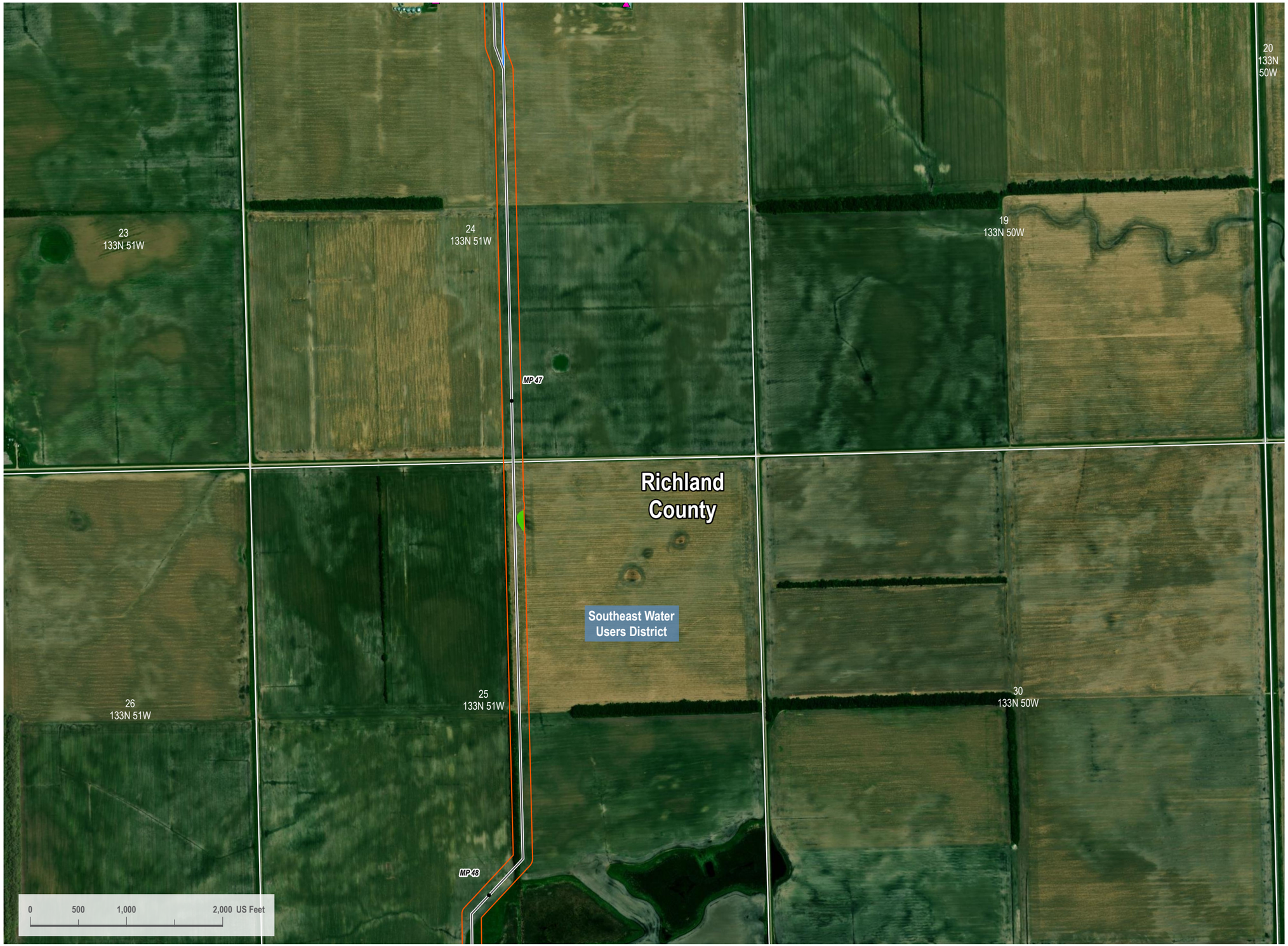

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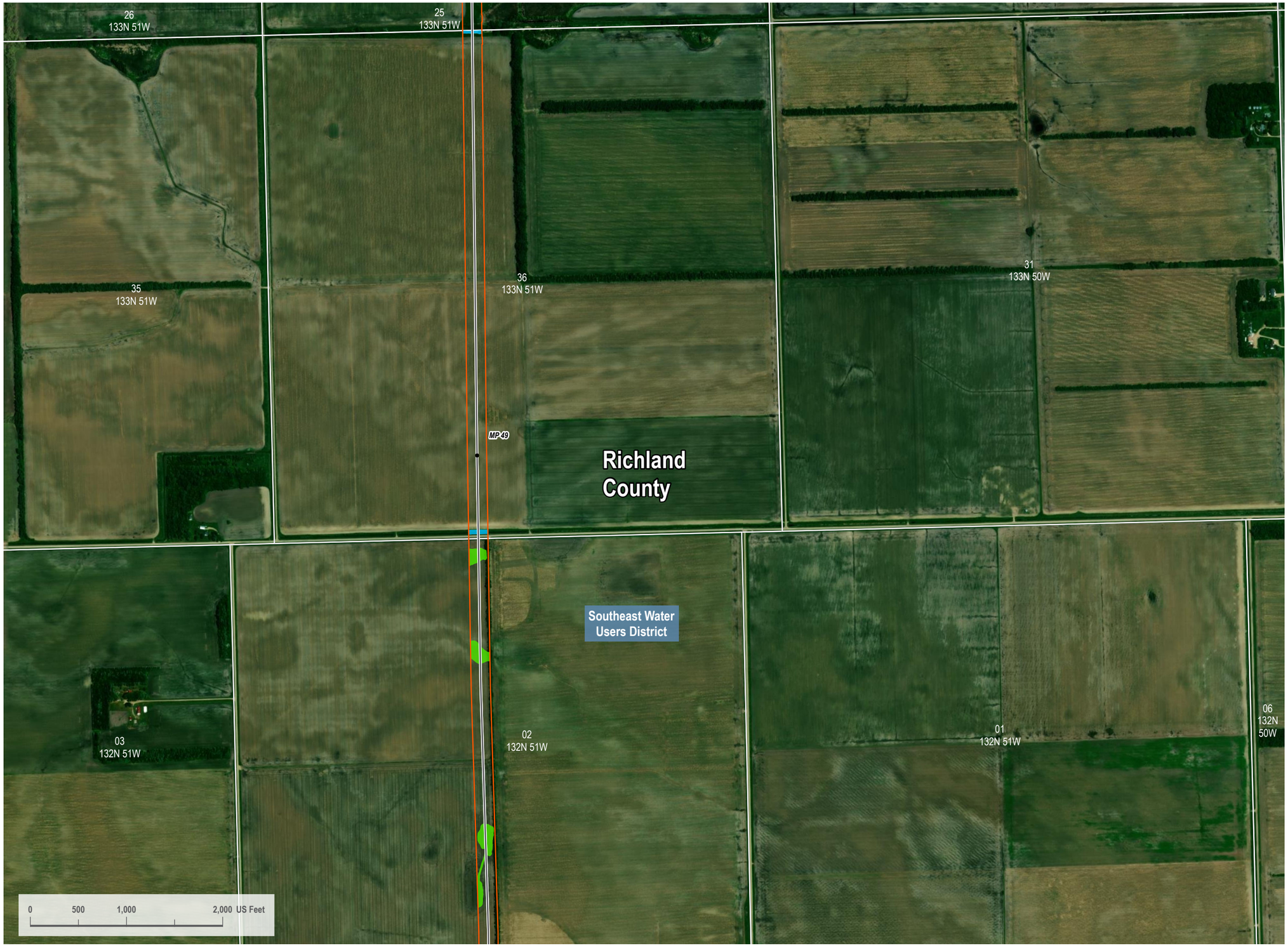

VICINITY MAP



LEGEND

- Centerline Mileposts
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- PEM Wetland
- Stream
- 200-foot Siting Corridor

N

REVISIONS

Date:	Revised by:	Checked by:
2023-08-17	CW	RC

A - Issued for Review

Date: Revised by: Checked by:

Date: Revised by: Checked by:

PREPARED BY

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SUMMIT CARBON SOLUTIONS

PROJECT INFORMATION

Figure Title:
ND PSC - Aerial Map Book - NDL-324

Figure Number:
Map Book 1

Scale:
1 : 12,000
1 inch equals 1,000 feet

Projection:
Transverse Mercator
NAD 1983 UTM Zone 14N

Sheet:
136
136 of 139

Drawing Number:
1001-01-003
Revision A

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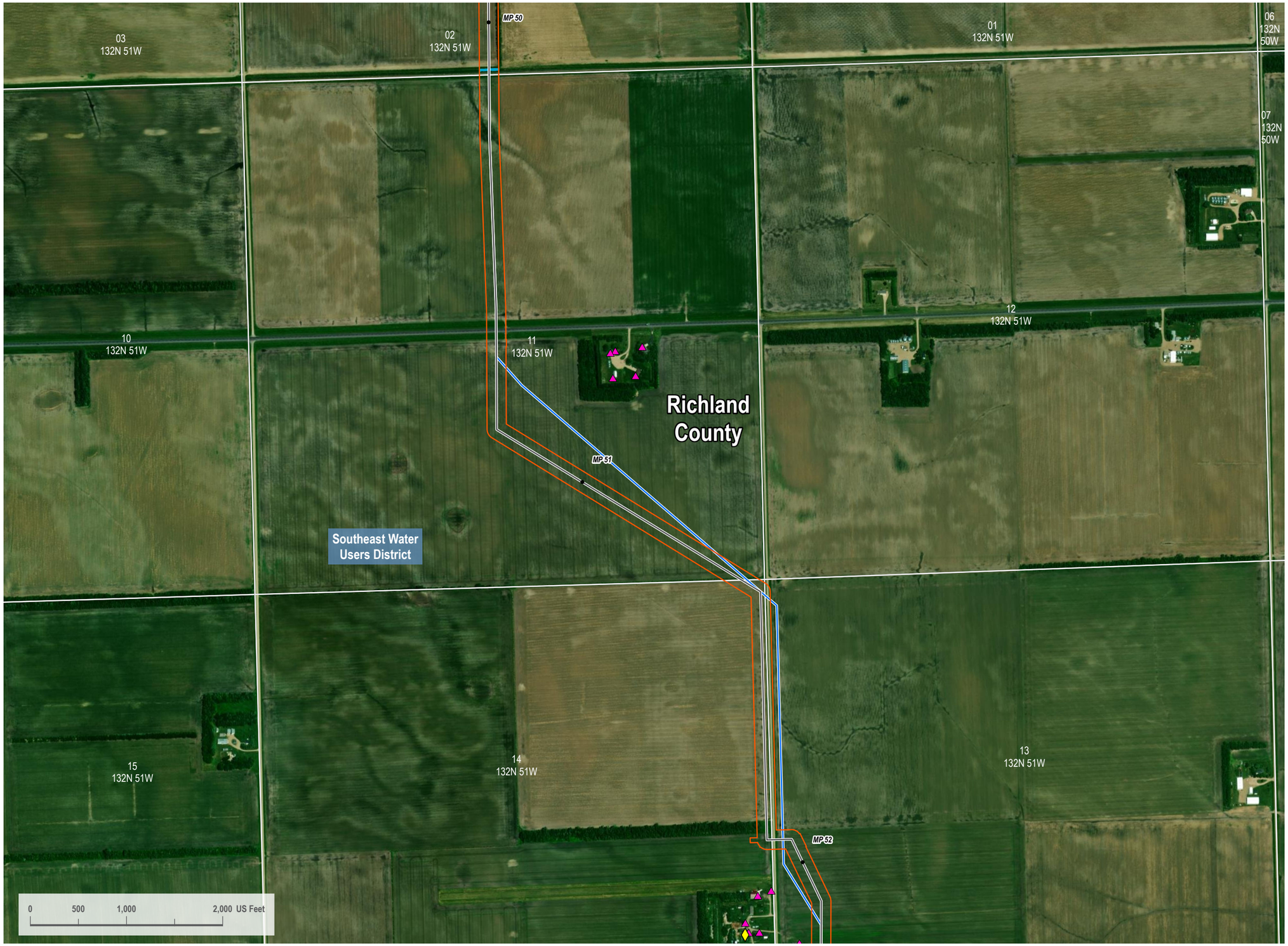
ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- Centerline Mileposts
- Water Well (Avoidance)
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Stream
- 200-foot Siting Corridor

N

REVISIONS

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2023-08-17	CW	RC

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Date:	Revised by:	Checked by:

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1 : 12,000 1 inch equals 1,000 feet	Transverse Mercator NAD 1983 UTM Zone 14N

Sheet:	Drawing Number:
137 137 of 139	1001-01-003 Revision A

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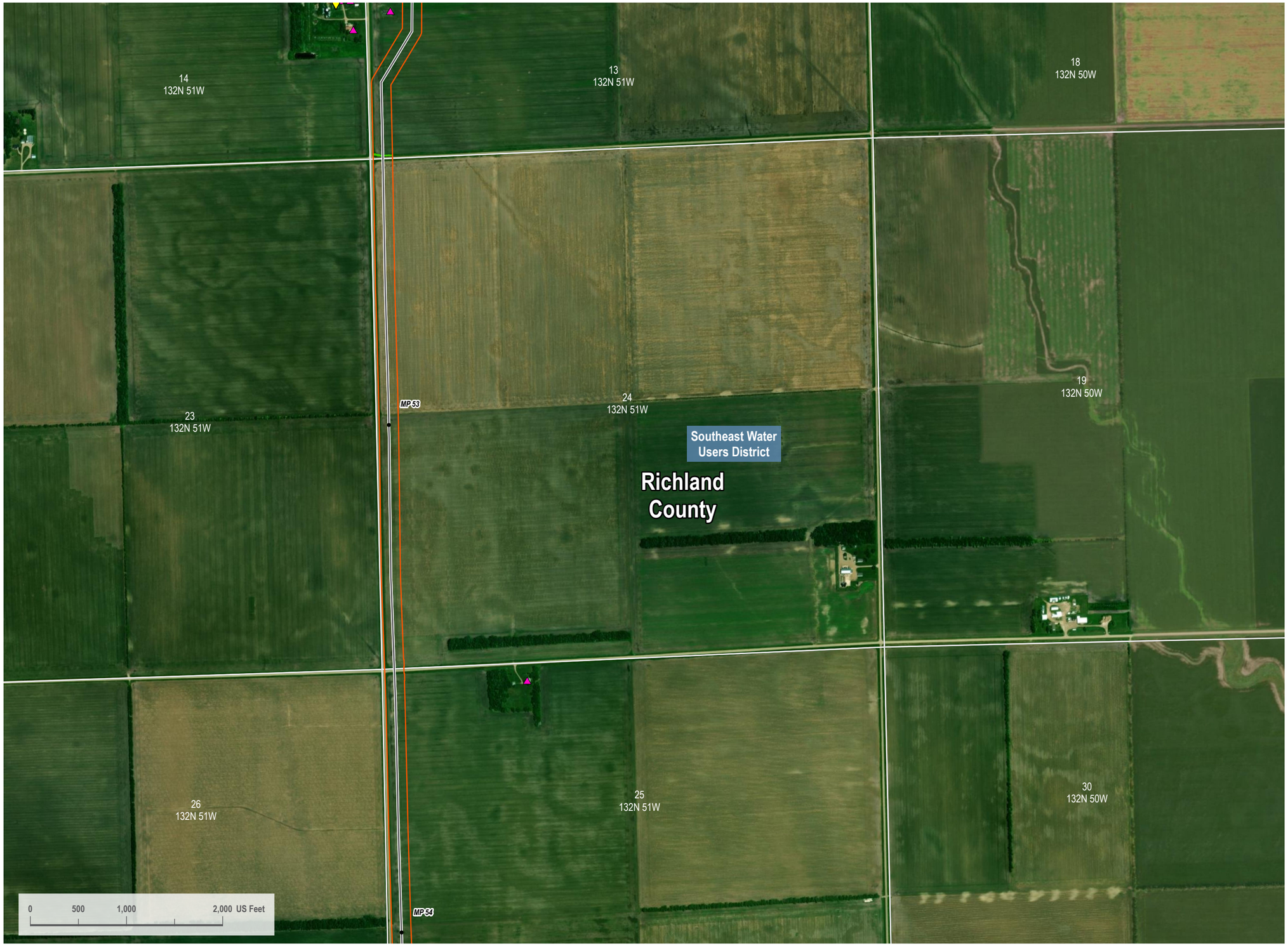

VICINITY MAP



LEGEND

- Centerline Mileposts
- Water Well (Avoidance)
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- PEM Wetland
- 200-foot Siting Corridor

N

REVISIONS

Date:	Revised by:	Checked by:
2023-08-17	CW	RC

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Date: Revised by: Checked by:

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Figure Title:
ND PSC - Aerial Map Book - NDL-324

Figure Number:
Map Book 1

Scale: 1 : 12,000
1 inch equals 1,000 feet

Projection: Transverse Mercator
NAD 1983 UTM Zone 14N

Sheet: 138
138 of 139

Drawing Number: 1001-01-003
Revision A

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ND PSC - AERIAL MAP BOOK



VICINITY MAP



LEGEND

- HDD Entry/Exit
- Centerline Mileposts
- Mainline Valve Location
- Domestic Structure or Business (Avoidance)
- Updated Proposed Project Route 08/15/2023
- October 17, 2023 Original PSC Application Route
- Section Line
- Access Road
- PEM Wetland
- 200-foot Siting Corridor

N

REVISIONS

Date:	Revised by:	Checked by:
2023-08-17	CW	RC

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Date:	Revised by:	Checked by:

Date:	Revised by:	Checked by:

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SUMMIT CARBON SOLUTIONS

PROJECT INFORMATION

Figure Title:

ND PSC - Aerial Map Book - NDL-323, NDT-211, NDL-324

Figure Number:

Map Book 1

Scale:	Projection:
1 : 12,000 1 inch equals 1,000 feet	Transverse Mercator NAD 1983 UTM Zone 14N

Sheet:	Drawing Number:
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4,210 FT- ROUTE MODIFICATION LENGTH
4,300 FT - ND PSC PERMIT ROUTE LENGTH

Section 30
132N 47W

Section 29
132N 47W

28.5

29

29.5

30

MNL-321

ND-RI-321-080.000
Julie Vculek

Minnesota

North Dakota

Section 31
132N 47W

Section 32
132N 47W

Section 33
132N 47W

LO ROUTE
MODIFICATION 1
NORTH DAKOTA

Date: 08/16/2023

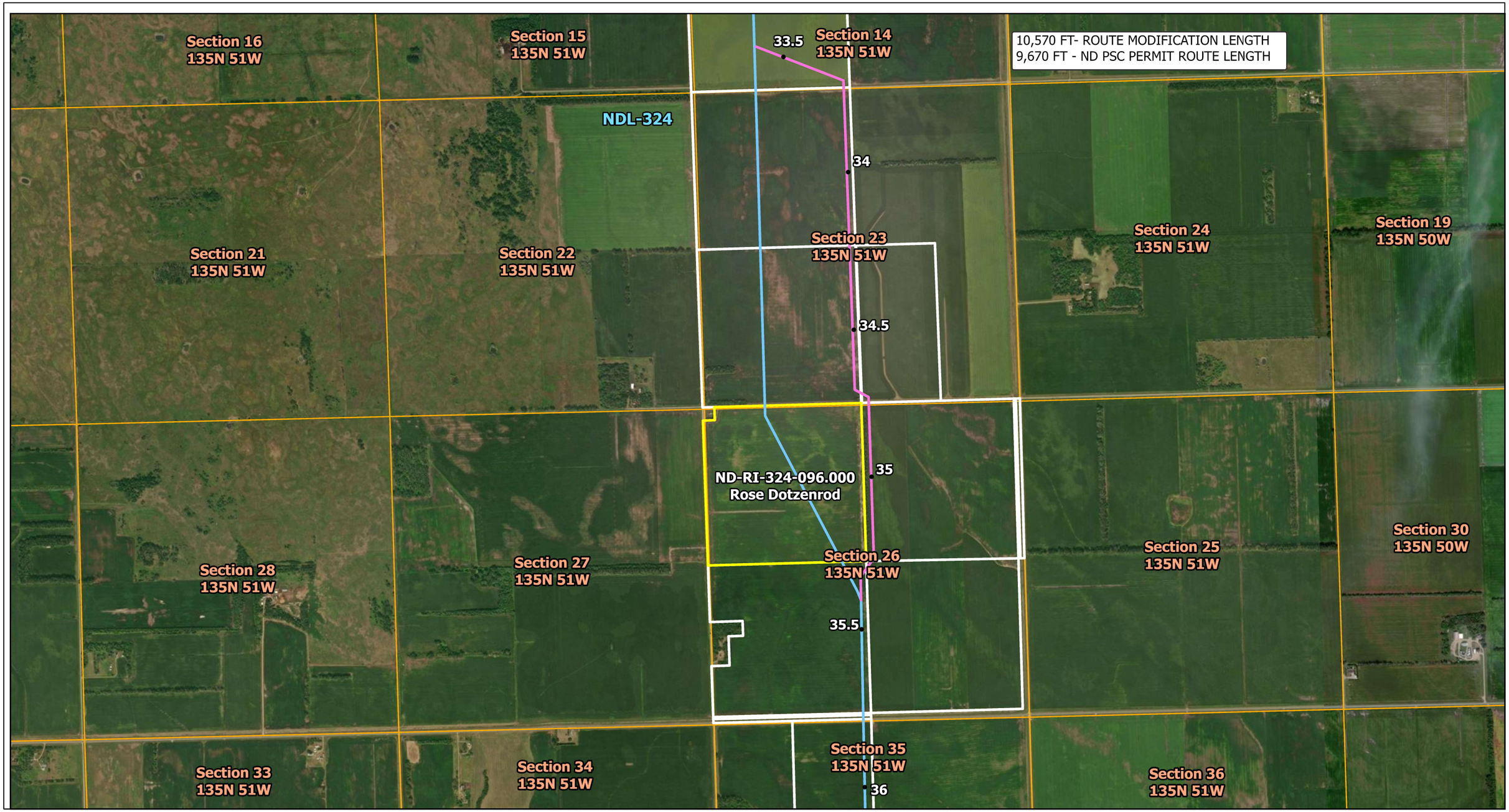
- Mileposts
- Proposed Route Modification
- ND PSC Permit Route
- Landowner Intervenors
- Online Properties
- PLSS Boundaries

SUMMIT CARBON SOLUTIONS

N

0 0.17 0.35 0.7 Miles

Exhibit B



LO ROUTE
MODIFICATION 2
NORTH DAKOTA

Date: 08/16/2023

- Mileposts
- Proposed Route Modification
- ND PSC Permit Route
- Landowner Intervenors
- Online Properties
- PLSS Boundaries

SUMMIT CARBON SOLUTIONS

N

0 0.25 0.5 1 Miles

20,530 FT- ROUTE MODIFICATION LENGTH
20,230 FT - ND PSC PERMIT ROUTE LENGTH

Section 27
135N 76W

Section 26
135N 76W

Section 30
135N 75W

Section 34
135N 76W

Section 35
135N 76W

Section 36
135N 76W

NDM-106

Section 31
135N 75W

Section 32
135N 75W

Section 33
135N 75W

Bruce E. Doolittle
Properties

Section 03
134N 76W

Section 02
134N 76W

Section 01
134N 76W

Section 06
134N 75W

Section 05
134N 75W

Section 04
134N 75W

Section 10
134N 76W

Section 11
134N 76W

Section 12
134N 76W

Section 07
134N 75W

Section 08
134N 75W

Section 09
134N 75W

83.5
83
82.5
82
81.5
81
80.5
80
79.5

6,070

LO ROUTE
MODIFICATION 3
NORTH DAKOTA

Date: 08/16/2023

- Mileposts
- Proposed Route Modification
- ND PSC Permit Route
- Landowner Intervenors
- Online Properties
- PLSS Boundaries

SUMMIT CARBON SOLUTIONS

N

0 0.35 0.7 1.4 Miles

6,070 FT- ROUTE MODIFICATION LENGTH
5,650 FT - ND PSC PERMIT ROUTE LENGTH

79

78.5

Section 17
134N 75W

Section 16
134N 75W

Section 15
134N 75W

ND-EO-0891.110
Bruce E.
Doolittle

78

NDM-106

77.5

LO ROUTE
MODIFICATION 4
NORTH DAKOTA

Date: 08/16/2023

- Mileposts
- Proposed Route Modification
- ND PSC Permit Route
- Landowner Intervenors
- Online Properties
- PLSS Boundaries

SUMMIT CARBON SOLUTIONS

N

0 0.15 0.3 0.6 Miles

8.3 MILES - ROUTE MODIFICATION LENGTH
7 MILES - ND PSC PERMIT ROUTE LENGTH

NDM-106

Horizontal Directional Drill

Bernhardt Properties

78 77.5 77 76.5 76 75.5 75 74.5 74 73.5 73 72.5 72 71.5 71 70.5 70 69.5 69 68.5 68 67.5 67 66.5 66 65.5 65

Section 19 134N 75W | Section 20 134N 75W | Section 21 134N 75W | Section 22 134N 75W | Section 23 134N 75W | Section 24 134N 75W | Section 19 134N 74W | Section 20 134N 74W | Section 21 134N 74W | Section 22 134N 74W | Section 23 134N 74W | Section 24 134N 74W | Section 19 134N 73W | Section 20 134N 73W
Section 30 134N 75W | Section 29 134N 75W | Section 28 134N 75W | Section 27 134N 75W | Section 26 134N 75W | Section 25 134N 75W | Section 30 134N 74W | Section 29 134N 74W | Section 28 134N 74W | Section 27 134N 74W | Section 26 134N 74W | Section 25 134N 74W | Section 30 134N 73W | Section 29 134N 73W
Section 31 134N 75W | Section 32 134N 75W | Section 33 134N 75W | Section 34 134N 75W | Section 35 134N 75W | Section 36 134N 75W | Section 31 134N 74W | Section 32 134N 74W | Section 33 134N 74W | Section 34 134N 74W | Section 35 134N 74W | Section 36 134N 74W | Section 31 134N 73W | Section 32 134N 73W
Section 06 133N 75W | Section 05 133N 75W | Section 04 133N 75W | Section 03 133N 75W | Section 02 133N 75W | Section 01 133N 75W | Section 06 133N 74W | Section 05 133N 74W | Section 04 133N 74W | Section 03 133N 74W | Section 02 133N 74W | Section 01 133N 74W | Section 06 133N 73W | Section 05 133N 73W
Section 07 133N 75W | Section 08 133N 75W | Section 09 133N 75W | Section 10 133N 75W | Section 11 133N 75W | Section 12 133N 75W | Section 07 133N 74W | Section 08 133N 74W | Section 09 133N 74W | Section 10 133N 74W | Section 11 133N 74W | Section 12 133N 74W | Section 07 133N 73W | Section 08 133N 73W
Section 18 133N 75W | Section 17 133N 75W | Section 16 133N 75W | Section 15 133N 75W | Section 14 133N 75W | Section 13 133N 75W | Section 18 133N 74W | Section 17 133N 74W | Section 16 133N 74W | Section 15 133N 74W | Section 14 133N 74W | Section 13 133N 74W | Section 18 133N 73W | Section 17 133N 73W
Section 19 133N 75W | Section 20 133N 75W | Section 21 133N 75W | Section 22 133N 75W | Section 23 133N 75W | Section 24 133N 75W | Section 19 133N 74W | Section 20 133N 74W | Section 21 133N 74W | Section 22 133N 74W | Section 23 133N 74W | Section 24 133N 74W | Section 19 133N 73W | Section 20 133N 73W

LO ROUTE
MODIFICATION 5
NORTH DAKOTA

Date: 08/16/2023

- Mileposts
- HDD Entry/Exit
- Proposed Route Modification
- ND PSC Permit Route
- Landowner Intervenors
- Emmons County Waterfowl Production Area
- PLSS Boundaries

SUMMIT CARBON SOLUTIONS

N

0 0.75 1.5 3 Miles

Prepared for

Brent Niese

Summit Carbon Solutions, LLC
Ames, IA 50010

Phase II Landslide Assessment

Proposed Carbon Capture Pipelines

North Dakota

Prepared by

Geosyntec consultants

engineers | scientists | innovators

Geosyntec Consultants, Inc.
10 Corporate Drive, Suite 1600
Bedford, NH 03110

Project Number TXG0484

Revision 0

August 15, 2023

Exhibit C

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ATTACHMENTS

Attachment A Phase II Summary Sheets

1. INTRODUCTION

This report summarizes the results of a Phase II Landslide Assessment (Phase II Assessment) completed by Geosyntec Consultants, Inc. (Geosyntec) for 16 possible landslide locations that were identified by others along Summit Carbon Solutions' (SCS') proposed carbon capture pipeline system in North Dakota, USA. A Phase II Assessment consists of visual assessment by conducting a non-invasive (i.e., no ground disturbance) ground reconnaissance at possible landslide sites that are typically identified during a desktop assessment (e.g., Phase I Geologic Hazards Assessment) and have not previously been field assessed with respect to the project objectives.

2. BACKGROUND

The 16 possible landslide locations included in this Phase II Assessment were initially identified by the North Dakota Geological Survey (NDGS) and Terracon Consultants Inc. (Terracon 2023). To assist SCS with selecting sites for field assessment, SCS provided Geosyntec with the locations of 17 mapped landslides identified by the NDGS which were located near the proposed pipeline locations in North Dakota. Based on the proposed pipeline centerline data we received from SCS (Revision 6 dated May 25, 2023), we observed that 6 of the 17 mapped landslides were located sufficiently far (approximately 360 to >1400 feet) from the proposed pipeline centerline and thus were not considered to pose a threat to the pipeline. The remaining 11 mapped landslides were either crossed by or located within 100 feet of the proposed pipelines. Therefore, Geosyntec advised that 11 of the 17 mapped landslides identified by the NDGS be included in the Phase II Assessment. Table 1 (attached) lists landslides identified by the NDGS that were reviewed by Geosyntec for this purpose.

In addition to the 11 landslides mapped by the NDGS that were selected for this assessment, Terracon identified 6 areas where they identified possible evidence of landslide disturbance along the proposed pipelines during their desktop Phase I geologic hazard assessment (Terracon 2023). One of Terracon's possible landslide areas coincided with a mapped landslide identified by the NDGS. Therefore, 16 total locations were selected for this Phase II Assessment, which are listed in Table 2 (attached).

3. FIELD ASSESSMENTS

The field assessments were conducted between July 11 through 14, 2023, by a team of two Geosyntec geologists experienced in landslide hazard identification and characterization. At each site, the field team examined the mapped landforms to identify geomorphic evidence that would indicate the presence of a landslide. If geomorphic evidence of a landslide was observed, the field team characterized the landslide conditions observed at the time of visit (e.g., size, apparent activity level, movement direction, estimated thickness) and considered pipeline constructability along the proposed pipeline centerline relative to the conditions observed. Field observations were generally made from within 100 feet of the proposed pipeline centerline, as feasible, or to the

allowable extent necessary to draw conclusions. The field team documented site conditions by compiling field notes and collecting digital photographs at each site location while noting the locations of pertinent landslide features with a GPS device.

4. LANDSLIDE CATEGORIES

Based on the results of the field assessments, Geosyntec developed landslide categories to provide guidance on an appropriate level of construction response for each verified landslide. Our landslide categories are summarized in Table 3 below.

Table 3: Landslide Categories

Category	Recommended Response	Definition and Recommended Action
Class A	None Required	Landslides that do not appear to pose a challenge to pipeline constructability nor appear to pose a threat to pipeline integrity such that no mitigative action is required beyond implementation of standard best management practices (BMPs). Typically, Class A landslides would be partially or wholly removed by standard construction practices within the construction limits of disturbance (LOD).
Class B	Avoidance	Landslides that appear unlikely to pose a challenge to pipeline construction and appear unlikely to pose a threat to pipeline integrity if the landslide can be avoided either by circumvention around the landslide or via trenchless pipeline installation (i.e., HDD) beneath the landslide. Typically, avoidance of Class B landslides appears feasible due to apparent allowable workspace tolerances or due to proposed HDD installations planned for river crossings that coincide with the landslide. If a Class B landslide cannot be avoided, then Class C mitigative actions should apply.
Class C	General Mitigation	Landslides that appear likely to be disturbed and/or impacted by pipeline construction activities such that landslide activity may be more likely to occur as a result of pipeline construction. Depending on the conditions encountered during construction, non-specific mitigative measures may be warranted to maintain or improve drainage and slope stability such as trench breakers, subsurface drains, water bars, etc.

5. RESULTS

Geosyntec determined that 8 of the 16 assessed possible landslide sites did not exhibit sufficient evidence of landslide morphology and were designated as ‘Not a Landslide.’ The remaining 8 landslide sites exhibited features that appeared consistent with landslide morphology ranging in age from inactive (>10 years) to dormant (>100 years). Based on landslide size, inferred age, distance and orientation relative to the proposed pipelines, and the locations of proposed HDD crossings, we classified two landslides as Class A, 5 landslides as Class B, and one landslide as Class C (that is anticipated to be avoided by a proposed reroute) in accordance with our classification criteria provided in Table 3. A summary of the Phase II Assessment results is

provided in Table 4 (below) and shown in Figure 1. Table 5 provides a detailed summary of the site conditions observed at each location and Attachment A includes a Phase II Assessment Summary Sheet that includes site maps and photos for each site.

Table 4: Summary of Results

Site ID	Feature Type	Activity Level	Landslide Category
#2	Landslide	Inactive to Dormant	Class B (with micro reroute)
#7	Landslide	Inactive to Dormant	Class A
#8	Not a Landslide	-	-
#9	Not a Landslide	-	-
#10	Landslide	Dormant	Class C (N/A if reroute)
#11	Not a Landslide	-	-
#12	Landslide	Dormant	Class B
#13	Not a Landslide	-	-
#14	Landslide	Inactive	Class B
#15	Landslide	Inactive	Class B
#17	Landslide	Inactive	Class B
NDT-211 (MP 3.5-3.7)	Not a Landslide	-	-
NDL-325B (MP 4.6-4.7)	Not a Landslide	-	-
NDM-106 (MP 133-133.1)	Not a Landslide	-	-
NDM-106 (MP 145.3-145.4)	Landslide	Inactive	Class A
NDM-106 (MP 145.7-145.8)	Not a Landslide	-	-

6. RECOMMENDATIONS

Based on the results of our Phase II Assessment, the potential for existing landslides to affect SCS' proposed carbon capture pipelines in North Dakota generally appears to be low. Although landslide activity is often more likely to occur on slopes that have previously experienced landslide movement, new landslides can develop in other areas as a result of slope disturbance and alteration from pipeline construction. Pipeline construction can affect natural slope stability through disruption of natural soil and bedrock layering, disruption and interception of established drainage pathways, vegetation removal, altering slope gradient, and replacement of in-situ soil and bedrock material with loose backfill material. If not managed properly, these types of impacts can reduce soil and bedrock strength while diverting or trapping excess surface and groundwater so that the potential for mass movement may be increased.

To reduce the potential for new landslides to develop as a result of pipeline construction, we generally recommend that BMPs for slopes and drainage be implemented. The following sections

provide our comments for the types of responses that may be considered for the landslide categories assigned during this assessment.

6.1. Class A Sites

Two landslide sites are categorized as Class A landslides: Site #7 and NDM-106 (MP 145.3-145.4). Site #7 exhibited questionable dormant landslide morphology while the adjacent mapped landslide to the south exhibited more definitive, but inactive landslide features. The landslide observed near the proposed NDM-106 pipeline between MP 145.3 and 145.4 appeared to be a relatively small and inactive surficial failure about 20 feet north of the proposed pipeline. Based on the inferred estimated depths of less than 4 feet for the landslides observed at Site #7, and less than 2 feet for the landslide observed at NDM-106 (MP 145.3-145.4), it is likely that any landslide morphology intercepted within the construction limits of disturbance would be removed by standard construction practices and no additional mitigative action is recommended beyond implementation of BMPs for pipeline construction along steep slopes, as warranted.

6.2. Class B Sites

Five landslide sites are categorized as Class B landslides: Sites #2, #12, #14, #15, and #17. The landslides observed at Site #2 occur on a gentle side slope that is partially crossed by the proposed pipeline centerline. However, the area immediately upslope of the observed landslides is a broad and flat hilltop that contains sufficient workspace area. Geosyntec understands that SCS will propose a micro-reroute of the pipeline alignment approximately 75 to 100 feet to the west-southwest of the landslide. A small reroute would avoid intersecting the landslide and therefore the site is categorized as a Class B. Without a micro-reroute around the landslide, Site #2 would be considered a Class C site.

Proposed HDD crossings are planned for the Sheyenne River coinciding with Site #12 and the Maple River coinciding with Site #14. Based on our review of the proposed HDD site plans and profiles, including the proposed entry and exit points for these river crossings, the landslides at Site #12 and Site #14 would be avoided through HDD construction beneath the landslides. The landslide observed at Site #15 is located about 98 feet away from the proposed pipeline centerline and there appears to be sufficient workspace area on both sides of the proposed pipeline centerline to avoid intercepting this landslide. Similarly, the landslide at Site #17 is located about 70 feet west of the proposed pipeline centerline, and there appears to be sufficient workspace on the east side of the proposed centerline such that avoidance of this landslide appears feasible. Therefore, we recommend that temporary workspace delineations do not intercept the landslides at Sites #15 and #17.

6.3. Class C Sites

One landslide site was categorized as a Class C landslide: Site #10. The landslide observed at Site #10 exhibits questionable dormant landslide morphology where the mapped boundary is crossed

by the proposed pipeline centerline, and the depth of the landslide is not well constrained in the vicinity of the proposed pipeline centerline due to the scale and weathered condition of the landslide morphology observed. The terrain crossed by the proposed pipeline centerline is gradual and thus major grade alterations do not appear necessary to accommodate pipeline construction within the mapped landslide boundary of Site #10.

Geosyntec understands the SCS has proposed a reroute alignment around Bismarck that would avoid Site #10. If the reroute option is pursued as the final alignment, then a landslide categorization for Site #10 would not be applicable.

7. LIMITATIONS

The results provided in this report are based on the site conditions observed by Geosyntec at the time of the Phase II Assessments in correlation with the proposed pipeline centerline (Revision 6 dated May 25, 2023) and proposed HDD data provided by SCS to Geosyntec. Additionally, Geosyntec has not performed an independent Phase I desktop landslide hazard assessment for the entire proposed SCS pipeline system in North Dakota and the landslide sites selected for this Phase II Assessment are based on the findings of Terracon and the NDGS during their respective desktop reviews. Site conditions reported by Geosyntec could change prior to pipeline construction due to anthropogenic activity or significant rainfall events.

8. CLOSING

We appreciate the opportunity to support Summit Carbon Solutions in conducting this Phase II Landslide Assessment for the proposed carbon capture pipelines in North Dakota. We look forward to future opportunities to offer our services to Summit Carbon Solutions. Please do not hesitate to contact us if you have questions or need additional information.

Sincerely,
GEOSYNTEC CONSULTANTS



Jeff Schneider, P.E. (WI, WA, UT, IA, MI, IN, OR)
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Senior Principal Geologist



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Senior Geologist

cc: Cole Jensen (Geosyntec); Colby Howland (Geosyntec); Alex Lange (Summit)

9. REFERENCES

North Dakota Geological Survey (NDGS). 2021. Areas of Landslides, Menoken Quadrangle, North Dakota. Compiled by Fred J. Anderson. 1:24,000 scale.

NDGS. 2022a. Areas of Landslides, Barrie Quadrangle, North Dakota. Compiled by Christopher A. Maike and Levi D. Moxness. 1:24,000 scale.

NDGS. 2022b. Areas of Landslides, Durbin Quadrangle, North Dakota. Compiled by Christopher A. Maike and Levi D. Moxness. 1:24,000 scale.

NDGS. 2022c. Areas of Landslides, Leonard Quadrangle, North Dakota. Compiled by Christopher A. Maike and Levi D. Moxness. 1:24,000 scale.

NDGS. 2023a. Areas of Landslides, Burnt Butte Quadrangle, North Dakota. Compiled by Fred J. Anderson, Levi D. Moxness, Christopher A. Maike and Benjamin C. York. 1:24,000 scale.

NDGS. 2023b. Areas of Landslides, Crown Butte Quadrangle, North Dakota. Compiled by Fred J. Anderson, Levi D. Moxness, Christopher A. Maike and Benjamin C. York. 1:24,000 scale.

NDGS. 2023c. Areas of Landslides, Nelson Lake Quadrangle, North Dakota. Compiled by Levi D. Moxness, Fred J. Anderson, Christopher A. Maike and Benjamin C. York. 1:24,000 scale.

Terracon Consultants Inc. 2023. Underground Carbon Pipeline Geohazard, North Dakota. Consultant report prepared by Terracon for Summit Carbon Solutions. Project No. GR225831. Version 4 dated June 28, 2023.

FIGURES



Legend

- PROPOSED PIPELINE ALIGNMENT (REV6 5/25/23)
- MILEPOST

PHASE II LANDSLIDE SITE

- NOT A LANDSLIDE
- CLASS A
- CLASS B
- CLASS C

N

0 5 10 20

Miles

Location Map

Summit Carbon Solutions
Phase II Landslide Assessment
North Dakota

Geosyntec consultants

TXG0484 | August 2023

Figure 1

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TABLES

Table 1: Mapped Landslides Identified by NDGS

Site ID	Latitude[1]	Longitude[1]	Pipeline System	Applicable NDGS Landslide Map (1:24,000 scale)	Distance from Proposed Pipeline Centerline (ft)[2]	Selected for Phase II Assessment
#1	47.054346°	-101.197180°	NDL-328	Nelson Lake	540	No
#2	47.054780°	-101.201654°	NDL-328	Nelson Lake	0	Yes
#3	47.053053°	-101.193734°	NDL-328	Nelson Lake	640	No
#4	47.052915°	-101.192742°	NDL-328	Nelson Lake	1,045	No
#5	47.050930°	-101.189705°	NDL-328	Nelson Lake	1,400	No
#6	47.017626°	-101.188540°	NDL-328	Nelson Lake	360	No
#7	46.957038°	-101.039189°	NDM-106	Crown Butte	0	Yes
#8	46.951336°	-100.865277°	NDM-106	Burnt Butte	0	Yes
#9	46.951436°	-100.856594°	NDM-106	Burnt Butte	0	Yes
#10	46.941909°	-100.792478°	NDM-106	Burnt Butte	0	Yes
#11	46.942233°	-100.783880°	NDM-106	Burnt Butte	0	Yes
#12	46.571847°	-97.092455°	NDL-324	Barrie	0	Yes
#13	46.574364°	-97.094886°	NDL-324	Barrie	0	Yes
#14	46.745093°	-97.206570°	NDL-324	Leonard	0	Yes
#15	46.854676°	-100.583705°	NDM-106	Menoken	100	Yes
#16	47.054710°	-101.195443°	NDL-328	Nelson Lake	990	No
#17	46.750620°	-97.208900°	NDL-324	Durbin	70	Yes

Table 2. Phase II Sites

Site ID	Latitude[1]	Longitude[1]	Pipeline System	Source
#2	47.054780°	-101.201654°	NDL-328	NDGS
#7	46.957038°	-101.039189°	NDM-106	NDGS
#8	46.951336°	-100.865277°	NDM-106	NDGS
#9	46.951436°	-100.856594°	NDM-106	NDGS
#10	46.941909°	-100.792478°	NDM-106	NDGS
#11	46.942233°	-100.783880°	NDM-106	NDGS
#12	46.571847°	-97.092455°	NDL-324	NDGS; Terracon
#13	46.574364°	-97.094886°	NDL-324	NDGS
#14	46.745093°	-97.206570°	NDL-324	NDGS
#15	46.854676°	-100.583705°	NDM-106	NDGS
#17	46.750620°	-97.208900°	NDL-324	NDGS
NDT-211 (MP 3.5-3.7)	46.192310°	-97.080608°	NDT-211	Terracon
NDL-325B (MP 4.6-4.7)	47.096996°	-101.801359°	NDL-325B	Terracon
NDM-106 (MP 133-133.1)	46.945551°	-100.773971°	NDM-106	Terracon
NDM-106 (MP 145.3-145.4)	46.963154°	-101.015780°	NDM-106	Terracon
NDM-106 (MP 145.7-145.8)	46.961595°	-101.022466°	NDM-106	Terracon

Notes: [1]Latitude and Longitude represent a general site reference point on or near the applicable proposed pipeline centerline.

Table 5. Detailed Phase II Summary of Results

Site ID	Latitude	Longitude	Pipeline System	Source	Feature Type	Confidence	Assessment Date	Classification	Summary
#2	47.054780°	-101.201654°	NDL-328	NDGS	Landslide	>90%	7/11/2023	Class B (Class C without proposed micro reroute)	The morphology observed at Site #2 appears consistent with a dormant landslide on a northeast facing slope. The landslide boundary mapped by the NDGS was approximately 250 feet long and 450 feet wide. The direction of landslide movement was northeast and perpendicular relative to the proposed pipeline centerline. The mapped and observed landslide headscarp intersected the proposed pipeline centerline over an approximate length of 130 feet and was less than 1 foot high while appearing to be highly weathered, rounded, and subdued. Downslope of the proposed pipeline centerline, the landslide body exhibited rounded and subdued hummocks less than 1 foot high while lateral flanks were indistinct. The rounded and subdued landslide toe was 2 to 3 feet high and located greater than 100 feet from the proposed pipeline centerline. No sharp or fresh landslide features were identified. The inferred landslide depth was estimated to be less than 4 feet based on the size and condition of the landslide features observed. At the time of the visit the feature was uniformly vegetated with mixed grasses and wooded shrubs less than 4 ft high. Another, smaller landslide boundary mapped by the NDGS that is located adjacent to, and southwest of, Site #2 was similarly evaluated due to its proximity to the proposed pipeline centerline. The landslide boundary mapped by the NDGS was approximately 135 ft long and 250 ft wide. The direction of landslide movement was northeast and perpendicular relative to the proposed pipeline centerline. The mapped and observed landslide headscarp was located approximately 15 feet downslope of the proposed pipeline centerline and was less than 1 foot high while appearing to be highly weathered, rounded, and subdued. Approximately 50 feet downslope of the proposed pipeline centerline, a series of distinct internal scarps approximately 2 to 3 feet high were observed within the mapped landslide boundary. The condition of the observed internal scarps suggests this area of the slope may have experienced localized ground movement in the past 10 years. The mapped landslide toe was 2 to 3 feet high and appeared rounded and subdued. The inferred landslide depth was similarly estimated to be less than 4 feet based on the size and condition of the landslide features observed. This evaluation was conducted by Geosyntec on 7/11/2023.
#7	46.957038°	-101.039189°	NDM-106	NDGS	Landslide	>50%	7/11/2023	Class A	The morphology observed at Site #7 may be related to a highly weathered and subdued dormant landslide on a gentle east facing slope. The questionable landslide is crossed axially by the proposed pipeline centerline near the right lateral flank mapped by the NDGS. The landslide boundary mapped by the NDGS was approximately 400 feet long and 1150 feet wide. The only questionable landslide feature observed within 100 feet of the proposed pipeline centerline was a rounded hummock-type feature less than 1 ft high across the proposed pipeline centerline location that could be the remnants of a highly weathered and subdued right lateral flank or landslide toe. No other discernible features that appeared consistent with landslide morphology were observed within Site #7 near the proposed pipeline centerline. The mapped headscarp of Site #7 was located along a subtle slope break adjacent to a flat farm field. At the time of the visit the landslide was vegetated with mixed grasses up to 2 ft, wooded brush up to 3 ft and patches of trees up to 6 inches in diameter. The inferred depth of the questionable landslide is assumed to be less than 4 feet in the vicinity of the proposed pipeline centerline due to the lack of landslide features exhibited. Another, smaller landslide boundary mapped by the NDGS that is located near, and south of, Site #7 was similarly evaluated due to its proximity to the proposed pipeline centerline. The landslide boundary mapped by the NDGS was approximately 260 feet long and 515 feet wide. The direction of landslide movement was northeast and parallel relative to the proposed pipeline centerline. Within the mapped landslide boundary, a distinct landslide scarp 1 to 2 feet high and a distinct landslide toe 1 to 2 feet high were identified approximately 120 feet south of the proposed pipeline centerline. The condition of the observed features and their visibility in recent aerial imagery suggests this area of the slope likely experienced localized ground movement in the past 10 to 15 years. The inferred landslide depth was estimated to be less than 3 feet based on the based on the size and condition of the landslide features observed. The evaluation was conducted by Geosyntec on 7/11/2023.
#8	46.951336°	-100.865277°	NDM-106	NDGS	Not a Landslide	N/A	12/7/2022	N/A	Based on the Phase II evaluation, the landform observed at Site #8 did not appear to be consistent with landslide morphology. No discernible landslide features were identified at the time of evaluation. The landform observed at Site # 8 comprised a gradual convergent slope having multiple converging erosional channels. The upper portion of the boundary mapped by the NDGS did not appear consistent with a landslide headscarp and appeared to be related to cattle trails and surface erosion. The lower portion of the mapped boundary did not exhibit features consistent with a landslide toe as the slope was uniformly gradual with no area of landslide deposition observed. The terrain crossed by the proposed pipeline centerline generally appeared to be smooth apart from cattle trails and erosion channels. Although it does not appear consistent with landslide morphology, the landform does appear to be unusual relative to surrounding areas, which may be a reason for it being mapped as a landslide by the NDGS. However, the landform could possibly be related to groundwater sapping and/or differential weathering due to some variation in the underlying geologic materials relative to surrounding areas. At the time of the site visit the vegetation within the landform consisted of grass up to 2 ft high. The evaluation was conducted by Geosyntec on 7/12/2023.
#9	46.951436°	-100.856594°	NDM-106	NDGS	Not a Landslide	N/A	12/6/2022	N/A	Based on the Phase II evaluation, the landform observed at Site #9 did not appear consistent with landslide morphology. No discernible landslide features were identified at the time of evaluation. The landform observed at Site # 9 appeared as a generally smooth and gradual slope near an anthropogenic pond that was bordered by cattails. No features indicative of a landslide headscarp or landslide toe were exhibited within or surrounding the boundary mapped by the NDGS. Based on aerial imagery, the lower portion of the mapped boundary appears to protrude westward relative to the slope to the south, which may be a reason for it being mapped as a landslide by the NDGS. However, this apparent protrusion is unnatural and caused by anthropogenic alteration of the slope south of the mapped boundary to widen the area used for the retention pond: the eastward cut and regrading of the slope south of the mapped boundary gives the appearance of westward protrusion at the lower portion of the mapped boundary. At the time of the site visit the vegetation within the mapped boundary consisted of grass up to 2 ft high, wooded bushes up to 5 feet high, and cattails up to 6 feet high along the edge of the pond. The evaluation was conducted by Geosyntec on 7/12/2023.
#10	46.941909°	-100.792478°	NDM-106	NDGS	Landslide	>50%	7/12/2023	Class C (Not Applicable with reroute)	The morphology observed at Site # 10 appears consistent with a possible dormant landslide complex on an east- and northeast-facing slope. The landslide boundary mapped by the NDGS was approximately 1300 feet long and 2100 feet wide. The direction of landslide movement was east and northeast, and both axial and oblique relative to the proposed pipeline centerline. The proposed pipeline centerline crosses the mapped landslide boundary near the mapped left lateral flank and toe. Due to the large scale of the possible landslide the only feature observed in the vicinity of the proposed pipeline centerline was a possible rounded and subdued toe up to 30 feet high adjacent to the proposed pipeline centerline. The rounded and subdued condition of the morphology observed suggests this portion of the possible landslide complex is likely dormant and has not moved in hundreds, if not thousands, of years. No discernible evidence of recent landslide morphology was observed in the vicinity of the proposed pipeline centerline. The terrain crossed by the proposed pipeline centerline generally comprises a gradual and smooth slope. At the time of the visit, the vegetation in the vicinity of the proposed pipeline centerline consisted of mixed grasses up to 3 feet high. Areas of exposed sandstone bedrock were observed upslope of the proposed pipeline centerline along a ridgeline that trends southwest to northeast. The possible landslide morphology northwest of this ridge and crossed by the proposed pipeline centerline appeared more subdued and questionable than the area immediately downslope and east of the ridge, which exhibited stronger evidence of correlative landslide features. The inferred depth of the landslide could not be estimated due to the scale and condition of the observed landslide features. The evaluation was conducted by Geosyntec on 7/12/2023.
#11	46.942233°	-100.783880°	NDM-106	NDGS	Not a Landslide	N/A	7/12/2023	N/A	Based on the Phase II evaluation, the landform observed at Site #11 did appear to be consistent with landslide morphology. No discernible landslide features were identified at the time of evaluation. The landform at Site #11 comprised a generally uniform and smooth side-slope with some localized erosion near a ridgetop along the headscarp boundary mapped by the NDGS. No evidence of landslide deposits was identified along the mapped toe boundary. Based on aerial imagery, the vegetation that persists during dry seasons forms arcuate bands below the natural ridge possibly in response to seeps and/or moisture retention along the base of the ridge. It is possible that the arcuate appearance of dry-season vegetation accumulated below the natural ridgetop and variation of vegetation along the mapped toe boundary is a reason for this landform to be mapped as a landslide by the NDGS. However, no evidence of landslide disturbance could be identified. The proposed pipeline centerline crosses the mapped feature obliquely along a relatively gentle and smooth side-slope which becomes progressively steeper nearest to the ridge that is north of the centerline. At the time of the site visit the vegetation along the proposed pipeline centerline was a mix of grass and bushes up to 2 feet high. The evaluation was conducted by Geosyntec on 7/12/2023.

Table 5. Detailed Phase II Summary of Results

Site ID	Latitude	Longitude	Pipeline System	Source	Feature Type	Confidence	Assessment Date	Classification	Summary
#12	46.571847°	-97.092455°	NDL-324	NDGS; Terracon	Landslide	>90%	7/14/2023	Class B	The morphology observed at Site # 12 appears consistent with a dormant landslide on a northwest-facing slope. The landslide boundary mapped by the NDGS was approximately 460 feet long and 1100 feet wide. The direction of landslide movement was northwest and axial relative to the proposed pipeline centerline. The proposed pipeline centerline crosses the center of the mapped landslide boundary. The observed landslide features were generally distinct but rounded with no discernible evidence of recent movement. The slope corresponding with the mapped headscarp was 10 to12 feet high in the vicinity of the proposed pipeline centerline. Observed hummocks downslope of the mapped headscarp were rounded and approximately 4 feet high. The mapped landslide toe was up to 6 feet high and appeared to be modified or truncated by fluvial processes related to the Sheyenne River. West of the proposed pipeline centerline, a rounded headscarp up to 15 feet high and a rounded internal toe up to 10 feet high were observed with backward leaning trees up to 24 inches in diameter situated on the internal landslide body. The vegetation along the proposed pipeline centerline mostly consisted of grass up to 2 feet high with occasional deciduous trees. The inferred landslide depth was estimated to be 20 to 30 feet deep in the vicinity of the proposed pipeline centerline based on the size and condition of observed landslide features. A proposed HDD crossing for the Sheyenne River is planned for this location. Based on Geosyntec's review of the proposed HDD site plan and profile, including the proposed entry and exit points, the landslide morphology observed at this location would be avoided by the proposed pipeline as a result of HDD construction beneath the landslide. The evaluation was conducted by Geosyntec on 7/14/2023.
#13	46.574364°	-97.094886°	NDL-324	NDGS	Not a Landslide	N/A	12/6/2022	N/A	Based on the Phase II evaluation, the landform observed at Site #13 did not appear to be consistent with landslide morphology. No discernible landslide features were identified at the time of evaluation. The landform at Site #13 appeared as a generally smooth and gradual slope with some bare soil exposed by erosion along a natural slope break that corresponds with the headscarp boundary mapped by the NDGS. A mound of material observed at the mapped toe boundary appeared to be unrelated to landslide activity. It is possible that the combination of the natural slope break and mound may be reasons for this landform to be mapped as a landslide by the NDGS. However, these features do not appear to be landslide related and may be related to differential weathering relative to surrounding areas. At the time of the visit, the vegetation along the proposed pipeline centerline was a mix of forest with mature trees and open areas containing grass up to 2 feet high. The evaluation was conducted by Geosyntec on 7/14/2023.
#14	46.745093°	-97.206570°	NDL-324	NDGS	Landslide	>50%	7/13/2023	Class B	The morphology observed at Site #14 appears consistent with a series of inactive, localized bank slumps located along an outer meander bend of the Maple River. The curved landslide boundary mapped by the NDGS was approximately 130 feet long by 1,350 feet wide, and encompasses multiple localized banks slumps. The proposed pipeline centerline crosses the mapped landslide boundary near the apex of the meander bend. The direction of landslide movement was north and axial relative to the proposed pipeline centerline. A possible headscarp of a localized bank slump crossed by the proposed pipeline centerline measured approximately 3 feet high and may have been exaggerated by a berm along a dirt road to the south. The lateral flanks corresponding with the possible headscarp were indistinct, but a questionable toe feature downslope of the possible headscarp measured approximately 2 feet high. The landslide morphology observed appeared to be rounded and subdued. The inferred depth of the landslide was estimated to be less than 4 feet deep based on the observed size and condition of landslide features and the topography of the riverbank. At the time of the site visit, the landslide was vegetated with mixed grass up to 4 feet tall and deciduous trees and shrubs. The slope gradient along the proposed pipeline centerline was generally moderate near the headscarp region and low in the vicinity of the toe region. The dirt road upslope of the headscarp appeared undisturbed at the time of the assessment. A flood plain associated with the Maple River was observed downslope of the toe. A proposed HDD crossing for the Maple River is planned for this location. Based on Geosyntec's review of the proposed HDD site plan and profile, including the proposed entry and exit points, the landslide observed at this location would be avoided by the proposed pipeline as a result of HDD construction beneath the landslide. The evaluation was conducted by Geosyntec on 7/13/2023.
#15	46.854676°	-100.583705°	NDM-106	NDGS	Landslide	>90%	7/13/2023	Class B	Site # 15 appears to be an inactive landslide located on a west-facing slope at the outer meander bend of a stream. The curved landslide boundary mapped by the NDGS measured approximately 200 feet long by 430 feet wide. The landslide was located approximately 98 feet west of the proposed pipeline centerline at its nearest approach. The direction of landslide movement was west-southwest and oblique relative to the proposed pipeline centerline. The landslide headscarp was approximately 5 to 6 feet high and the right and left lateral flanks were 4 to 5 feet high. The landslide toe was not visited due to the distance from the proposed pipeline centerline, but appeared to encroach into the stream bed. The landslide morphology appeared to be distinct and sharp along the southern portion of the mapped feature and rounded and subdued along the northern portion of the mapped feature, suggesting the southern features are relatively younger than the northern features. Based on aerial imagery and the observed morphology, the landslide appears to be 10-15 years old. The inferred landslide depth was estimated to be 6 to 10 feet deep based on the observed size and condition of the landslide features and topography of the streambank. At the time of the site visit, the landslide and the area in the vicinity of the proposed pipeline was uniformly vegetated with mixed grasses up to 2 feet high. The slope gradient along the proposed pipeline centerline was generally low to flat. Based on the topography observed, the landslide appears unlikely to retrogress across the path of the proposed pipeline centerline. The evaluation was conducted by Geosyntec on 7/13/2023.
#17	46.750620°	-97.208900°	NDL-324	NDGS	Landslide	<50%	7/14/2023	Class B	The morphology at Site #17 appears consistent with multiple, inactive bank slumps located along the outer meander bend of the Maple River. The curved landslide boundary mapped by the NDGS was approximately 130 feet long by 630 feet wide. The mapped headscarp was located approximately 70 feet from the proposed pipeline centerline. The direction of landslide movement was west-southwest and perpendicular relative to the proposed pipeline centerline. The observed headscarp and toe features nearest to the proposed pipeline centerline appeared rounded and subdued and measured approximately 3 feet high. The inferred depth of the bank slumps were estimated to be less than 3 feet based on the size and condition of the observed landslide features and topography of the riverbank. A flood plain for the Maple River was observed downslope of Site #17. At the time of the site visit, the area in the vicinity of the proposed pipeline was a cultivated soybean farm field and Site #17 was vegetated mixed grasses up to 4 feet high and undisturbed deciduous trees up to 12 inches in diameter. Dense vegetation may have obscured some landslide geomorphology at the time of the site assessment. The slope gradient along the proposed pipeline centerline was generally low. Based on the topography observed, Site #17 appears unlikely to expand across the path of the proposed pipeline centerline. The evaluation was conducted by Geosyntec on 7/14/2023.
NDT-211 (MP 3.5-3.7)	46.192310°	-97.080608°	NDT-211	Terracon	Not a Landslide	N/A	7/13/2023	N/A	Based on the Phase II evaluation, no landslide morphology was identified along the proposed NDT-211 pipeline between MP 3.5 and 3.7. The features identified between MP 3.5-3.7 appeared to be flat terrain surrounding a natural slope break and rounded drainage gully, which were densely vegetated at the time of the assessment. The gradients of the sloped areas were generally low to moderate, and were generally smooth except where traversed by deer trails. At the time of the site visit, the sloped areas crossed by the proposed pipeline centerline were densely vegetated with mixed grasses up to 4 ft high and dispersed trees and shrubs. Downslope of the proposed pipeline centerline, cattails and ponded water were observed in a wetland area. The evaluation was conducted by Geosyntec on 7/13/2023.
NDL-325B (MP 4.6-4.7)	47.096996°	-101.801359°	NDL-325B	Terracon	Not a Landslide	N/A	7/11/2023	N/A	Based on the Phase II evaluation, no landslide morphology was identified along the proposed NDL-325B pipeline centerline between MP 4.6 and 4.7. The features observed between MP 4.6 and 4.7 included a steep slope adjacent to a small stream, an area of exposed soil likely related to minor erosion that was located to the west of the proposed pipeline alignment, and a drainage gully located to the west of the proposed pipeline. At the time of the site visit, the area crossed by the proposed pipeline centerline was uniformly vegetated with mixed grasses up to 2 ft high. The slope gradient along the proposed pipeline centerline was generally moderate to the north and low to the south. It is possible that the observed erosion features may have been misidentified as possible indicators of landslide activity as they resemble scarps or tension cracks when viewed in aerial imagery. The evaluation was conducted by Geosyntec on 7/11/2023.

Table 5. Detailed Phase II Summary of Results

Site ID	Latitude	Longitude	Pipeline System	Source	Feature Type	Confidence	Assessment Date	Classification	Summary
NDM-106 (MP 133-133.1)	46.945551°	-100.773971°	NDM-106	Terracon	Not a Landslide	N/A	7/12/2023	N/A	Based on the Phase II evaluation, no landslide morphology was identified along the proposed NDM-106 pipeline between MP 133 and 133.1. The features observed between MP 133 and 133.1 included flat terrain surrounding a steep embankment along a meander bend of a shallow oxbow lake. At the time of the site visit, the area crossed by the proposed pipeline centerline was uniformly vegetated with mixed grasses and shrubs up to 4 ft high, and trees dispersed along the edge of the oxbow lake. The slope gradient along the proposed pipeline centerline was generally steep along the western embankment of the oxbow lake, and low to flat on the eastern side of the oxbow lake. Cattle tracks were observed throughout the section of the steep slope and along the flat fields to the west and east of the oxbow lake. It is possible that the cattle tracks may have been misidentified as possible indicators of landslide activity as they resemble scarps or tension cracks when viewed in aerial imagery. The evaluation was conducted by Geosyntec on 7/12/2023.
NDM-106 (MP 145.3-145.4)	46.963154°	-101.015780°	NDM-106	Terracon	Landslide	>90%	7/11/2023	Class A	Based on the Phase II evaluation along the proposed NDM-106 pipeline between MP 145.3 and 145.4, a shallow landslide was observed on a west facing slope approximately 20 feet north of the proposed pipeline centerline. The landslide was relatively small and measured approximately 70 feet long by 25 feet wide. The direction of ground movement was west and axial relative to the orientation of the proposed pipeline centerline. The headscarp measured approximately 2 feet high, the left and right lateral flanks measured approximately 2 ft high, and the toe measured approximately 1-foot high. The landslide appeared to be inactive (>10 years old) based on the condition of the morphology observed. The landslide was estimated to be 1-2 feet deep based on the observed size of the landslide features and topography. At the time of the site visit, the landslide was uniformly vegetated with mixed grass up to 2 feet tall except where recent cattle activity had exposed bare soil within and around the landslide. The slope gradient along the proposed pipeline centerline was generally moderate and increased from west to east. The evaluation was conducted by Geosyntec on 7/11/2023.
NDM-106 (MP 145.7-145.8)	46.961595°	-101.022466°	NDM-106	Terracon	Not a Landslide	N/A	7/11/2023	N/A	Based on the Phase II evaluation, no landslide morphology was identified along the proposed NDM-106 pipeline between MP 145.7 and 145.8. The topography between MP 145.7 and 145.8 consisted of a rounded knoll with gentle to moderately steep slope gradients that exhibited minor erosion along the upslope portions of the hilltop. At the time of the site visit, the area crossed by the proposed pipeline centerline was uniformly vegetated with mixed grasses up to 2 ft high. Overgrown cattle trails were common along the slopes in the vicinity of the proposed pipeline centerline. It is possible that the cattle trails may have been misidentified as indicators of landslide activity as they may resemble scarps or tension cracks when viewed in recent aerial imagery. The evaluation was conducted by Geosyntec on 7/11/2023.

ATTACHMENT A

Phase II Summary Sheets

PHASE II ASSESSMENT SUMMARY SHEET

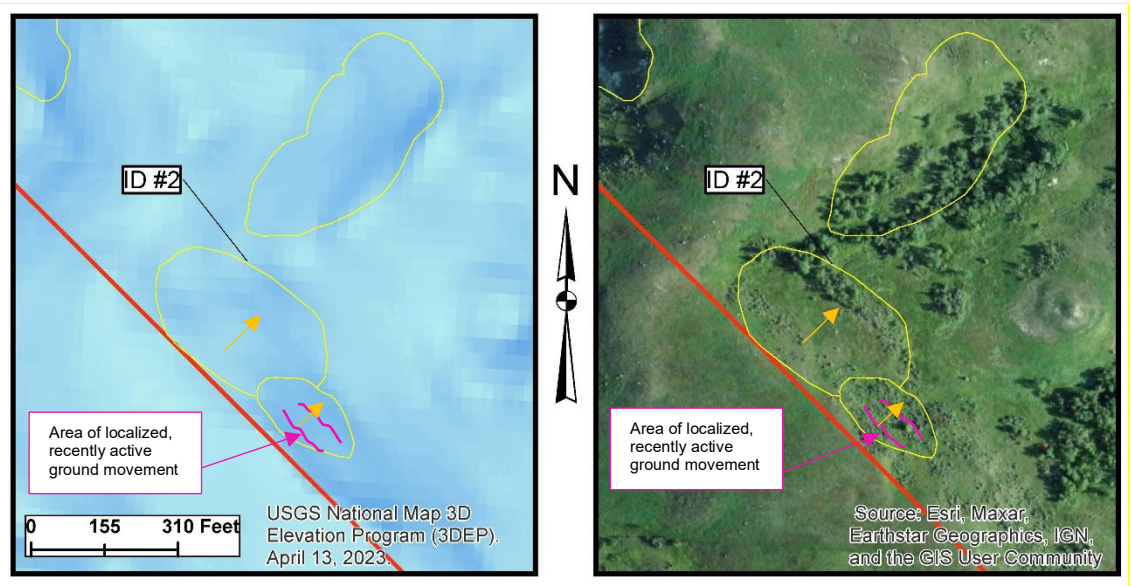
Site ID	Site #2
Source	NDGS
Pipeline Name	NDL-328
Latitude, Longitude	47.054780°, -101.201654°
County	Oliver
Field Evaluation Date	July 11, 2023

Feature Type	Landslide
Activity Level	Inactive to Dormant
Confidence	>90%
Distance from Proposed Centerline	0
Estimated Landslide Depth	<4 ft
Classification	Class B

EVALUATION SUMMARY

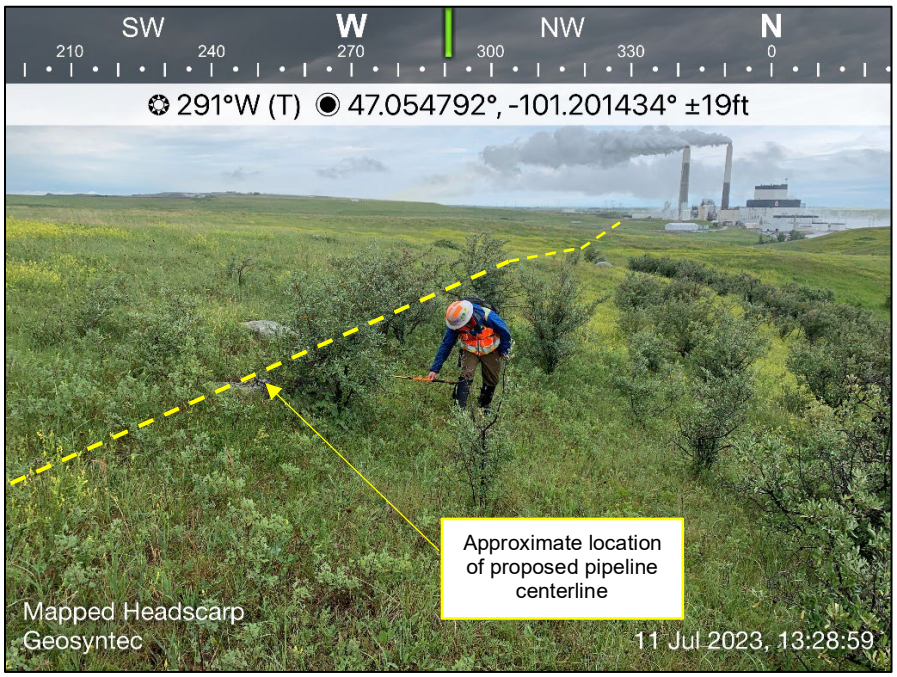
The morphology observed at Site #2 appears consistent with a dormant landslide on a northeast facing slope. The landslide boundary mapped by the NDGS was approximately 250 feet long and 450 feet wide. The direction of landslide movement was northeast and perpendicular relative to the proposed pipeline centerline. The mapped and observed landslide headscarp intersected the proposed pipeline centerline over an approximate length of 130 feet and was less than 1 foot high while appearing to be highly weathered, rounded, and subdued. Downslope of the proposed pipeline centerline, the landslide body exhibited rounded and subdued hummocks less than 1 foot high while lateral flanks were indistinct. The rounded and subdued landslide toe was 2 to 3 feet high and located greater than 100 feet from the proposed pipeline centerline. No sharp or fresh landslide features were identified. The inferred landslide depth was estimated to be less than 4 feet based on the size and condition of the landslide features observed. At the time of the visit the feature was uniformly vegetated with mixed grasses and wooded shrubs less than 4 ft high. Another, smaller landslide boundary mapped by the NDGS that is located adjacent to, and southwest of, Site #2 was similarly evaluated due to its proximity to the proposed pipeline centerline. The landslide boundary mapped by the NDGS was approximately 135 ft long and 250 ft wide. The direction of landslide movement was northeast and perpendicular relative to the proposed pipeline centerline. The mapped and observed landslide headscarp was located approximately 15 feet downslope of the proposed pipeline centerline and was less than 1 foot high while appearing to be highly weathered, rounded, and subdued. Approximately 50 feet downslope of the proposed pipeline centerline, a series of distinct internal scarps approximately 2 to 3 feet high were observed within the mapped landslide boundary. The condition of the observed internal scarps suggests this area of the slope may have experienced localized ground movement in the past 10 years. The mapped landslide toe was 2 to 3 feet high and appeared rounded and subdued. The inferred landslide depth was similarly estimated to be less than 4 feet based on the size and condition of the landslide features observed. This evaluation was conducted by Geosyntec on 7/11/2023.

MAPS

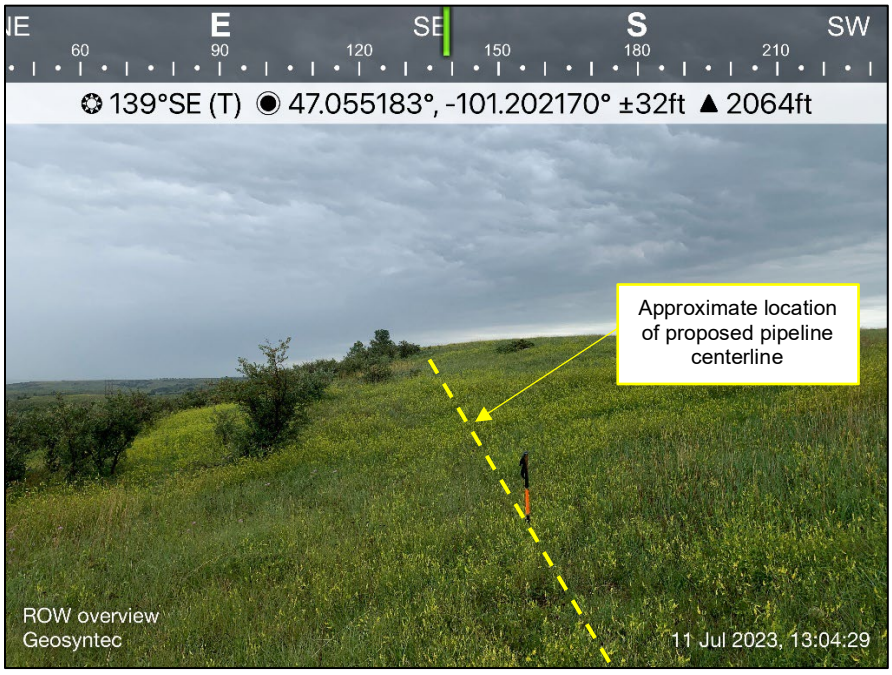


Notes:
- Proposed pipeline centerlines depicted on maps (red) were provided by Summit Carbon Solutions (Revision 6 dated 05/25/2023).
- Landslide boundaries shown were mapped by the NDGS (2023c).
- Inferred direction of ground movement depicted by orange arrows.
- Approximate location of observed internal scarps depicted by purple lines.

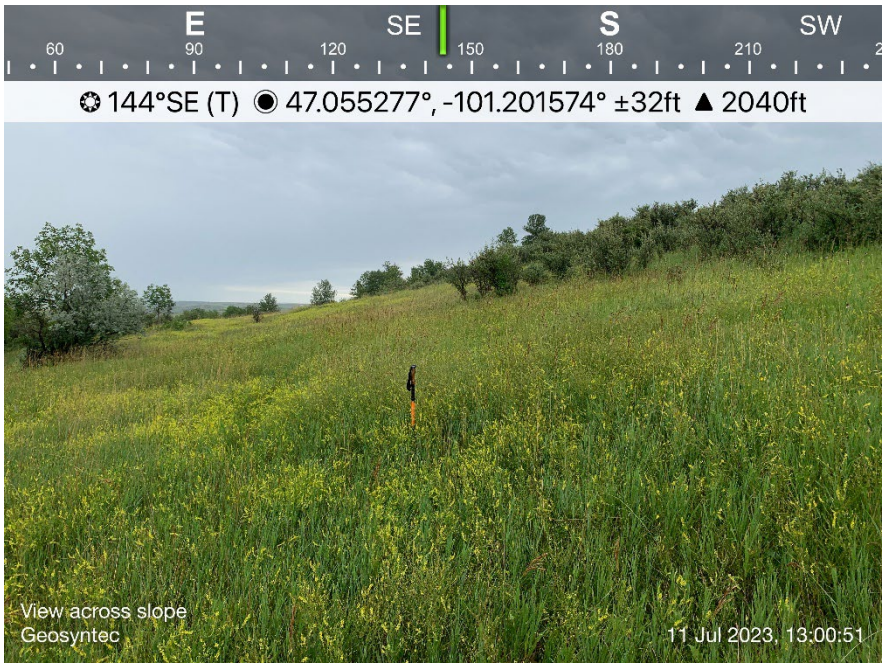
PHOTOGRAPHS



Looking northwest along the mapped headscarp of Site #2 where it intersects the proposed pipeline centerline. Geosyntec field personnel is pointing at the mapped headscarp that appeared as a <1 ft subdued slope break. The approximate location of the proposed pipeline centerline is represented by the dashed yellow line.



Looking southeast along the approximate location of the proposed pipeline centerline as represented by the dashed yellow line. Site #2 is located on the gradual side slope to the left of the image.



Looking southeastward across the body of the landslide mapped at Site #2. The proposed pipeline centerline is located out of view at the top of the slope to the right of the photo.



Example of a 2 ft high distinct internal scarp that is associated with the smaller landslide mapped by the NDGS to the southeast of Site #2. The feature is ~50 ft downslope of the proposed pipeline centerline.

PHASE II ASSESSMENT SUMMARY SHEET

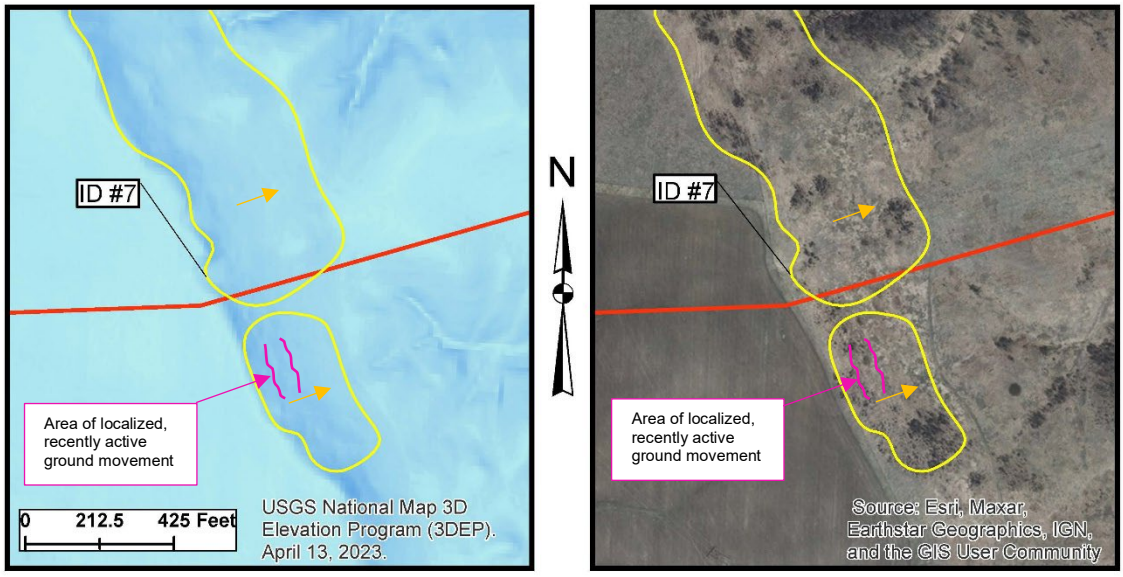
Site ID	Site #7
Source	NDGS
Pipeline Name	NDM-106
Latitude, Longitude	46.957038°, -101.039189°
County	Morton
Field Evaluation Date	July 11, 2023

Feature Type	Landslide
Activity Level	Inactive to Dormant
Confidence	>50%
Distance from Proposed Centerline	0 ft
Estimated Landslide Depth	<4 ft
Classification	Class A

EVALUATION SUMMARY

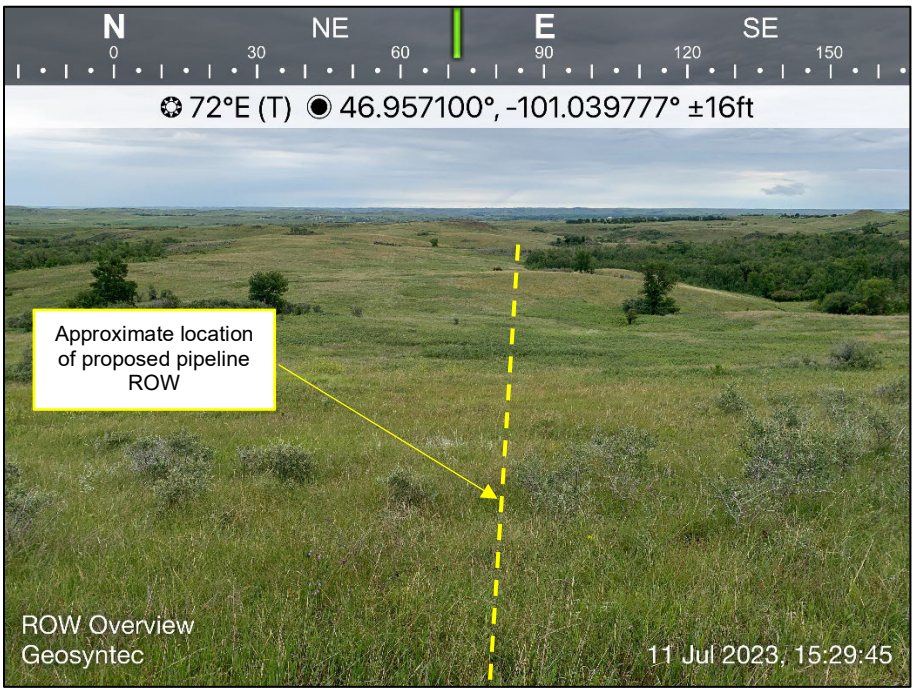
The morphology observed at Site #7 may be related to a highly weathered and subdued dormant landslide on a gentle east facing slope. The questionable landslide is crossed axially by the proposed pipeline centerline near the right lateral flank mapped by the NDGS. The landslide boundary mapped by the NDGS was approximately 400 feet long and 1150 feet wide. The only questionable landslide feature observed within 100 feet of the proposed pipeline centerline was a rounded hummock-type feature less than 1 ft high across the proposed pipeline centerline location that could be the remnants of a highly weathered and subdued right lateral flank or landslide toe. No other discernible features that appeared consistent with landslide morphology were observed within Site #7 near the proposed pipeline centerline. The mapped headscarp of Site #7 was located along a subtle slope break adjacent to a flat farm field. At the time of the visit the landslide was vegetated with mixed grasses up to 2 ft, wooded brush up to 3 ft and patches of trees up to 6 inches in diameter. The inferred depth of the questionable landslide is assumed to be less than 4 feet in the vicinity of the proposed pipeline centerline due to the lack of landslide features exhibited. Another, smaller landslide boundary mapped by the NDGS that is located near, and south of, Site #7 was similarly evaluated due to its proximity to the proposed pipeline centerline. The landslide boundary mapped by the NDGS was approximately 260 feet long and 515 feet wide. The direction of landslide movement was northeast and parallel relative to the proposed pipeline centerline. Within the mapped landslide boundary, a distinct landslide scarp 1 to 2 feet high and a distinct landslide toe 1 to 2 feet high were identified approximately 120 feet south of the proposed pipeline centerline. The condition of the observed features and their visibility in recent aerial imagery suggests this area of the slope likely experienced localized ground movement in the past 10 to 15 years. The inferred landslide depth was estimated to be less than 3 feet based on the based on the size and condition of the landslide features observed. The evaluation was conducted by Geosyntec on 7/11/2023.

MAPS

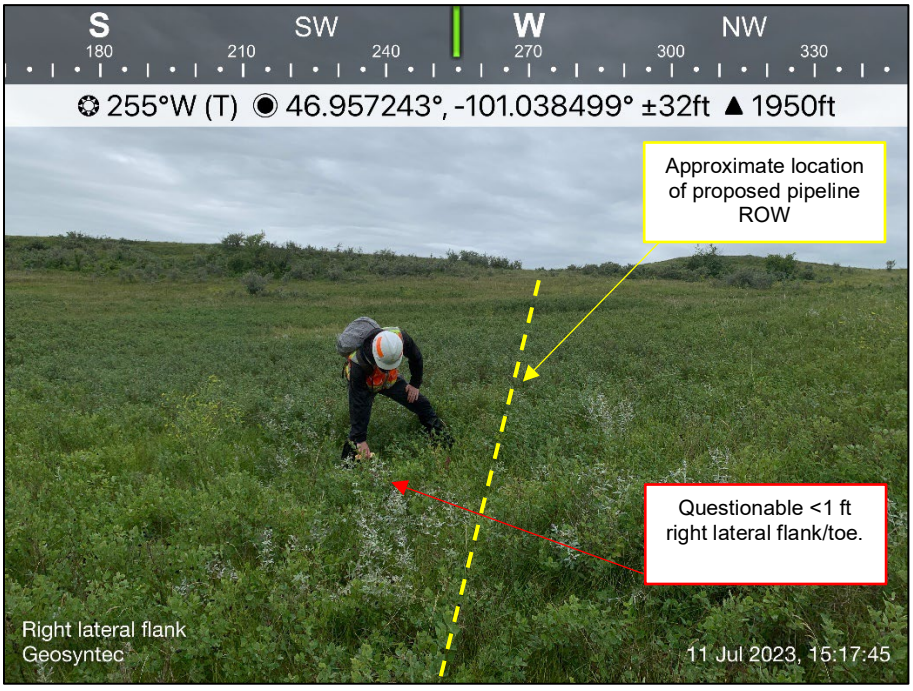


Notes:
- Proposed pipeline centerlines depicted on maps (red) were provided by Summit Carbon Solutions (Revision 6 dated 05/25/2023).
- Landslide boundaries shown were mapped by the NDGS (2023b).
- Inferred direction of ground movement depicted by orange arrows.
- Approximate location of observed internal scarps depicted by purple lines.

PHOTOGRAPHS



View to the east downslope along the proposed pipeline ROW. No apparent landslide morphology is visible in the photo. The proposed pipeline centerline is approximated by the yellow dashed line.



View looking upslope to the west along the proposed ROW. Geosyntec personnel is approximating the height of the questionable right lateral/toe where crossing the proposed pipeline centerline. The proposed centerline is approximated by the yellow dashed line.

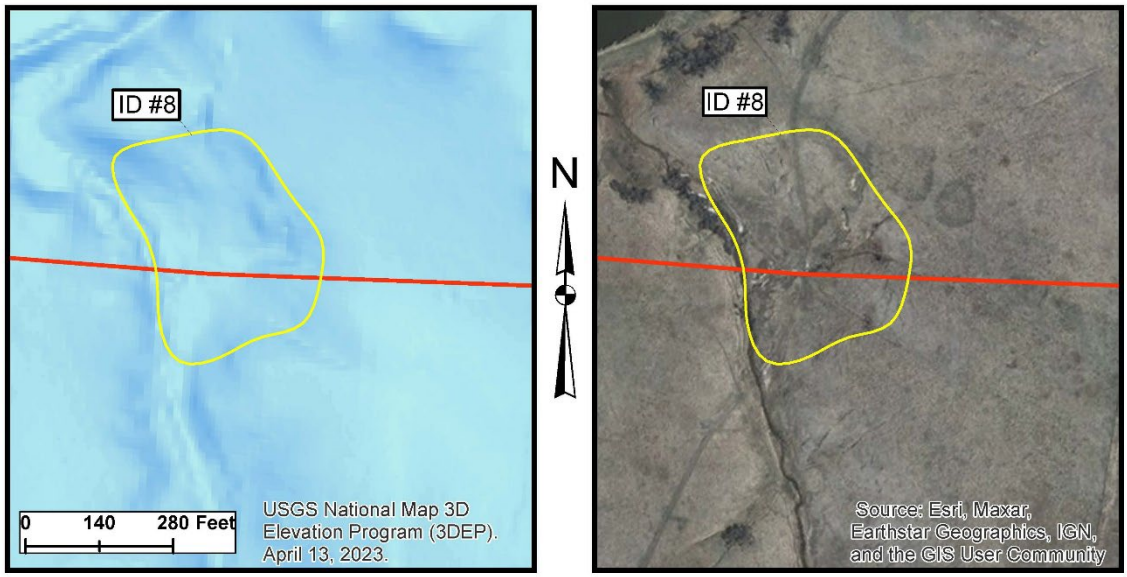
PHASE II ASSESSMENT SUMMARY SHEET

Site ID	Site #8	**Feature Type**	Not a Landslide
Source	NDGS	**Activity Level**	N/A
Pipeline Name	NDM-106	**Confidence**	N/A
Latitude, Longitude	46.951336°, -100.865277°	**Distance from Proposed Centerline**	N/A
County	Burleigh	**Estimated Landslide Depth**	N/A
Field Evaluation Date	July 11, 2023	**Classification**	N/A

EVALUATION SUMMARY

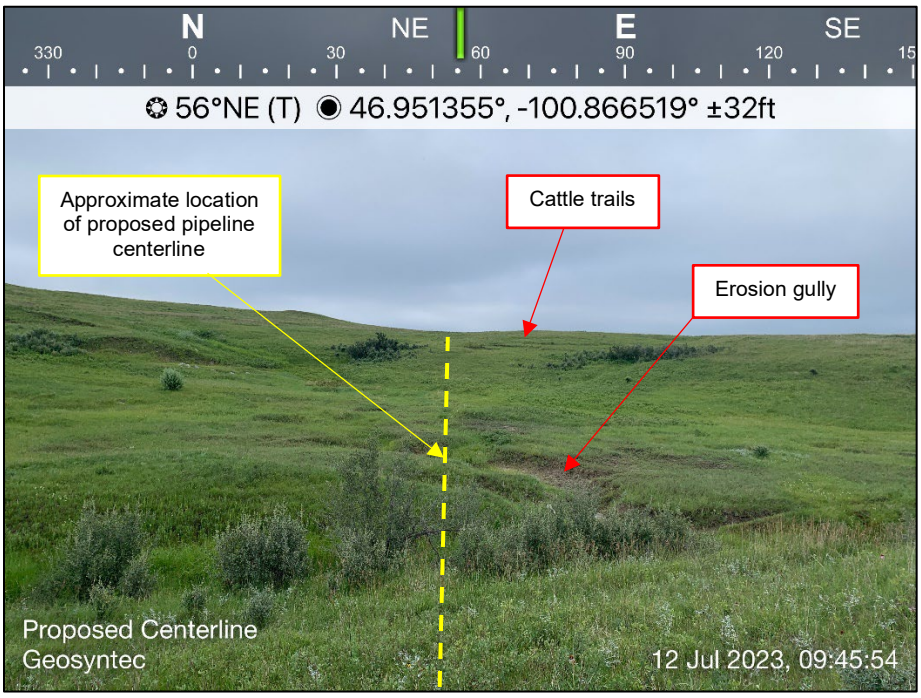
Based on the Phase II evaluation, the landform observed at Site #8 did not appear to be consistent with landslide morphology. No discernible landslide features were identified at the time of evaluation. The landform observed at Site # 8 comprised a gradual convergent slope having multiple converging erosional channels. The upper portion of the boundary mapped by the NDGS did not appear consistent with a landslide headscarp and appeared to be related to cattle trails and surface erosion. The lower portion of the mapped boundary did not exhibit features consistent with a landslide toe as the slope was uniformly gradual with no area of landslide deposition observed. The terrain crossed by the proposed pipeline centerline generally appeared to be smooth apart from cattle trails and erosion channels. Although it does not appear consistent with landslide morphology, the landform does appear to be unusual relative to surrounding areas, which may be a reason for it being mapped as a landslide by the NDGS. However, the landform could possibly be related to groundwater sapping and/or differential weathering due to some variation in the underlying geologic materials relative to surrounding areas. At the time of the site visit the vegetation within the landform consisted of grass up to 2 ft high. The evaluation was conducted by Geosyntec on 7/12/2023.

MAPS

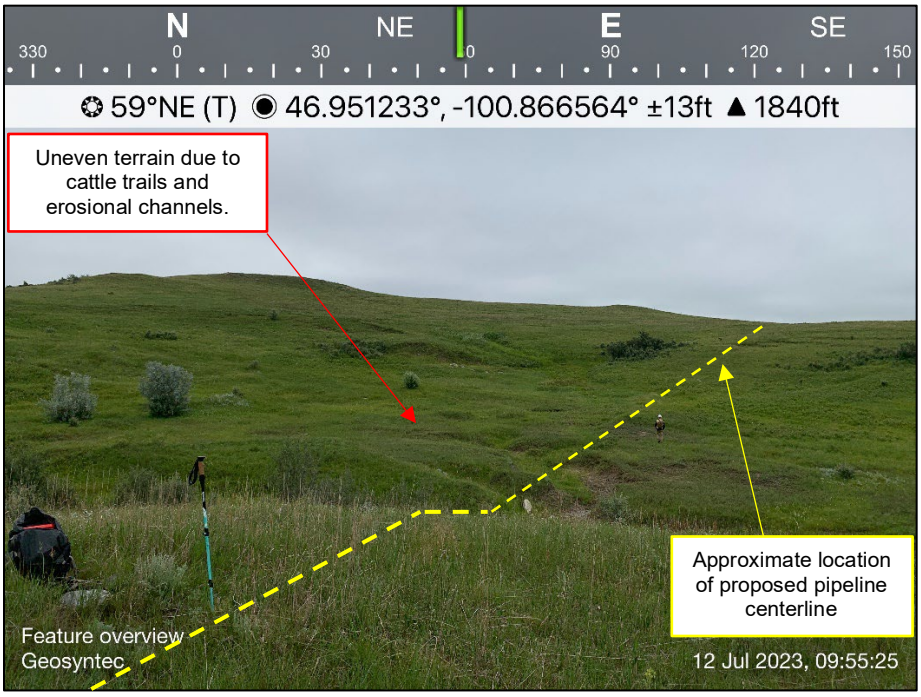


Notes:
- Proposed pipeline centerlines depicted on maps (red) were provided by Summit Carbon Solutions (Revision 6 dated 05/25/2023).
- Landslide boundaries shown were mapped by the NDGS (2023a).

PHOTOGRAPHS



View northeast along the proposed pipeline centerline with erosion visible in the foreground of the image. To the right of the proposed centerline near the crest of the slope are cattle tracks. The proposed pipeline centerline is approximated by the dashed yellow line.



View northeast of the overall site with Geosyntec personnel for scale. The proposed pipeline centerline is approximated by the dashed yellow line.

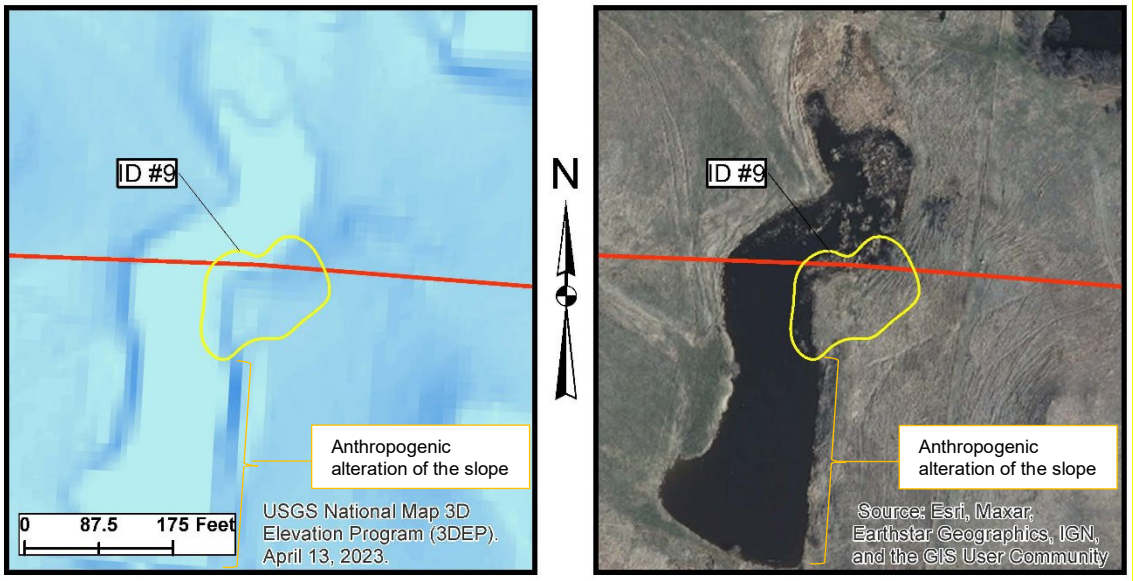
PHASE II ASSESSMENT SUMMARY SHEET

Site ID	Site #9	**Feature Type**	Not a Landslide
Source	NDGS	**Activity Level**	N/A
Pipeline Name	NDM-106	**Confidence**	N/A
Latitude, Longitude	46.951436°, -100.856594°	**Distance from Proposed Centerline**	N/A
County	Burleigh	**Estimated Landslide Depth**	N/A
Field Evaluation Date	July 12, 2023	**Classification**	N/A

EVALUATION SUMMARY

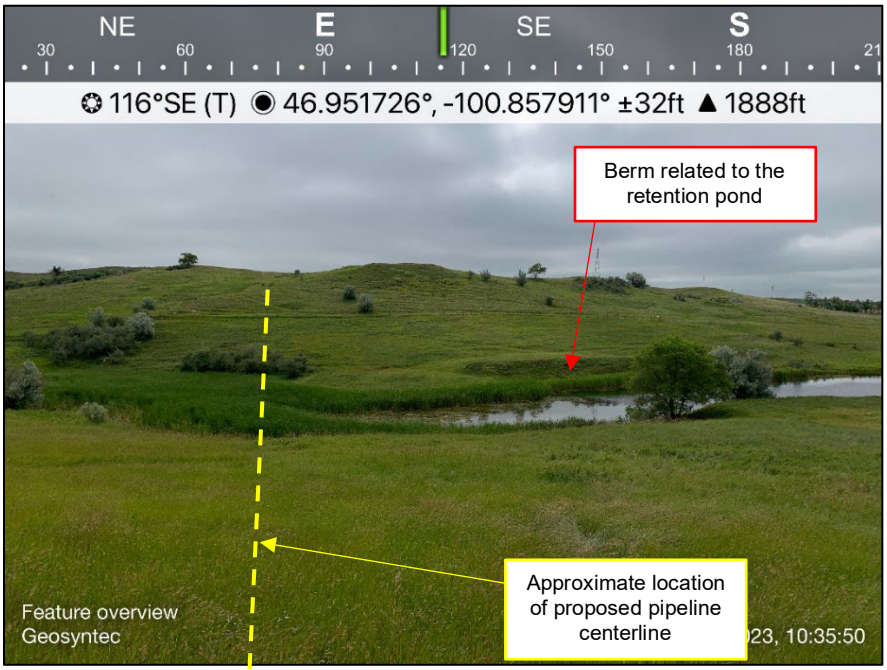
Based on the Phase II evaluation, the landform observed at Site #9 did not appear consistent with landslide morphology. No discernible landslide features were identified at the time of evaluation. The landform observed at Site # 9 appeared as a generally smooth and gradual slope near an anthropogenic pond that was bordered by cattails. No features indicative of a landslide headscarp or landslide toe were exhibited within or surrounding the boundary mapped by the NDGS. Based on aerial imagery, the lower portion of the mapped boundary appears to protrude westward relative to the slope to the south, which may be a reason for it being mapped as a landslide by the NDGS. However, this apparent protrusion is unnatural and caused by anthropogenic alteration of the slope south of the mapped boundary to widen the area used for the retention pond: the eastward cut and regrading of the slope south of the mapped boundary gives the appearance of westward protrusion at the lower portion of the mapped boundary. At the time of the site visit the vegetation within the mapped boundary consisted of grass up to 2 ft high, wooded bushes up to 5 feet high, and cattails up to 6 feet high along the edge of the pond. The evaluation was conducted by Geosyntec on 7/12/2023.

MAPS



Notes:
- Proposed pipeline centerlines depicted on maps (red) were provided by Summit Carbon Solutions (Revision 6 dated 05/25/2023).
- Landslide boundaries shown were mapped by the NDGS (2023a).

PHOTOGRAPHS



View of the overall slope looking southeast from the opposite slope. The terrain crossed by the proposed pipeline centerline appeared as a generally smooth and gradual slope with no evidence of landslide morphology exhibited. Multiple cattle trails traversed the slope and there was a distinct berm constructed to the south of the ROW. The proposed pipeline centerline is approximated by the dashed yellow line.



View facing east and upslope along the proposed pipeline centerline from within the mapped boundary. The slope was generally smooth and uniform with no observed geomorphic indicators of a landslide headscarp. The proposed pipeline centerline is approximated by the dashed yellow line.

PHASE II ASSESSMENT SUMMARY SHEET

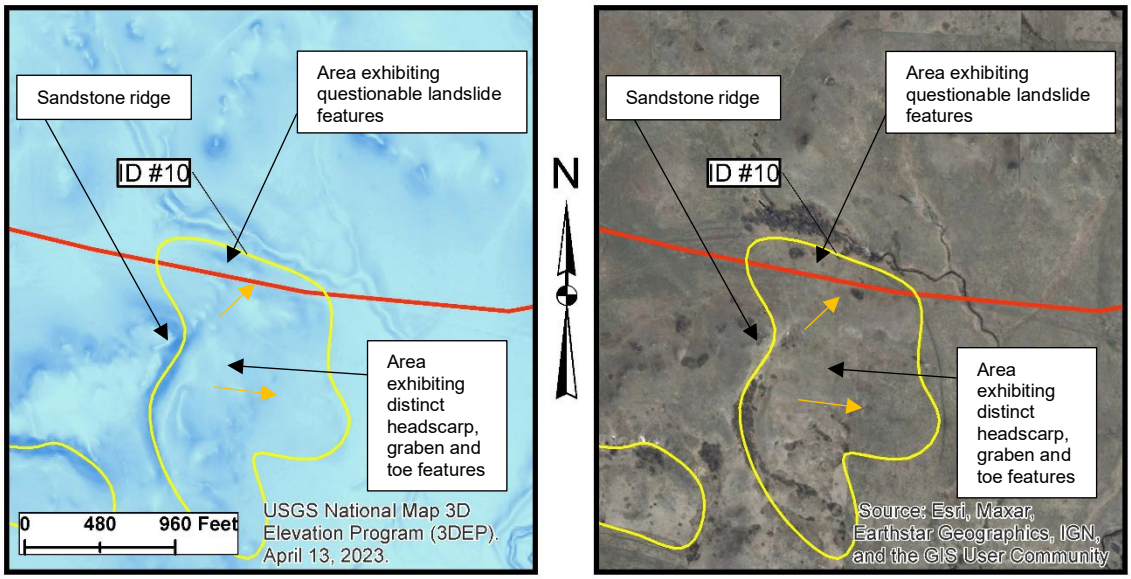
Site ID	Site #10
Source	NDGS
Pipeline Name	NDM-106
Latitude, Longitude	46.941909°, -100.792478°
County	Burleigh
Field Evaluation Date	July 12, 2023

Feature Type	Landslide
Activity Level	Dormant
Confidence	>50%
Distance from Proposed Centerline	0 ft
Estimated Landslide Depth	Uncertain
Classification	Class C

EVALUATION SUMMARY

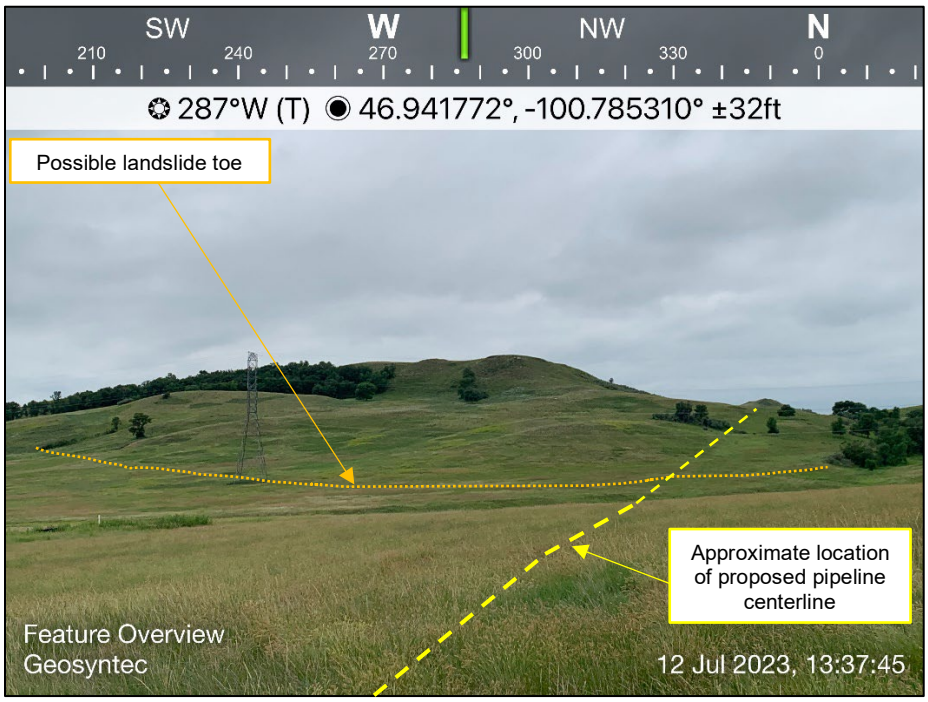
The morphology observed at Site # 10 appears consistent with a possible dormant landslide complex on an east- and northeast-facing slope. The landslide boundary mapped by the NDGS was approximately 1300 feet long and 2100 feet wide. The direction of landslide movement was east and northeast, and both axial and oblique relative to the proposed pipeline centerline. The proposed pipeline centerline crosses the mapped landslide boundary near the mapped left lateral flank and toe. Due to the large scale of the possible landslide the only feature observed in the vicinity of the proposed pipeline centerline was a possible rounded and subdued toe up to 30 feet high adjacent to the proposed pipeline centerline. The rounded and subdued condition of the morphology observed suggests this portion of the possible landslide complex is likely dormant and has not moved in hundreds, if not thousands, of years. No discernible evidence of recent landslide morphology was observed in the vicinity of the proposed pipeline centerline. The terrain crossed by the proposed pipeline centerline generally comprises a gradual and smooth slope. At the time of the visit, the vegetation in the vicinity of the proposed pipeline centerline consisted of mixed grasses up to 3 feet high. Areas of exposed sandstone bedrock were observed upslope of the proposed pipeline centerline along a ridgeline that trends southwest to northeast. The possible landslide morphology northwest of this ridge and crossed by the proposed pipeline centerline appeared more subdued and questionable than the area immediately downslope and east of the ridge, which exhibited stronger evidence of correlative landslide features. The inferred depth of the landslide could not be estimated due to the scale and condition of the observed landslide features. The evaluation was conducted by Geosyntec on 7/12/2023.

MAPS

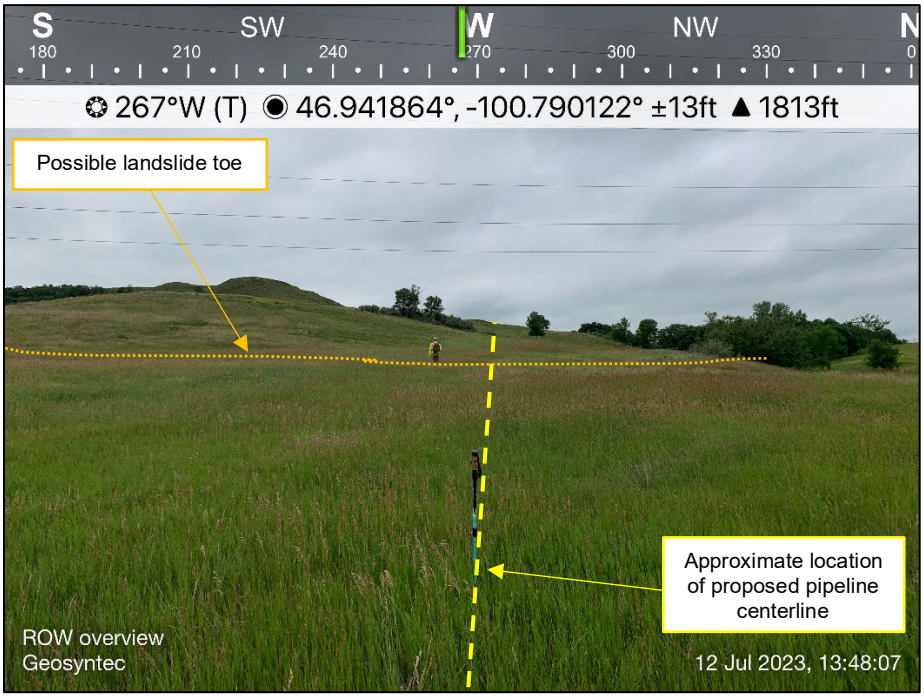


Notes:
- Proposed pipeline centerlines depicted on maps (red) were provided by Summit Carbon Solutions (Revision 6 dated 05/25/2023).
- Landslide boundaries shown were mapped by the NDGS (2023a).
- Inferred direction of ground movement depicted by orange arrows.

PHOTOGRAPHS



Overview of the possible landslide complex looking west. The possible features of the landslide were large in scale but rounded and subdued. The proposed pipeline centerline is approximated by the dashed yellow line.



View facing west along the proposed pipeline centerline with the mapped landslide toe visible in the background. The proposed pipeline centerline is approximated by the dashed yellow line.

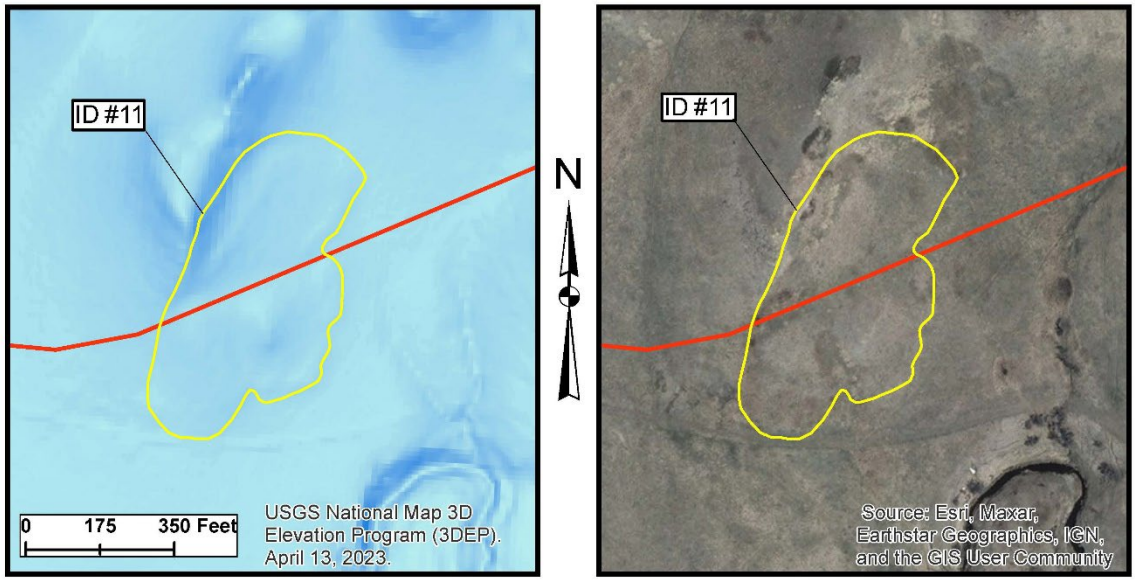
PHASE II ASSESSMENT SUMMARY SHEET

Site ID	Site #11	**Feature Type**	Not a Landslide
Source	NDGS	**Activity Level**	N/A
Pipeline Name	NDM-106	**Confidence**	N/A
Latitude, Longitude	46.942233°, -100.783880°	**Distance from Proposed Centerline**	N/A
County	Burleigh	**Estimated Landslide Depth**	N/A
Field Evaluation Date	July 12, 2023	**Classification**	N/A

EVALUATION SUMMARY

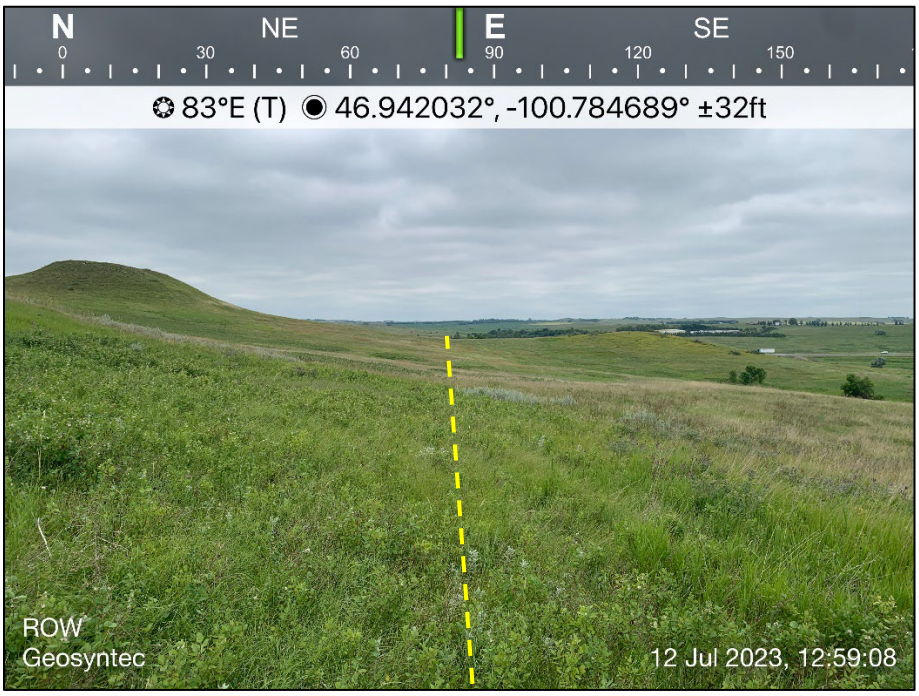
Based on the Phase II evaluation, the landform observed at Site #11 did appear to be consistent with landslide morphology. No discernible landslide features were identified at the time of evaluation. The landform at Site #11 comprised a generally uniform and smooth side-slope with some localized erosion near a ridgetop along the headscarp boundary mapped by the NDGS. No evidence of landslide deposits was identified along the mapped toe boundary. Based on aerial imagery, the vegetation that persists during dry seasons forms arcuate bands below the natural ridge possibly in response to seeps and/or moisture retention along the base of the ridge. It is possible that the arcuate appearance of dry-season vegetation accumulated below the natural ridgetop and variation of vegetation along the mapped toe boundary is a reason for this landform to be mapped as a landslide by the NDGS. However, no evidence of landslide disturbance could be identified. The proposed pipeline centerline crosses the mapped feature obliquely along a relatively gentle and smooth side-slope which becomes progressively steeper nearest to the ridge that is north of the centerline. At the time of the site visit the vegetation along the proposed pipeline centerline was a mix of grass and bushes up to 2 feet high. The evaluation was conducted by Geosyntec on 7/12/2023.

MAPS

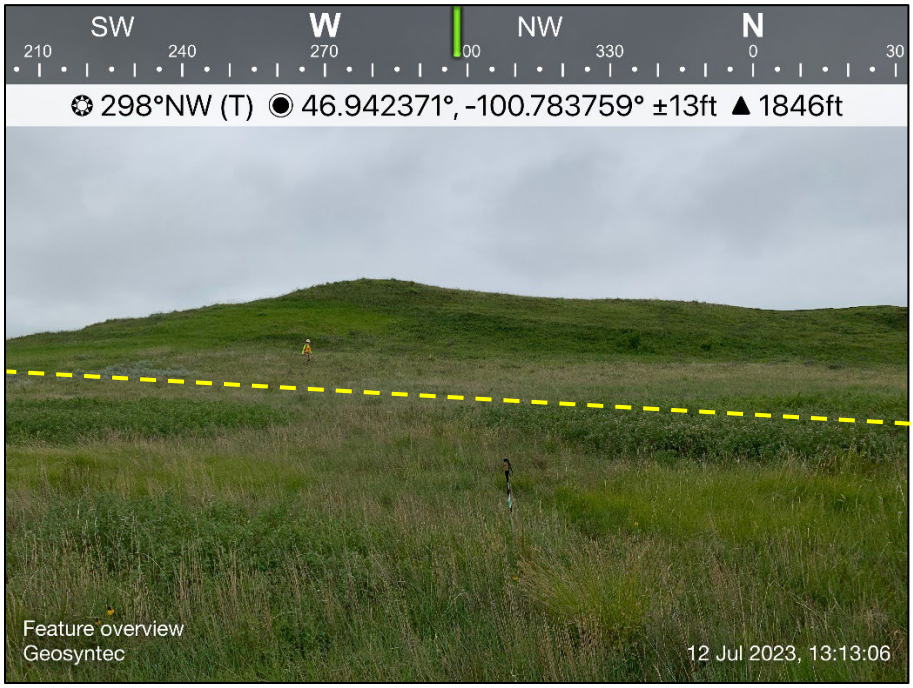


Notes:
- Proposed pipeline centerlines depicted on maps (red) were provided by Summit Carbon Solutions (Revision 6 dated 05/25/2023).
- Landslide boundary shown was mapped by the NDGS (2023a).

PHOTOGRAPHS



View facing east along the proposed pipeline centerline. The area is a generally smooth and gradual side slope with no discernible landslide morphology. The proposed pipeline centerline is approximated by the dashed yellow line.



View facing northwest and upslope across the proposed pipeline centerline. No discernible landslide morphology was observed as the slope increases in steepness towards the ridgetop. The proposed pipeline centerline is approximated by the dashed yellow line.

PHASE II ASSESSMENT SUMMARY SHEET

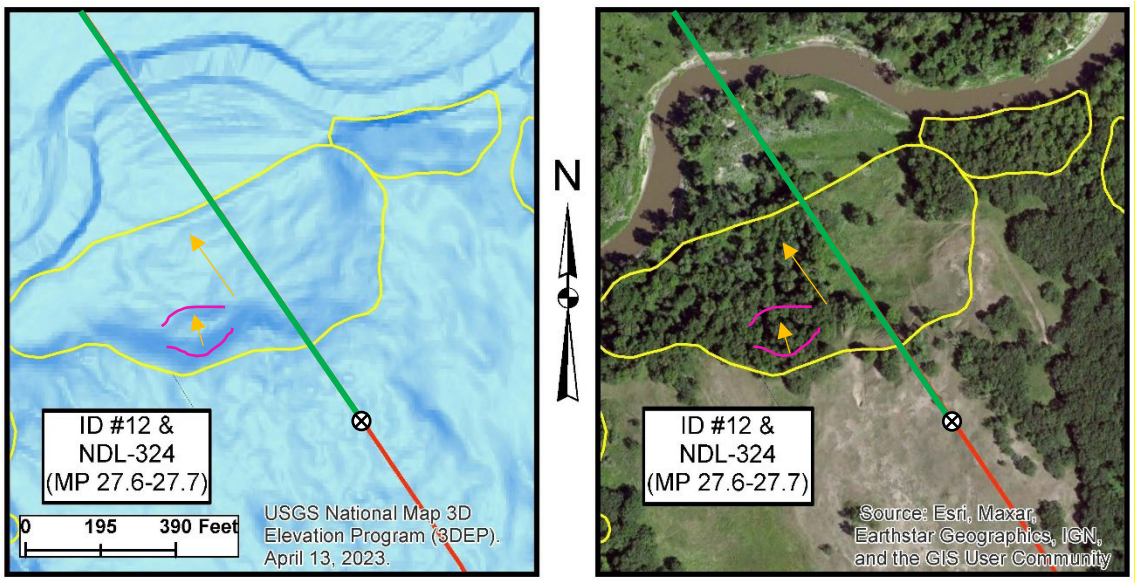
Site ID	Site #12
Source	NDGS
Pipeline Name	NDL-324
Latitude, Longitude	46.571847°, -97.092455°
County	Richland
Field Evaluation Date	July 14, 2023

Feature Type	Landslide
Activity Level	Dormant
Confidence	>90%
Distance from Proposed Centerline	0 ft
Estimated Landslide Depth	20-30 ft
Classification	Class B

EVALUATION SUMMARY

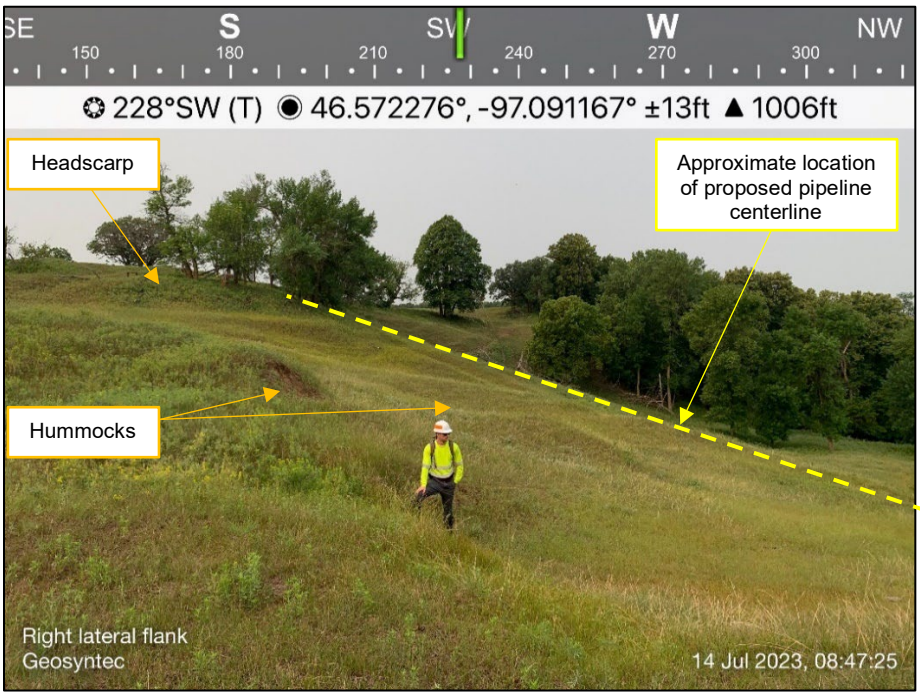
The morphology observed at Site # 12 appears consistent with a dormant landslide on a northwest-facing slope. The landslide boundary mapped by the NDGS was approximately 460 feet long and 1100 feet wide. The direction of landslide movement was northwest and axial relative to the proposed pipeline centerline. The proposed pipeline centerline crosses the center of the mapped landslide boundary. The observed landslide features were generally distinct but rounded with no discernible evidence of recent movement. The slope corresponding with the mapped headscarp was 10 to12 feet high in the vicinity of the proposed pipeline centerline. Observed hummocks downslope of the mapped headscarp were rounded and approximately 4 feet high. The mapped landslide toe was up to 6 feet high and appeared to be modified or truncated by fluvial processes related to the Sheyenne River. West of the proposed pipeline centerline, a rounded headscarp up to 15 feet high and a rounded internal toe up to 10 feet high were observed with backward leaning trees up to 24 inches in diameter situated on the internal landslide body. The vegetation along the proposed pipeline centerline mostly consisted of grass up to 2 feet high with occasional deciduous trees. The inferred landslide depth was estimated to be 20 to 30 feet deep in the vicinity of the proposed pipeline centerline based on the size and condition of observed landslide features. A proposed HDD crossing for the Sheyenne River is planned for this location. Based on Geosyntec's review of the proposed HDD site plan and profile, including the proposed entry and exit points, the landslide morphology observed at this location would be avoided by the proposed pipeline as a result of HDD construction beneath the landslide. The evaluation was conducted by Geosyntec on 7/14/2023.

MAPS

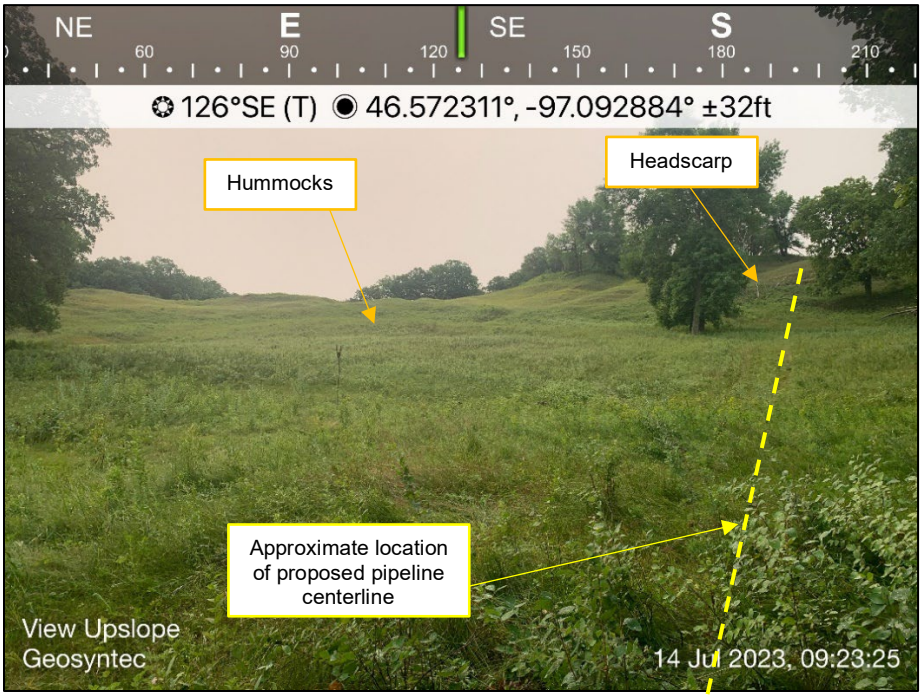


Notes:
- Proposed pipeline centerlines depicted on maps (red) were provided by Summit Carbon Solutions (Revision 6 dated 05/25/2023).
- Landslide boundaries shown were mapped by the NDGS (2022a).
- Inferred direction of ground movement depicted by orange arrows.
- Approximate location of observed internal scarp and internal toe depicted by purple lines.
- Proposed HDD segment depicted by green centerline; proposed HDD entry tie-in location depicted by black circular "X" icons.

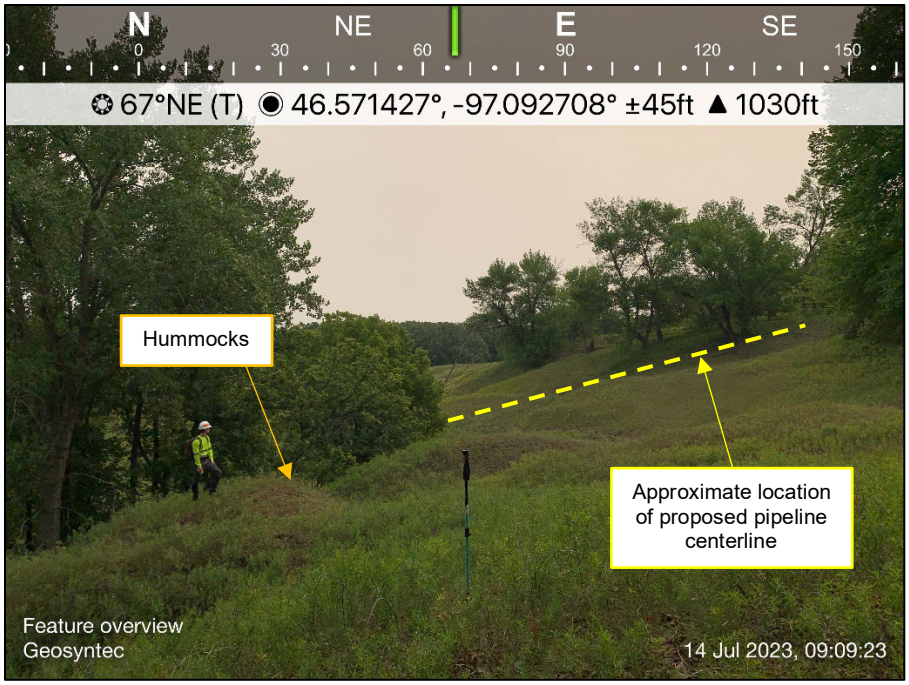
PHOTOGRAPHS



View facing southwest overlooking the landslide with the 4- to 10-foot-high headscarp slope and 4-foot-high hummocks visible in the background. The proposed pipeline centerline is approximated by the dashed yellow line.



View facing southeast looking upslope along the proposed pipeline centerline with the 4- to 10-foot-high headscarp slope and 4-foot-high hummocks visible in the background. The proposed pipeline centerline is approximated by the dashed yellow line.



View facing northeast across the slope towards the proposed pipeline centerline. Hummocks visible in the foreground have been modified and exaggerated by cattle traffic and erosion. The proposed pipeline centerline is approximated by the dashed yellow line.



View facing southwest at an internal landslide toe that was approximately 10 feet high and located approximately 150 feet west of the proposed pipeline centerline.

PHASE II ASSESSMENT SUMMARY SHEET

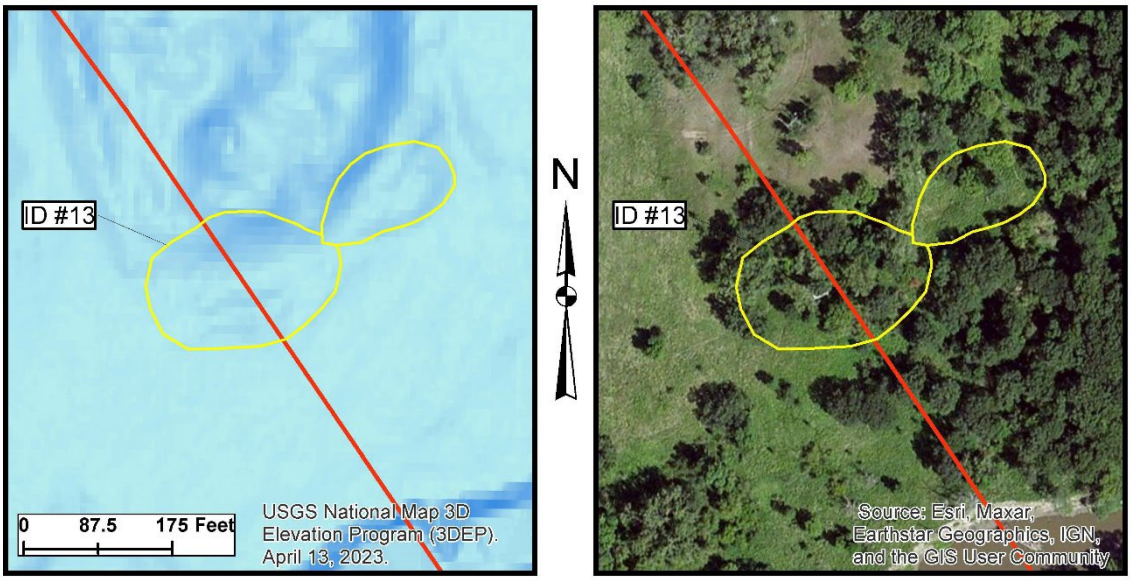
Site ID	Site #13
Source	NDGS
Pipeline Name	NDL-324
Latitude, Longitude	46.574364°, -97.094886°
County	Richland
Field Evaluation Date	July 14, 2023

Feature Type	Not a Landslide
Activity Level	N/A
Confidence	N/A
Distance from Proposed Centerline	N/A
Estimated Landslide Depth	N/A
Classification	N/A

EVALUATION SUMMARY

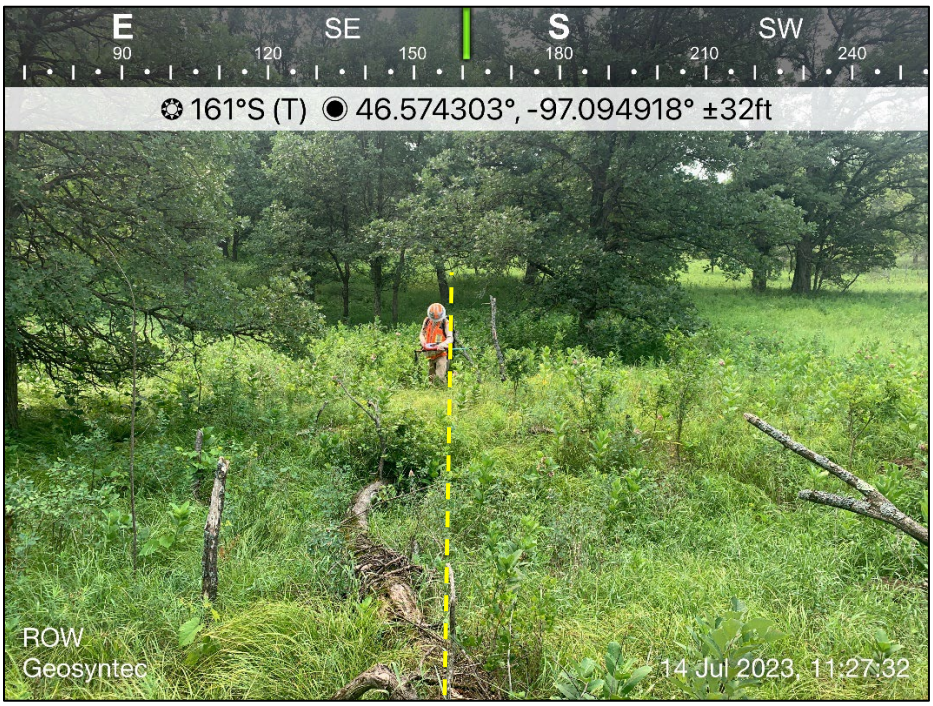
Based on the Phase II evaluation, the landform observed at Site #13 did not appear to be consistent with landslide morphology. No discernible landslide features were identified at the time of evaluation. The landform at Site #13 appeared as a generally smooth and gradual slope with some bare soil exposed by erosion along a natural slope break that corresponds with the headscarp boundary mapped by the NDGS. A mound of material observed at the mapped toe boundary appeared to be unrelated to landslide activity. It is possible that the combination of the natural slope break and mound may be reasons for this landform to be mapped as a landslide by the NDGS. However, these features do not appear to be landslide related and may be related to differential weathering relative to surrounding areas. At the time of the visit, the vegetation along the proposed pipeline centerline was a mix of forest with mature trees and open areas containing grass up to 2 feet high. The evaluation was conducted by Geosyntec on 7/14/2023.

MAPS



Notes:
- Proposed pipeline centerlines depicted on maps (red) were provided by Summit Carbon Solutions (Revision 6 dated 05/25/2023).
- Landslide boundaries shown were mapped by the NDGS (2022a).

PHOTOGRAPHS



View facing south along the proposed pipeline centerline. The site consisted of a gradual and smooth slope with no evidence of landslide disturbance. The proposed pipeline centerline is approximated by the dashed yellow line.



View facing east at the mapped toe which corresponded with a mound of material that did not appear consistent with a landslide toe and may be related to differential weathering of the underlying geologic material.

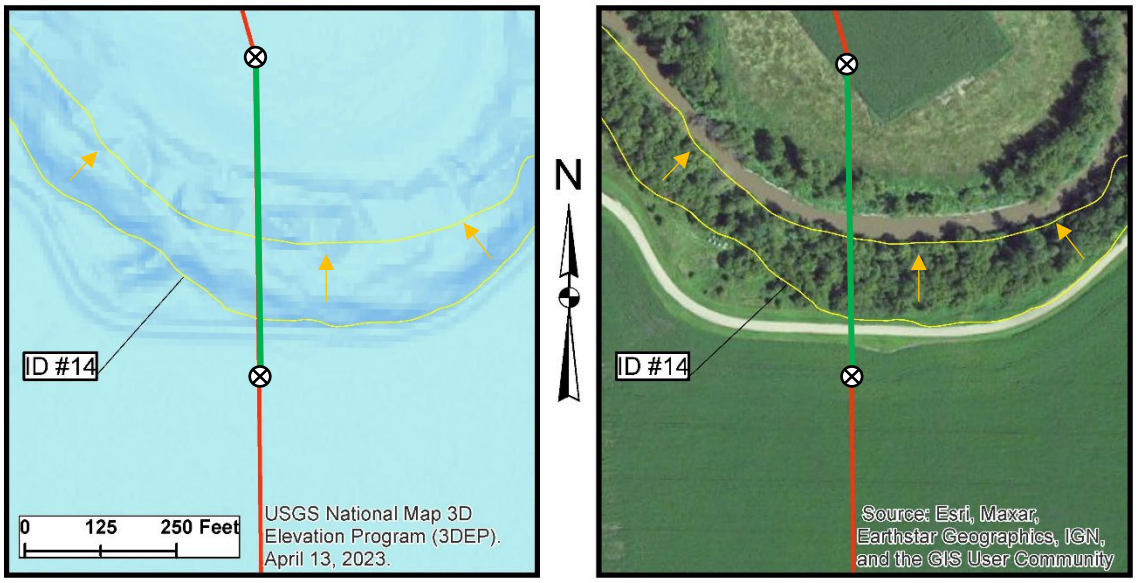
PHASE II ASSESSMENT SUMMARY SHEET

Site ID	Site #14		**Feature Type**	Landslide
Source	NDGS		**Activity Level**	Inactive
Pipeline Name	NDL-324		**Confidence**	>50%
Latitude, Longitude	46.745093°, -97.206570°		**Distance from Proposed Centerline**	0
County	Cass		**Estimated Landslide Depth**	<4 feet
Field Evaluation Date	July 13, 2023		**Classification**	Class B

EVALUATION SUMMARY

The morphology observed at Site #14 appears consistent with a series of inactive, localized bank slumps located along an outer meander bend of the Maple River. The curved landslide boundary mapped by the NDGS was approximately 130 feet long by 1,350 feet wide, and encompasses multiple localized banks slumps. The proposed pipeline centerline crosses the mapped landslide boundary near the apex of the meander bend. The direction of landslide movement was north and axial relative to the proposed pipeline centerline. A possible headscarp of a localized bank slump crossed by the proposed pipeline centerline measured approximately 3 feet high and may have been exaggerated by a berm along a dirt road to the south. The lateral flanks corresponding with the possible headscarp were indistinct, but a questionable toe feature downslope of the possible headscarp measured approximately 2 feet high. The landslide morphology observed appeared to be rounded and subdued. The inferred depth of the landslide was estimated to be less than 4 feet deep based on the observed size and condition of landslide features and the topography of the riverbank. At the time of the site visit, the landslide was vegetated with mixed grass up to 4 feet tall and deciduous trees and shrubs. The slope gradient along the proposed pipeline centerline was generally moderate near the headscarp region and low in the vicinity of the toe region. The dirt road upslope of the headscarp appeared undisturbed at the time of the assessment. A flood plain associated with the Maple River was observed downslope of the toe. A proposed HDD crossing for the Maple River is planned for this location. Based on Geosyntec's review of the proposed HDD site plan and profile, including the proposed entry and exit points, the landslide observed at this location would be avoided by the proposed pipeline as a result of HDD construction beneath the landslide. The evaluation was conducted by Geosyntec on 7/13/2023.

MAPS



Notes:
- Proposed pipeline centerlines depicted on maps (red) were provided by Summit Carbon Solutions (Revision 6 dated 05/25/2023).
- Landslide boundaries shown were mapped by the NDGS (2022c).
- Inferred direction of ground movement depicted by orange arrows.
- Proposed HDD segment depicted by green centerline; proposed HDD entry and exit tie-in locations depicted by black circular “X” icons.

PHOTOGRAPHS



Looking east along the slope in the vicinity Site #14. The approximate proposed pipeline centerline is located near the center of the image (dashed yellow line). The proposed pipeline centerline crosses a possible recently active bank slump in the left portion of the image. Note the road was undisturbed.



Looking southwest at a possible 3-foot high headscarp crossed by the proposed pipeline centerline. The approximate location of the proposed pipeline centerline is represented by the dashed yellow line.

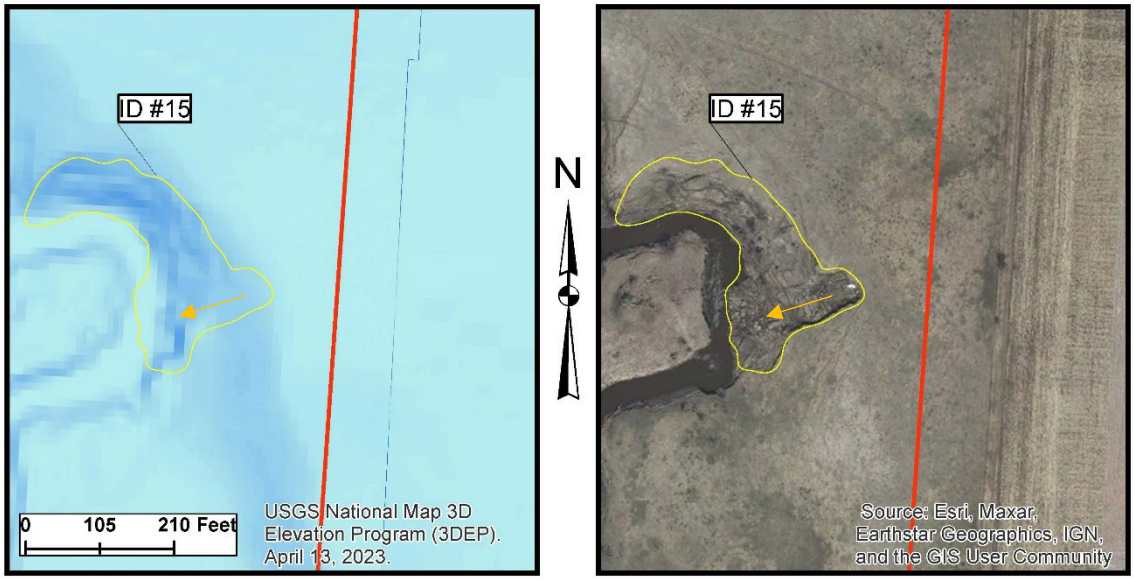
PHASE II ASSESSMENT SUMMARY SHEET

Site ID	Site #15	**Feature Type**	Landslide
Source	NDGS	**Activity Level**	Inactive
Pipeline Name	NDM-106	**Confidence**	>90%
Latitude, Longitude	46.854676°, -100.583705°	**Distance from Proposed Centerline**	98 feet
County	Menoken	**Estimated Landslide Depth**	6-10 feet
Field Evaluation Date	July 13, 2023	**Classification**	Class B

EVALUATION SUMMARY

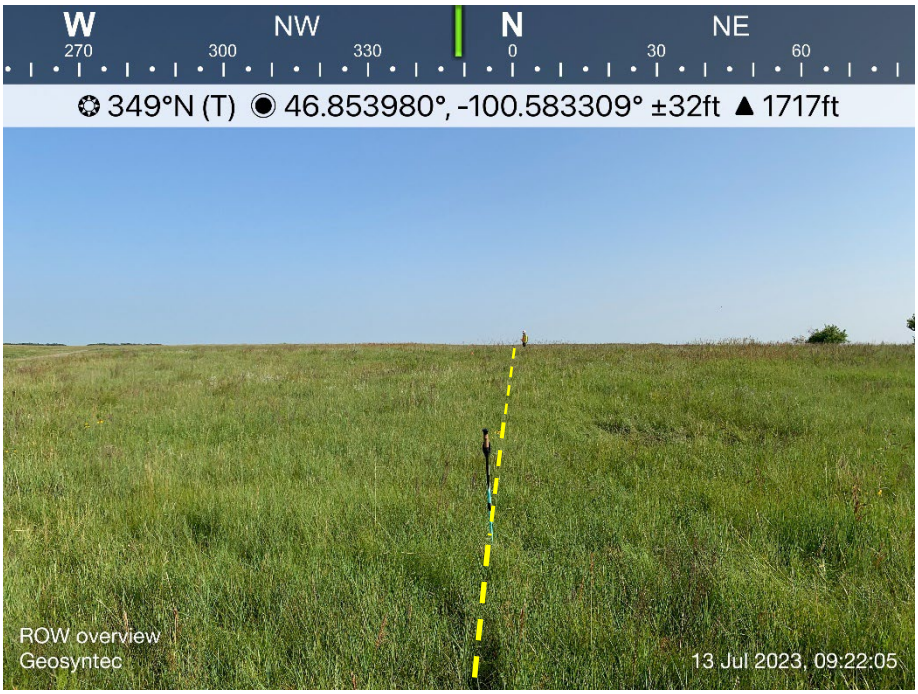
Site # 15 appears to be an inactive landslide located on a west-facing slope at the outer meander bend of a stream. The curved landslide boundary mapped by the NDGS measured approximately 200 feet long by 430 feet wide. The landslide was located approximately 98 feet west of the proposed pipeline centerline at its nearest approach. The direction of landslide movement was west-southwest and oblique relative to the proposed pipeline centerline. The landslide headscarp was approximately 5 to 6 feet high and the right and left lateral flanks were 4 to 5 feet high. The landslide toe was not visited due to the distance from the proposed pipeline centerline, but appeared to encroach into the stream bed. The landslide morphology appeared to be distinct and sharp along the southern portion of the mapped feature and rounded and subdued along the northern portion of the mapped feature, suggesting the southern features are relatively younger than the northern features. Based on aerial imagery and the observed morphology, the landslide appears to be 10-15 years old. The inferred landslide depth was estimated to be 6 to 10 feet deep based on the observed size and condition of the landslide features and topography of the streambank. At the time of the site visit, the landslide and the area in the vicinity of the proposed pipeline was uniformly vegetated with mixed grasses up to 2 feet high. The slope gradient along the proposed pipeline centerline was generally low to flat. Based on the topography observed, the landslide appears unlikely to retrogress across the path of the proposed pipeline centerline. The evaluation was conducted by Geosyntec on 7/13/2023.

MAPS



Notes:
- Proposed pipeline centerlines depicted on maps (red) were provided by Summit Carbon Solutions (Revision 6 dated 05/25/2023).
- Landslide boundaries shown were mapped by the NDGS (2021).
- Inferred direction of ground movement depicted by orange arrows.

PHOTOGRAPHS



Looking north along the proposed pipeline centerline. The approximate proposed pipeline location is represented by the dashed yellow line.



Looking southeast towards Site #15 mapped by the NDGS where recently active landslide morphology was observed approximately 98 ft from the proposed pipeline centerline. The approximate proposed pipeline is located at the far left of the image (dashed yellow line).

PHASE II ASSESSMENT SUMMARY SHEET

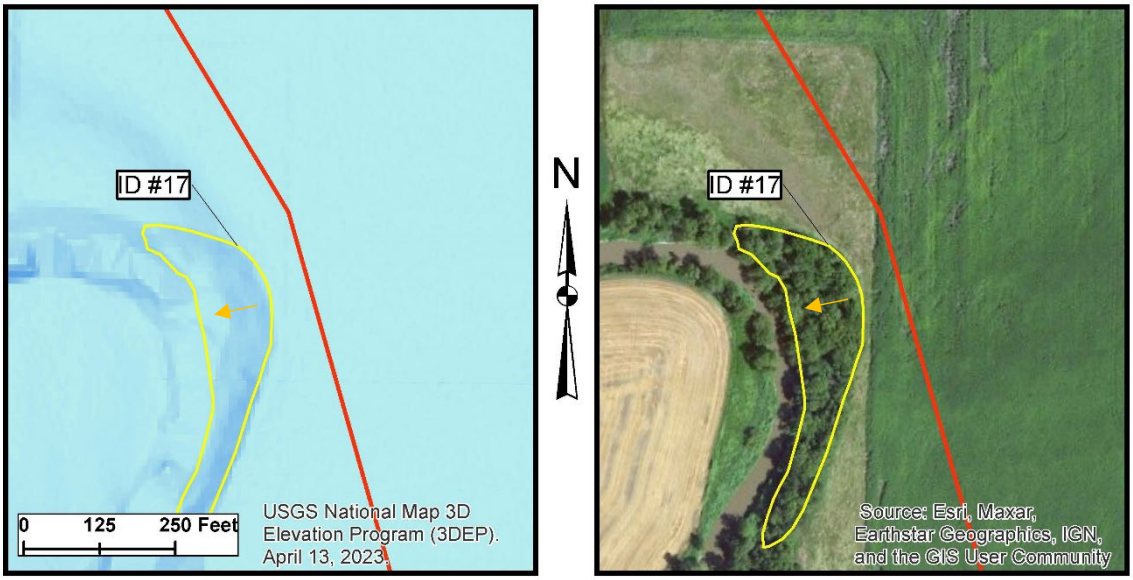
Site ID	Site #17
Source	NDGS
Pipeline Name	NDL-324
Latitude, Longitude	46.574364°, -97.094886°
County	Cass
Field Evaluation Date	July 14, 2023

Feature Type	Landslide
Activity Level	Inactive
Confidence	<50%
Distance from Proposed Centerline	70 feet
Estimated Landslide Depth	<4 feet
Classification	Class B

EVALUATION SUMMARY

The morphology at Site #17 appears consistent with multiple, inactive bank slumps located along the outer meander bend of the Maple River. The curved landslide boundary mapped by the NDGS was approximately 130 feet long by 630 feet wide. The mapped headscarp was located approximately 70 feet from the proposed pipeline centerline. The direction of landslide movement was west-southwest and perpendicular relative to the proposed pipeline centerline. The observed headscarp and toe features nearest to the proposed pipeline centerline appeared rounded and subdued and measured approximately 3 feet high. The inferred depths of the bank slumps were estimated to be less than 4 feet based on the size and condition of the observed landslide features and topography of the riverbank. A flood plain for the Maple River was observed downslope of Site #17. At the time of the site visit, the area in the vicinity of the proposed pipeline was a cultivated soybean farm field and Site #17 was vegetated mixed grasses up to 4 feet high and undisturbed deciduous trees up to 12 inches in diameter. Dense vegetation may have obscured some landslide geomorphology at the time of the site assessment. The slope gradient along the proposed pipeline centerline was generally low. Based on the topography observed, Site #17 appears unlikely to expand across the path of the proposed pipeline centerline. The evaluation was conducted by Geosyntec on 7/14/2023.

MAPS



Notes:
- Proposed pipeline centerlines depicted on maps (red) were provided by Summit Carbon Solutions (Revision 6 dated 05/25/2023).
- Landslide boundaries shown were mapped by the NDGS (2022b).
- Inferred direction of ground movement depicted by orange arrows.

PHOTOGRAPHS



Looking southwest across the slope. The approximate proposed pipeline is located in the center of the image (dashed yellow line). Site #17 was located beyond the tree line in background of photo.



Looking northeast at the possible 3-foot high headscarp of the inactive bank slump at Site #17. The approximate proposed pipeline is located beyond the crest of the slope in a cultivated farm field.

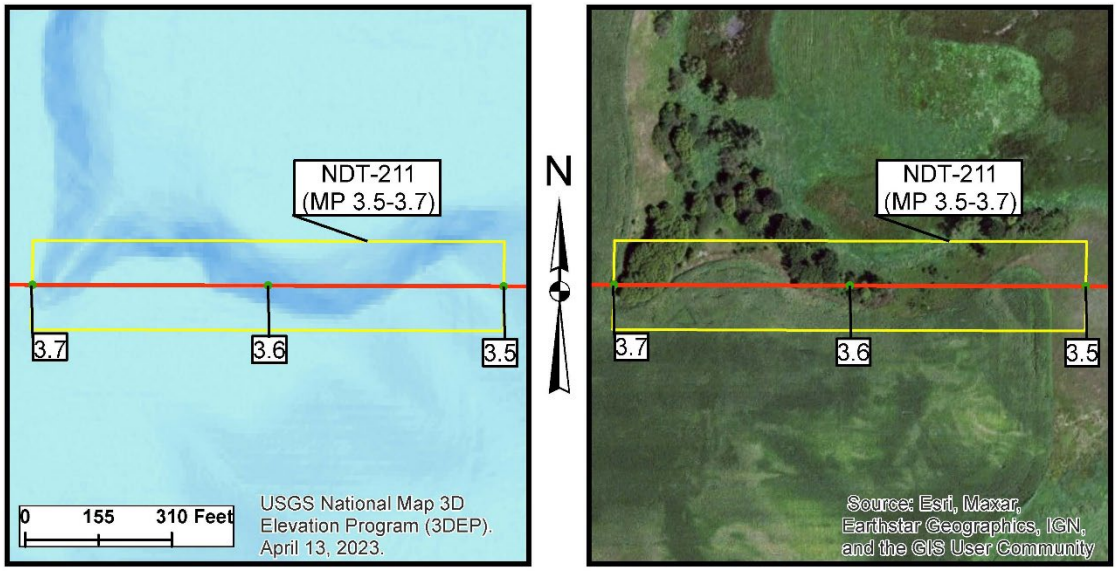
PHASE II ASSESSMENT SUMMARY SHEET

Site ID	NDT-211 (MP 3.5-3.7)	**Feature Type**	Not a Landslide
Source	Terracon	**Activity Level**	N/A
Pipeline Name	NDT-211	**Confidence**	N/A
Latitude, Longitude	46.192310°, -97.080608°	**Distance from Proposed Centerline**	N/A
County	Richland	**Estimated Landslide Depth**	N/A
Field Evaluation Date	July 13, 2023	**Classification**	N/A

EVALUATION SUMMARY

Based on the Phase II evaluation, no landslide morphology was identified along the proposed NDT-211 pipeline between MP 3.5 and 3.7. The features identified between MP 3.5-3.7 appeared to be flat terrain surrounding a natural slope break and rounded drainage gully, which were densely vegetated at the time of the assessment. The gradients of the sloped areas were generally low to moderate, and were generally smooth except where traversed by deer trails. At the time of the site visit, the sloped areas crossed by the proposed pipeline centerline were densely vegetated with mixed grasses up to 4 ft high and dispersed trees and shrubs. Downslope of the proposed pipeline centerline, cattails and ponded water were observed in a wetland area. The evaluation was conducted by Geosyntec on 7/13/2023.

MAPS



Notes:
- Proposed pipeline centerlines depicted on maps (red) were provided by Summit Carbon Solutions (Revision 6 dated 05/25/2023).
- Green points mark the location of the proposed mile posts used to designate the area of interest, which is represented by the yellow box that extends 100 ft around the proposed pipeline centerline.

PHOTOGRAPHS



Looking south across the slope in the vicinity NDT-211 (MP 3.5-3.7). The approximate proposed pipeline is located in the center of the image (dashed yellow line). No landslide morphology was observed in the vicinity of the proposed pipeline.



Looking south across the slope in the vicinity NDT-211 (MP 3.5-3.7). The approximate proposed pipeline is located in the center of the image (dashed yellow line). No landslide morphology was observed in the vicinity of the proposed pipeline.

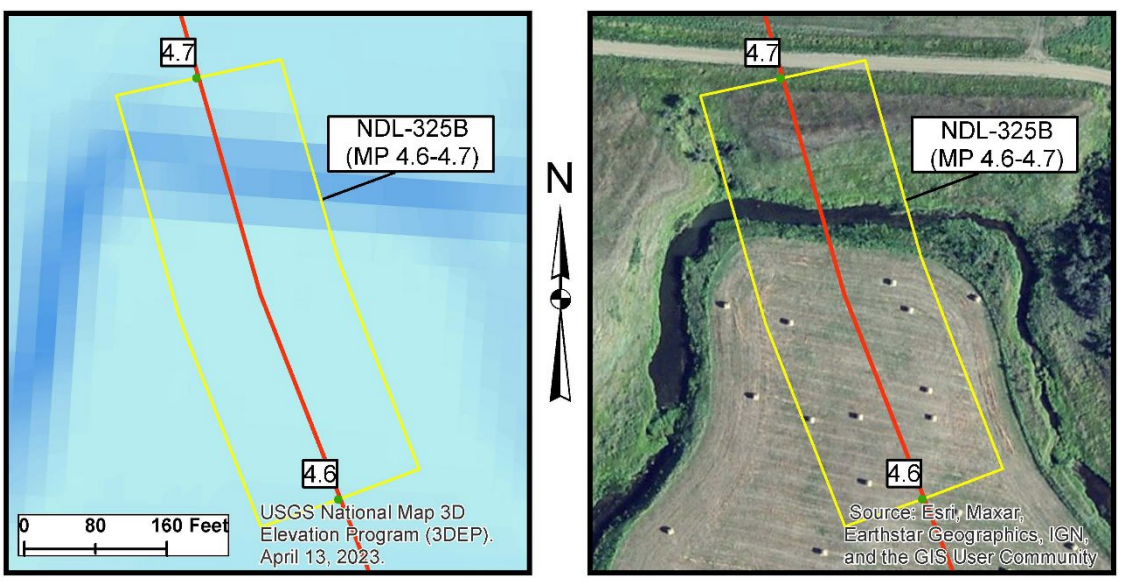
PHASE II ASSESSMENT SUMMARY SHEET

Site ID	NDL-325B (MP 4.6-4.7)	**Feature Type**	Not a Landslide
Source	Terracon	**Activity Level**	N/A
Pipeline Name	NDL-325B	**Confidence**	N/A
Latitude, Longitude	47.096996°, -101.801359°	**Distance from Proposed Centerline**	N/A
County	Mercer	**Estimated Landslide Depth**	N/A
Field Evaluation Date	July 11, 2023	**Classification**	N/A

EVALUATION SUMMARY

Based on the Phase II evaluation, no landslide morphology was identified along the proposed NDL-325B pipeline centerline between MP 4.6 and 4.7. The features observed between MP 4.6 and 4.7 included a steep slope adjacent to a small stream, an area of exposed soil likely related to minor erosion that was located to the west of the proposed pipeline alignment, and a drainage gully located to the west of the proposed pipeline. At the time of the site visit, the area crossed by the proposed pipeline centerline was uniformly vegetated with mixed grasses up to 2 ft high. The slope gradient along the proposed pipeline centerline was generally moderate to the north and low to the south. It is possible that the observed erosion features may have been misidentified as possible indicators of landslide activity as they resemble scarps or tension cracks when viewed in aerial imagery. The evaluation was conducted by Geosyntec on 7/11/2023.

MAPS

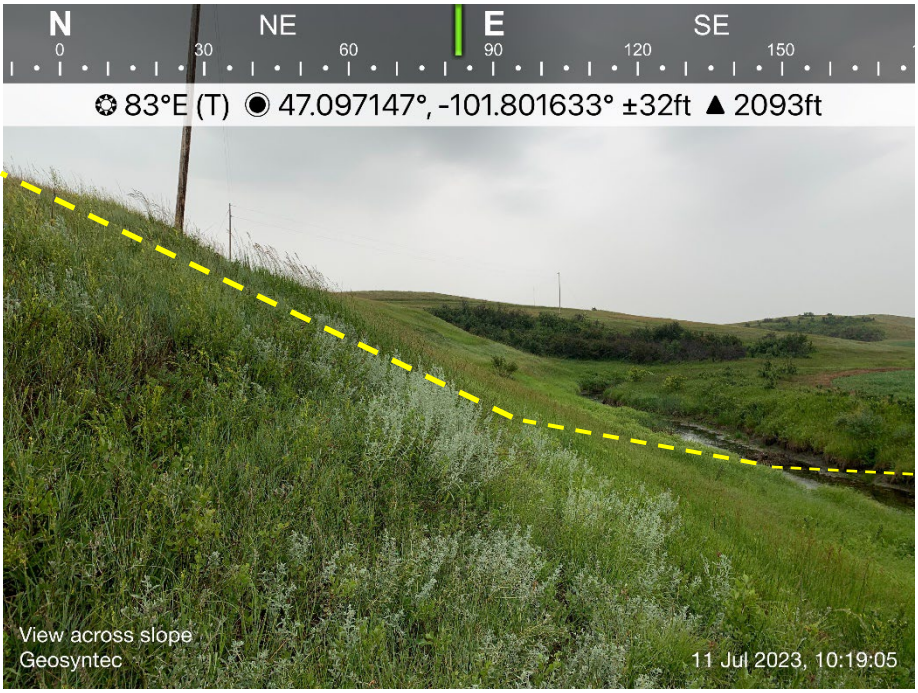


Notes:
- Proposed pipeline centerlines depicted on maps (red) were provided by Summit Carbon Solutions (Revision 6 dated 05/25/2023).
- Green points mark the location of the proposed mile posts used to designate the area of interest, which is represented by the yellow box that extends 100 ft around the proposed pipeline centerline.

PHOTOGRAPHS



Looking southwest across the slope in the vicinity NDL-325B (MP 4.6-4.7). The approximate proposed pipeline is located in the center of the image (dashed yellow line). No landslide morphology was observed in the vicinity of the proposed pipeline.



Looking east across the slope in the vicinity NDL-325B (MP 4.6-4.7). The approximate proposed pipeline is located in the center of the image (dashed yellow line). No landslide morphology was observed in the vicinity of the proposed pipeline.

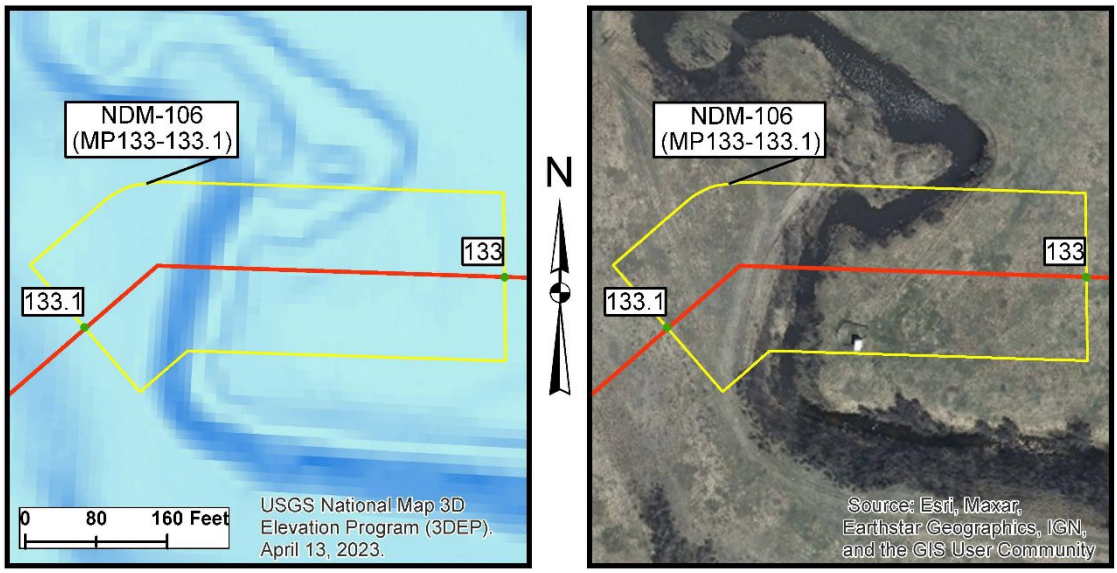
PHASE II ASSESSMENT SUMMARY SHEET

Site ID	NDM-106 (MP133-133.1)	**Feature Type**	Not a Landslide
Source	Terracon	**Activity Level**	N/A
Pipeline Name	NDM-106	**Confidence**	N/A
Latitude, Longitude	46.945551°, -100.773971°	**Distance from Proposed Centerline**	N/A
County	Burleigh	**Estimated Landslide Depth**	N/A
Field Evaluation Date	July 12, 2023	**Classification**	N/A

EVALUATION SUMMARY

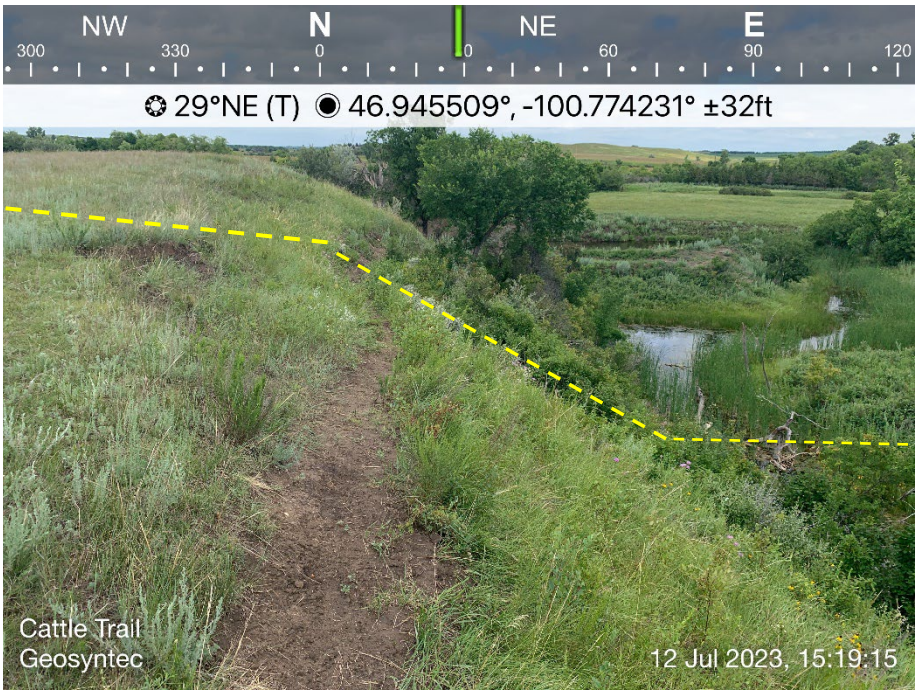
Based on the Phase II evaluation, no landslide morphology was identified along the proposed NDM-106 pipeline between MP 133 and 133.1. The features observed between MP 133 and 133.1 included flat terrain surrounding a steep embankment along a meander bend of a shallow oxbow lake. At the time of the site visit, the area crossed by the proposed pipeline centerline was uniformly vegetated with mixed grasses and shrubs up to 4 ft high, and trees dispersed along the edge of the oxbow lake. The slope gradient along the proposed pipeline centerline was generally steep along the western embankment of the oxbow lake, and low to flat on the eastern side of the oxbow lake. Cattle tracks were observed throughout the section of the steep slope and along the flat fields to the west and east of the oxbow lake. It is possible that the cattle tracks may have been misidentified as possible indicators of landslide activity as they resemble scarps or tension cracks when viewed in aerial imagery. The evaluation was conducted by Geosyntec on 7/12/2023.

MAPS

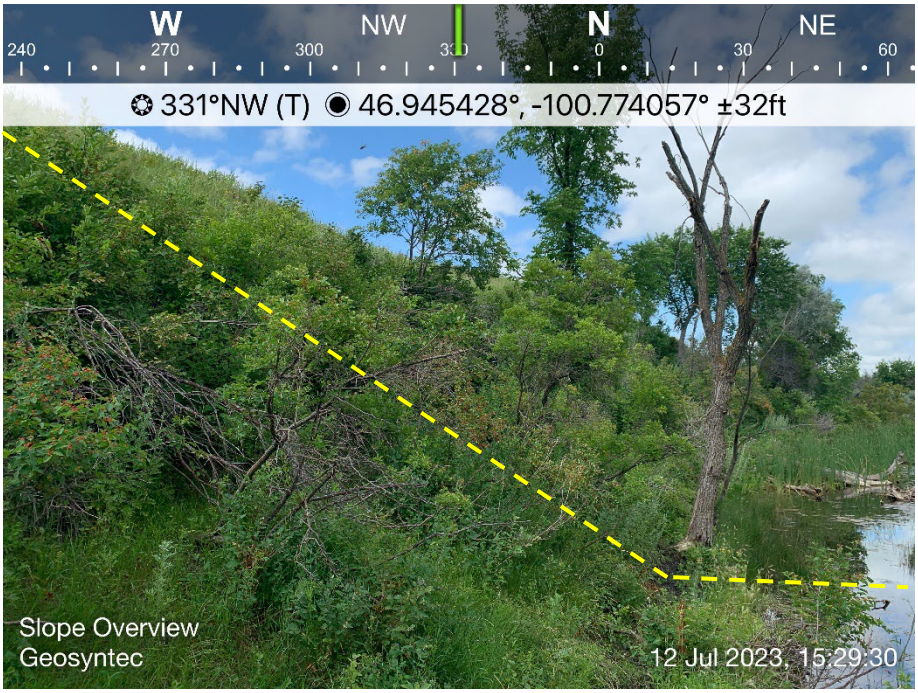


Notes:
- Proposed pipeline centerlines depicted on maps (red) were provided by Summit Carbon Solutions (Revision 6 dated 05/25/2023).
- Green points mark the location of the proposed mile posts used to designate the area of interest, which is represented by the yellow box that extends 100 ft around the proposed pipeline centerline.

PHOTOGRAPHS



View across slope looking towards the north. The approximate proposed pipeline crosses the center of the image (dashed yellow line). A cattle trail is shown in the center of the photo.



View across slope looking towards the north-northwest. The approximate proposed pipeline crosses the center of the image (dashed yellow line). The observed oxbow lake is located along the right side of the image.

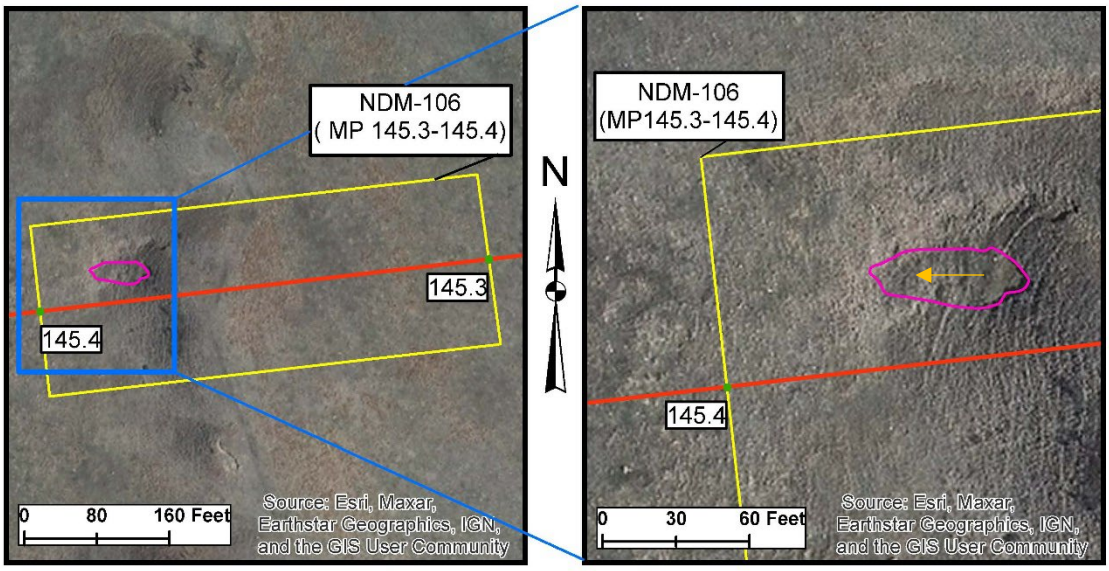
PHASE II ASSESSMENT SUMMARY SHEET

Site ID	NDM-106 (MP 145.3-145.4)	**Feature Type**	Landslide
Source	Terracon	**Activity Level**	Inactive
Pipeline Name	NDM-106	**Confidence**	>90%
Latitude, Longitude	46.963154°, -101.015780°	**Distance from Proposed Centerline**	20 feet
County	Morton	**Estimated Landslide Depth**	<2 feet
Field Evaluation Date	July 11, 2023	**Classification**	Class A

EVALUATION SUMMARY

Based on the Phase II evaluation along the proposed NDM-106 pipeline between MP 145.3 and 145.4, a shallow landslide was observed on a west facing slope approximately 20 feet north of the proposed pipeline centerline. The landslide was relatively small and measured approximately 70 feet long by 25 feet wide. The direction of ground movement was west and axial relative to the orientation of the proposed pipeline centerline. The headscarp measured approximately 2 feet high, the left and right lateral flanks measured approximately 2 ft high, and the toe measured approximately 1-foot high. The landslide appeared to be inactive (>10 years old) based on the condition of the morphology observed. The landslide was estimated to be 1-2 feet deep based on the observed size of the landslide features and topography. At the time of the site visit, the landslide was uniformly vegetated with mixed grass up to 2 feet tall except where recent cattle activity had exposed bare soil within and around the landslide. The slope gradient along the proposed pipeline centerline was generally moderate and increased from west to east. The evaluation was conducted by Geosyntec on 7/11/2023.

MAPS



Notes:
- Proposed pipeline centerlines depicted on maps (red) were provided by Summit Carbon Solutions (Revision 6 dated 05/25/2023).
- Green points mark the location of the proposed mile posts used to designate the area of interest, which is represented by the yellow box that extends 100 ft around the proposed pipeline centerline.
-Purple boundary represents a small, shallow landslide observed within the area of interest; orange arrow depicts the direction of ground movement.

PHOTOGRAPHS



Looking east-southeast along the slope in the vicinity NDM-106 (MP 145.3-145.4). The approximate proposed pipeline is located along center right of the image (dashed yellow line). Recently active shallow landslide morphology was observed approximately 20 ft from the proposed pipeline centerline.



Looking southwest at the left lateral flank of the recently active shallow landslide. The approximate proposed pipeline is located along top left of the image (dashed yellow line). Recent cattle activity had exposed bare soil within the landslide.

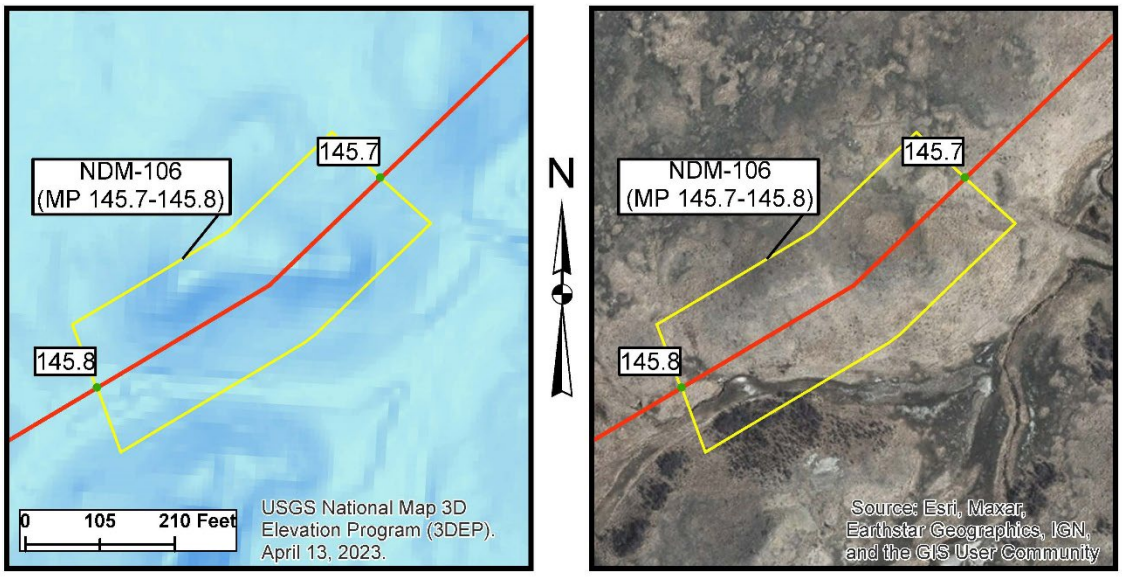
PHASE II ASSESSMENT SUMMARY SHEET

Site ID	NDM-106 (MP 145.7-145.8)	**Feature Type**	Not a Landslide
Source	Terracon	**Activity Level**	N/A
Pipeline Name	NDM-106	**Confidence**	N/A
Latitude, Longitude	46.961595°, -101.022466°	**Distance from Proposed Centerline**	N/A
County	Morton	**Estimated Landslide Depth**	N/A
Field Evaluation Date	July 11, 2023	**Classification**	N/A

EVALUATION SUMMARY

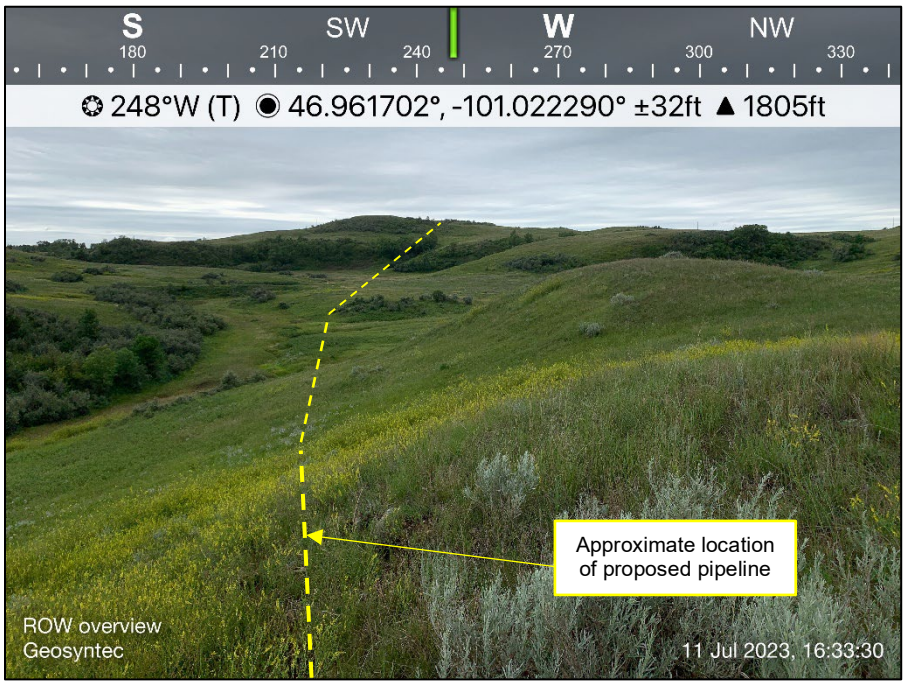
Based on the Phase II evaluation, no landslide morphology was identified along the proposed NDM-106 pipeline between MP 145.7 and 145.8. The topography between MP 145.7 and 145.8 consisted of a rounded knoll with gentle to moderately steep slope gradients that exhibited minor erosion along the upslope portions of the hilltop. At the time of the site visit, the area crossed by the proposed pipeline centerline was uniformly vegetated with mixed grasses up to 2 ft high. Overgrown cattle trails were common along the slopes in the vicinity of the proposed pipeline centerline. It is possible that the cattle trails may have been misidentified as indicators of landslide activity as they may resemble scarps or tension cracks when viewed in recent aerial imagery. The evaluation was conducted by Geosyntec on 7/11/2023.

MAPS

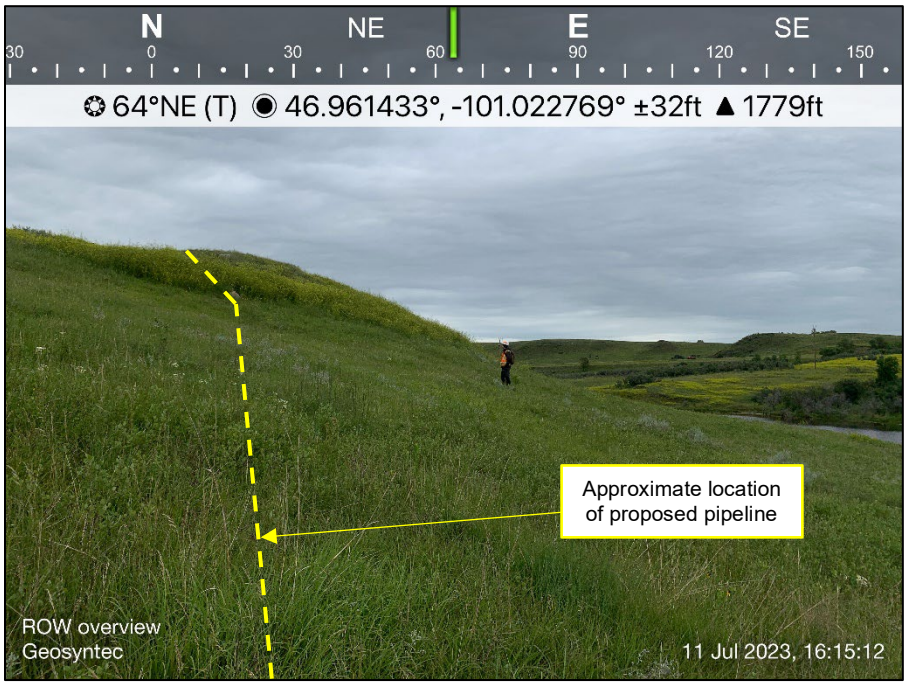


Notes:
- Proposed pipeline centerlines depicted on maps (red) were provided by Summit Carbon Solutions (Revision 6 dated 05/25/2023).
- Green points mark the location of the proposed mile posts used to designate the area of interest, which is represented by the yellow box that extends 100 ft around the proposed pipeline centerline.

PHOTOGRAPHS



Looking southwest along the slope in the vicinity NDM-106 (MP 145.7-145.8). The approximate proposed pipeline is located along center left of the image (dashed yellow line). No landslide morphology was observed in the vicinity of the proposed pipeline.



Looking northeast in the vicinity NDM-106 (MP 145.7-145.8) and along the proposed pipeline alignment, which climbs the ridgeline and appeared to be in good condition at the time of visit. The approximate proposed pipeline is located along center left of the image (dashed yellow line). No landslide morphology was observed in the vicinity of the proposed pipeline.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF NORTH DAKOTA

IN THE MATTER OF THE APPLICATION OF SCS CARBON TRANSPORT LLC FOR A CERTIFICATE OF CORRIDOR COMPATIBILITY AND ROUTE PERMIT FOR THE MIDWEST CARBON EXPRESS PROJECT IN BURLEIGH, CASS, DICKEY, EMMONS, LOGAN, MCINTOSH, MORTON, OLIVER, RICHLAND AND SARGENT COUNTIES, NORTH DAKOTA	CASE NO. PU-22-391 OAH FILE NO. 20230002

DECLARATION OF JASON ZOLLER

STATE OF NORTH CAROLINA)
) ss
COUNTY OF BUNCOMBE)

I, Jason Zoller, state and allege as follows:

1. I am the Senior Environmental Program Manager at Summit Carbon Solutions, LLC, and in that capacity, I have personal knowledge of the facts set forth herein.

2. Summit Carbon Solutions, LLC is the parent company of the applicant in the above-captioned matter, SCS Carbon Transport LLC ("Summit").

3. On October 17, 2022, Summit filed with the North Dakota Public Service Commission ("Commission") its Consolidated Application for a Certificate of Corridor Compatibility and Route Permit ("Application") for that portion of its carbon dioxide transmission pipeline project located in the state of North Dakota (the "Project").

4. On October 3, 2022, Summit submitted its Class III Cultural Resources Inventory Report for the Project ("Class III Report") to the State Historic Preservation Office ("SHPO") of the State Historical Society of North Dakota ("SHSND").

Exhibit D

5. By letter dated March 1, 2023, SHPO informed the Commission that it was unable to assess the Project's effect on historic and archaeological sites because Summit's Class III Report did not meet SHPO standards.

6. On Mach 27, 2023, I and representatives of EXP, Summit's environmental and cultural resource consultant, met with SHPO representatives, including Director Bill Peterson, to discuss the concerns raised by SHPO in its March 1, 2023 letter to the Commission.

7. On May 25, 2023, Summit submitted its revised Class III Report to SHPO for review.

8. On June 20, 2023, Erin Salisbury, Cultural Resources Program Manager at EXP, indicated to me via e-mail that SHPO would like to meet and discuss Summit's revised Class III Report. A copy of Erin Salisbury's June 20, 2023 e-mail and the related correspondence from SHPO is attached hereto and marked as **Exhibit 1**.

9. As indicated in the June 20, 2023 e-mail from Lorna Meidinger, Lead Historic Preservationist at SHSND, the revised Class III Report was a "great improvement" from the original draft. *See* **Exhibit 1**.

10. On June 23, 2023, I and representatives of EXP met with SHPO to discuss the matters set forth in the June 20, 2023 e-mail from Lorna Meidinger, a copy of which is included in the e-mail chain attached hereto as **Exhibit 1**.

11. At the June 23, 2023 meeting, Summit was instructed to submit a comprehensive, amended Class III Report instead of supplementing its original Class III Report with information obtained subsequent to the submission of the original Class III Report.

12. Subsequent to the June 23, 2023 meeting, Summit and EXP worked diligently to complete the amended Class III Report and said amended report was finalized by EXP on August

7, 2023, three days after the Commission issued its order denying Summit's request for a certificate of corridor compatibility and route permit.

13. It is my understanding that SHPO will not issue a concurrence letter until it has all of the information it needs concerning archeological and cultural resources along the Project route.

14. Summit has been denied access to many tracts along the Project route for the purpose of conducting cultural resource surveys.

15. Summit is, and will be, unable to provide SHPO with all of the information it needs until such time as Summit is able gain access, whether voluntarily or by court order, for surveys on the remaining tracts along the Project route.

16. As of the date of this declaration, Summit has conducted surveys on 849 of 929 tracts along the proposed route, as adjusted, or approximately 91% of the tracts.

I declare, under penalty of perjury under the laws of the State of North Dakota, that the foregoing is true and correct.

Dated this 18th day of August, 2023.

Jason Zoller
Summit Carbon Solutions, LLC

79948777 v1

From: Erin Salisbury <Erin.Salisbury@exp.com>
Sent: Tuesday, June 20, 2023 10:15 AM
To: Jason Zoller
Cc: Zonna Barnes
Subject: Fwd: Midwest Carbon Express Project: ND Report and Site form Discussion

Jason, see below. Would you like to participate in the meeting? And if so, what's your availability Friday morning?

From: Meidinger, Lorna B. <lbmeidinger@nd.gov>
Sent: Tuesday, June 20, 2023 7:41 AM
To: Zonna Barnes <Zonna.Barnes@exp.com>; Erin Salisbury <Erin.Salisbury@exp.com>; Robinson, Andrew J. <andrewrobinson@nd.gov>
Cc: Clark, Andrew <andrewclark@nd.gov>
Subject: Midwest Carbon Express Project: ND Report and Site form Discussion

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning,

We would like to setup a call this week to discuss the site forms that were recently submitted and the ND Revised Report.

The report is a great improvement from the original draft and we appreciate the additional information for historic sites and inclusion of site leads/isolated finds. We would like to discuss the inclusion of those resources into the current report vs a separate addendum report.

We also have a few questions about the new forms, in particular about mentions of cultural heritage sites that we do not have records for in our database.

Please let us know a date and time that works for you. As of now, Friday morning is our best option, but we maybe be able to work an hour or so on Wednesday mid-day.

Respectfully,

Lorna Meidinger
Lead Historic Preservationist
State Historical Society of North Dakota
612 E Boulevard Ave
Bismarck, ND 58505
701.328.2089

---------- This communication may contain confidential and proprietary information. DO NOT DISCLOSE. ----------

Exhibit 1

BNI coal

A BNI ENERGY COMPANY

August 17, 2023

BNI Coal
2360 35th Avenue SW
Center, ND 58530

RE: Summit Carbon Solutions Routing of NDL-328

Dear North Dakota Public Service Commissioners and Substitute Decision Maker,

With reference to the routing of Summit Carbons Solutions NDL-328 line which initiates approximately 6 miles south of the Milton R. Young Power Plant and proceeds north to tie into the Young Station, we have the following comments:

1) Summit Carbon Solutions initiated conversations with BNI Coal in 2022 and evaluated multiple routes associated with the proposed NDL-328 line to Minnkota Power's Young Station. Items that were taken into consideration were existing mining permits, current and future mine plans, minable reserves, current and future reclamation activities, and current and future infrastructure needs to support our mining operation. During these initial discussions, BNI preferred a route that would be located east of BNI's existing BNCR-1101 mining permit which minimized future impacts to coal development largely based on the presence or in this case, lack of minable coal. Following these discussions, Summit Carbon Solutions then worked on developing the route in its currently proposed location.
2) Through continued conversations, Summit Carbon Solutions requested that approximately 3,000 feet of pipe would cross the E2NE4 of Section 9-141-83 which is currently within BNI Coal's mining permit BNCR-1101 and on land owned by Minnkota Power. This specific 3,000' of Summit Carbons Solutions proposed NDL-328 line is located east of the minable coal and outside of our associated disturbance plans associated with the development of the BNCR-1101 mining permit. This proposed location will not impact the development of coal in the BNCR-1101 mining permit.
3) Throughout the public hearing process, records indicate a direct question in reference to OSM's involvement with siting of third-party entities' pipelines on lands permitted for surface coal mining activities. It was our understanding that Summit Carbon Solutions provided correspondence to the ND PSC Reclamation Division Staff dated 3-21-2023 regarding this topic. Our company has no experience in the pipeline siting process and is therefore unable to provide any comment on OSM's involvement in such sitings.

In conclusion, the location of the proposed Summit Carbon Solutions NDL-328 line to the Milton R. Young Station has virtually no impact on our current or future mining activities. Approximately 3000' of the proposed route crosses a remote corner of permit BNCR-1101 in an area with no proposed disturbance. All other portions of the route are outside of our existing mining permit boundaries in areas which do not contain minable coal or would otherwise be needed in support of nearby mining activities.

Sincerely,

Mike Heger
General Manager - BNI COAL

Exhibit E

From: Welch, Guy A. <gwelch@nd.gov>
Sent: Tuesday, March 21, 2023 7:56 AM
To: Jay Volk <jvolk@summitcarbon.com>
Cc: Emmer, Jonathan W. <jemmer@nd.gov>; Brinkman, Zanna A. <zbrinkman@nd.gov>
Subject: RE: Phone Call

Good Morning Jay,

I talked with Zanna briefly after our phone conversation yesterday. She concurred that OSM is not involved with third party entities installing pipelines on lands permitted for surface coal mining activities. This looks to me like a non-issue.

Mining companies would need to update the permit to show where pipeline easements of record have been ascertained and take measures to avoid adverse impacts to pipelines. This may include depicting the pipeline on the pit layout and facilities map and existing facilities map. Additional precautions may need to be taken when a haul road is designed to pass over a pipeline, as is currently the case at the Coyote Creek Mine, and a mining company's blasting plan may need to be updated accordingly.

Guy

Exhibit F