Appendix K
Wildlife Reports and Studies

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Appendix K1:
Eagle Stick Nest Survey

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2023 Eagle Stick Nest Survey

Jamestown to Ellendale 345 kV Transmission Line

Stutsman, LaMoure and Dickey Counties, North Dakota

May 30, 2023

Executive Summary

On behalf of Otter Tail Power Company (OTP) and Montana-Dakota Utilities Company (Montana-Dakota) (jointly, the Owners), HDR Engineering, Inc. (HDR) is evaluated the project for the presence large stick nests along the Jamestown to Ellendale Project (the Project, or JETx). The Project would connect the existing 345-kV substation at Jamestown, North Dakota to an existing 345-kV substation at Ellendale. The survey area, approximately 14-miles-by-80-miles, is located in Stutsman, LaMoure and Dickey Counties, North Dakota.

The Bald and Golden Eagle Protection act of 1940 (16 U.S.C. 668-668d) protects bald eagles (*Haliaeetus leucocephalus*). The objective of conducting the large stick nest survey is to confirm eagle nest presence of previously recorded nest locations and to determine if any additional large stick nests occur within the survey area. Eagle activity levels at each nest was also recorded if activity could be determined in the field, but was not the primary objective of the survey.

HDR biologists conducted windshield surveys on May 1-5, 2023 to locate large stick nests. Three out of four previously recorded nests within the survey area were confirmed, and ten new nests were located by HDR.

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Introduction

Otter Tail Power Company (OTP) and Montana-Dakota Utilities Company (Montana-Dakota) (jointly, the Owners) are constructing the Jamestown to Ellendale Project (the Project, or JETx), which includes 95-miles of 345 kilovolt (kV) transmission line in North Dakota (ND) starting at the 345-kV substation at Jamestown, ND and terminating at Ellendale substation.

The Owners retained HDR to locate large stick nests for the Project. Activity at nests were recorded if observed during the survey. The survey area was a 14-mile by 80-mile corridor (Figure 1) and was surveyed to assist in routing and siting options for the Project. The survey included confirming the four North Dakota Game and Fish (NDGF) documented nests within the survey area and one NDGF-documented nest adjacent to the survey area. Individual maps of the nests were created to include surrounding landmarks and section-township-range locations (Figures 2 through 12).

NDGF Previously Recorded Nests

The NDGF provided HDR previously documented nests prior to the field surveys. Four of the previously NDGF recorded nests are within the JETx survey area boundary, and one is marked adjacent to the survey area. The northern-most nest in the survey area was mapped on the north side of Blue Lake was last observed in July 2019. Since then, the nest has been recorded to be unoccupied and destroyed from a storm. Two nests were observed in April 2022 within half a mile of each other and located in the middle of the survey area near Bone Hill Creek. These nests were both documented as unoccupied at the time but were both observed as active during the May field visit. The fourth and southern-most nest was also observed in April 2022 between Medberry and Berlin, ND and was occupied. The nest located approximately 0.5 miles east outside of the survey area and south of Cottonwood Lake was observed April 2022 and was recorded as occupied.

Survey Area

The Project route starts at the Jamestown 345kV substation in Stutsman County, ND and ends at Ellendale substation in Dickey County, ND. The survey area encompasses potential locations for a transmission line route; the exact location of the transmission line is pending. The survey area extends approximately 13 miles east of Highway 281 (US 281) for the middle half of the survey corridor and then surrounds US 281 from Edgeley to Ellendale, ND in the lower third (Figure 1).

The 2023 bald eagle survey focused on previously identified nest structures by NDGF, stands or copses of trees, and individual mature trees in close range to bodies of water or wetlands including within farmed areas. Open water habitat in the survey area included the James River and several lakes including Blue Lake and Spiritwood Lake north of Fried, ND, Pheasant Lake west of Ellendale, ND and Cottonwood Lake west of Glover, ND. These areas are of particular interest because they are prominent water sources that are potentially suitable bald eagle breeding habitat in the Project area as eagles are traditionally found nesting near reservoirs, lakes, rivers and other wetter areas (USFWS 2022).

Methods

Surveys were conducted May 1-5, 2023 and were conducted by up to three biologists utilizing public roads to observe areas of potentially suitable habitat for large stick nests. HDR conducted the windshield surveys from public rights-of-way (ROWs) within the pre “leaf-out” period to allow for unobstructed views of potential nests. During the survey, leaves were absent from trees and visibility was excellent within trees. Areas of potentially suitable habitat were determined using aerial imagery on Google Earth (2022) and combined with best judgement of nest habitat observed in the field. Previously recorded NDGF nests were also revisited. The survey area is primarily agriculture, but contains many areas of farm tree rows, riparian forests, and small groups of trees or individual tress near wetlands.

Binoculars and a spotting scope were used prior to leaf-out to identify eagle nests. Some of the county roads were not passable due to culvert repair or flooding from recent snowmelt. In addition, not all section lines had passable roads. Due to this, confirming nest activity status was more difficult when observed from a greater distance but best judgement was used in determinations. If a nest was not occupied at the time of observation but new material was observed in the nest, it seemed to have a sturdy structure and position, or bald eagles were found in close proximity to it, it was documented “active”.

Results

HDR confirmed three out of four previously recorded nests within the survey area and located the presence of ten new nests. In total, 13 nests were observed in the survey area (Table 1). Figure 1 also depicts the location of previously documented bald eagle nests by NDGF, including one that is adjacent to the survey area that is confirmed. The nest at Blue Lake noted by NDGF as “destroyed” was not observed by HDR during the survey and no new nests appear to have been rebuilt in the area. HDR discovered two nests just outside the survey area; the north nest approximately 1 mile east of the survey boundary and the south nest approximately 0.6 miles east of the survey area. These two nests are not part of the ten that were observed within the survey boundary; but noted in this report to assist in transmission line routing.

Some nests were obviously occupied, and others were not determined because of poor visibility based on site distance, branches obscuring visibility, or general lack of movement and therefore received an “uncertain” nest status. Site status was determined to be “active” typically because it was occupied or the nest looked to be in good condition with new nest material. Once a route is chosen, a survey for nest activity should be conducted to determine the status of the “unknown” nests.

Several nests were not easily accessible and recorded from over a mile away. These nests would be better surveyed with landowner permission to access their fields and get within a mile of the nest. For example, Nest 1 was observed from north and south roads, but could be better visually evaluated if there was access along the west section line that is 93rd Ave SE. Nest 10 was observed from US 281 and from the north and south, but access to 85th Ave SE section line

would give a better profile angle. Nests 8 and 11 can be observed in close proximity but would have to be observed for a period of time to determine site status.

Table 1. 2023 Eagle Survey Discovered and Confirmed Nest Status

Nest #	Nest Status	Site Status	Habitat	County Location	Section, Township, Range	Notes
1	Uncertain	Unknown	Shelter belt	Stutsman	S 22, T 141N, R 62W	Could be large non-eagle nest
2	Occupied	Active	Row of trees	Stutsman	S 14, T 139N, R 62W	
3	Occupied	Active	Wetland	Stutsman	S 22, T 139N, R 63W	
4*	Unoccupied	Active	Shelter belt	LaMoure	S 12, T 135N, R 63W	
5*	Unoccupied	Active	Shelter belt/wetland	LaMoure	S 12, T 135N, R 63W	
6	Unoccupied	Active	Windbreak	LaMoure	S 5, T 134N, R 63W	
7*	Unoccupied	Active	Row of trees/wetland	LaMoure	S 1, T 133N, R 63W	
8	Unoccupied	Unknown	Shelter belt	Dickey	S 4, T 132N, R 63W	Nest is tilted but seemed to be in good condition
9	Occupied	Active	Wetland	Dickey	S 1, T 131N, R 63W	
10	Unoccupied	Unknown	Wetland	Dickey	S 29, T 131N, R 63W	
11	Uncertain	Unknown	Wetland	Dickey	S29, T 130 N, R 64W	Could be large non-eagle nest
12	Unoccupied	Active	Windbreak	Dickey	S 23, T 129N, R 64W	Could be large non-eagle nest
13	Occupied	Active	Wetland	Dickey	S 31, T 129N, R 63W	

*Indicates a confirmed NDGF-found nest

Nests Within Survey Area

Nest 1 – HDR located this nest west of county Highway 62 near the center of Section 22, Township 141 N and Range 62 W in Stutsman County, ND. The nest was found in the northwest corner of a tree row within a shelterbelt adjacent to a marshy wetland area. The nest was not active and, due to sight distance, the size and type of nest was not confirmed. This nest should be revisited to confirm type of nest if routes are sited near the area.

Nest 2 – The nest is located in Section 14, Township 139 N and Range 62 W in Stutsman County, ND. It was found amongst a thick row of trees adjacent to a small lake within active cropland and was occupied at the time of observation.

Nest 3 – The nest was found in an isolated mature tree within a farmed wetland area in the southeast quadrant of Section 22, Township 139 N and Range 63 W. Its location is within Stutsman County, ND. The nest was occupied at the time of observation.

Nest 4 – Spotted approximately 0.8 miles northeast of Lahlum Waterfowl Production Area, this nest was found approximately 0.5 miles south of Bone Hill Creek in a shelter belt paralleling the south side of 61st St SE. The nest is located in the northwest quadrant of Section 12, Township 135 N and Range 63 W in LaMoure County, ND. This is a NDGF previously recorded nest and is assumed active although unoccupied at the time due to presence of newer material its good condition.

Nest 5 – Located 0.5 miles south of Nest 4 and approximately 0.85 miles east of the Lahlum Waterfowl Production Area, this nest is located in a shelter belt on the east side of Section 12, Township 135 N and Range 63 W in LaMoure County, ND. The tree is located on the east side of an opening in a shelterbelt that is abutting a wetland. This is a NDGF previously recorded nest and is active, although unoccupied at the time. Nest observations included new material observed in the nest and was in good condition.

Nest 6 – The nest is located within a windbreak row that is southeast of a marshy wetland area and approximately one mile northeast of Cottonwood Creek in Section 5, Township 134 N and Range 63 W in LaMoure County, ND. The surrounding land use was active cropland. The nest was unoccupied at the time of discovery but the nest looked to be in good condition and had new material within the nest, and was therefore determined active.

Nest 7 – Located in the east half of Section 1, Township 133 N and Range 63 W in LaMoure County, ND. The nest was observed within a row of trees that were surrounded by wetlands and cropland. This is a NDGF previously recorded nest and was confirmed to be active although unoccupied at the time of observation. The nest was in good condition and was made of new material.

Nest 8 – The nest is located within the southeast corner of a shelterbelt in an agricultural field just east of Maple River in Section 4, Township 132 N and Range 63 W. The site is in Dickey County, ND. The nest did not appear to be occupied and was in poor shape. The nest was tilted but looked well supported. Nest activity was not confirmed in the field. If routes are sited near the area, the nest should be revisited to confirm if it is active.

Nest 9 – Nest 9 is located in Section 1, Township 131 N and Range 63 W in Dickey County, ND. The nest is in an individual mature tree within a ponded wetland approximately 0.5 miles north of Maple Creek. The nest was occupied at the time of observation.

Nest 10 – The nest is located approximately 1.3 miles west of US 281 in the northwest quadrant of Section 29, Township 131 N and Range 63 W in Dickey County, ND. The nest is in an individual mature tree inside of a wetland with a small pond to the south. No occupancy was noted at the time of observation and the status was determined to be unknown.

Nest 11 – The nest is located within an isolated tree along the southern edge of Section 29, Township 130 N and Range 64 W in Dickey County, ND. At the time of observation, it was difficult to tell if it was occupied. The nest was somewhat smaller than other observed eagle nests and may be a nest for another raptor species. The nest was not active and due to sight distance, the size and type of nest was not confirmed. This nest should be revisited to confirm type of nest if routes are sited near the area.

Nest 12 – Nest 12 is in the southeast quadrant of Section 23, Township 129 N and Range 64 W in Dickey County, ND. The nest is located within the southern windbreak, approximately 0.4 miles east of Elm River. The nest was somewhat smaller than other observed eagle nests and may be a nest for another raptor species. The nest was not occupied and, due to sight distance, the size and type of nest was not confirmed. This nest should be revisited to confirm type of nest if routes are sited near the area.

Nest 13 – The nest is in the southeast corner of Section 31, Township 129 N and Range 63 W in Dickey County, ND. Nest 13 is located in a fringe wetland within an active agricultural field and no major water bodies within 0.5 miles of the site. The nest was occupied upon discovery and determined active.

Nests Adjacent to Study Area

HDR confirmed the presence of the NDGF previously identified nest in Section 3, Township 132 N and Range 62 W in Dickey County, ND. It was occupied and active during field survey and found in an isolated mature tree in wetlands south of Cottonwood Lake.

Two additional nests adjacent to the survey area were discovered by HDR. HDR located a nest approximately 5 miles northwest of Marion, ND in Section 29, Township 137 N, and Range 61 W of Barnes County. During the survey the nest was found unoccupied and the site status is unknown. The southern nest is located in the center Section 3, Township 130 N and Range 62 W amongst a small group of trees within a wetland. This nest is approximately 0.8 miles east of Maple River. Both of these nests are within farmed wetland areas.

Conclusions

HDR conducted nest surveys from public ROW on May 1-5, 2023 to document the large stick nests within the 14-by-80-mile survey area for the Project. Larger open bodies of water, river crossings, wetlands with nearby copses and windbreaks were evaluated by driving north-south and east-west county roads. As the survey went on, it was observed that there were more nest

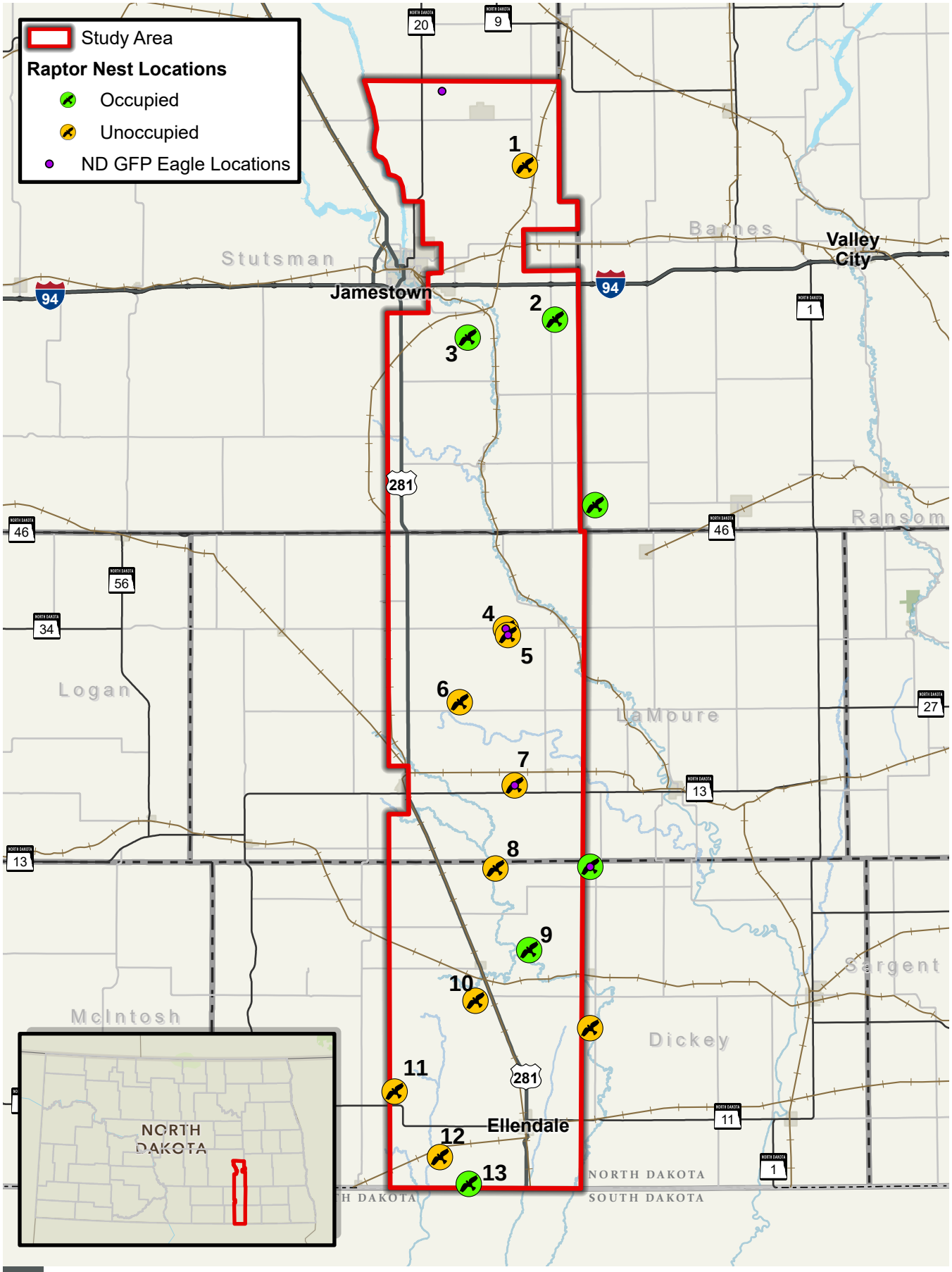
discoveries further from the James River and other larger water bodies that were initially expected to be preferable habitat. It has been noted that bald eagle nests have progressively been found in drier areas such as farmland and urban areas that are farther away from water resources (USFWS 2022). This seemed true for this survey experience as the majority of nests were observed in isolated mature trees or copses within farmed wetland areas.

Literature Cited

United States Fish & Wildlife Service (USFWS). 2007. National Bald Eagle Management Guidelines. Retrieved from USFWS: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BaldEagle/NationalBaldEagleManagementGuidelines.pd

USFWS. 2022. Bald Eagle. Retrieved May 11, 2023 from https://www.fws.gov/species/bald-eagle-haliaeetus-leucocephalus.

Figures



RAPTOR SURVEY NEST LOCATIONS

Figure 1

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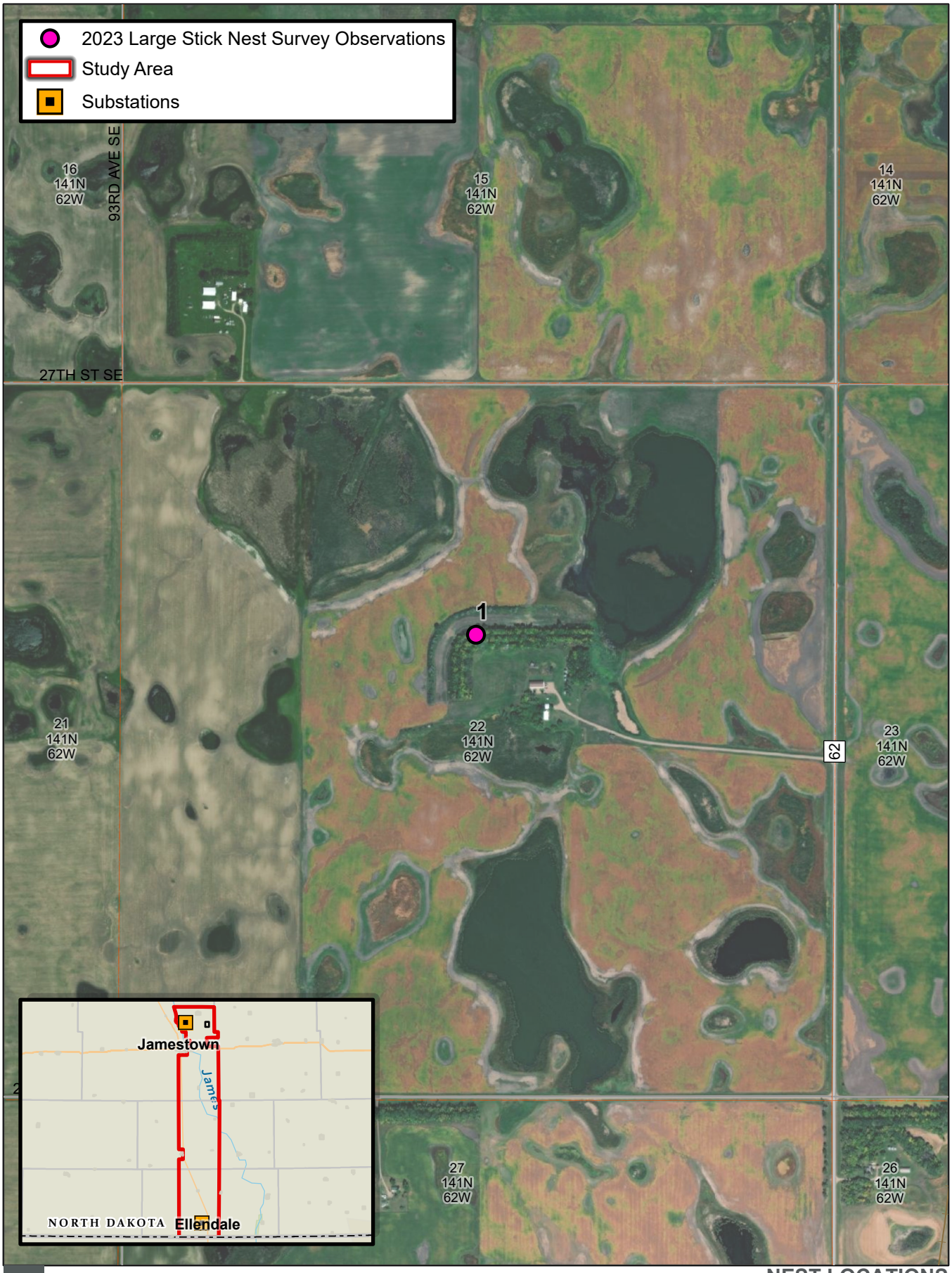

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NEST LOCATIONS
NEST 1
Large Stick Nest Survey

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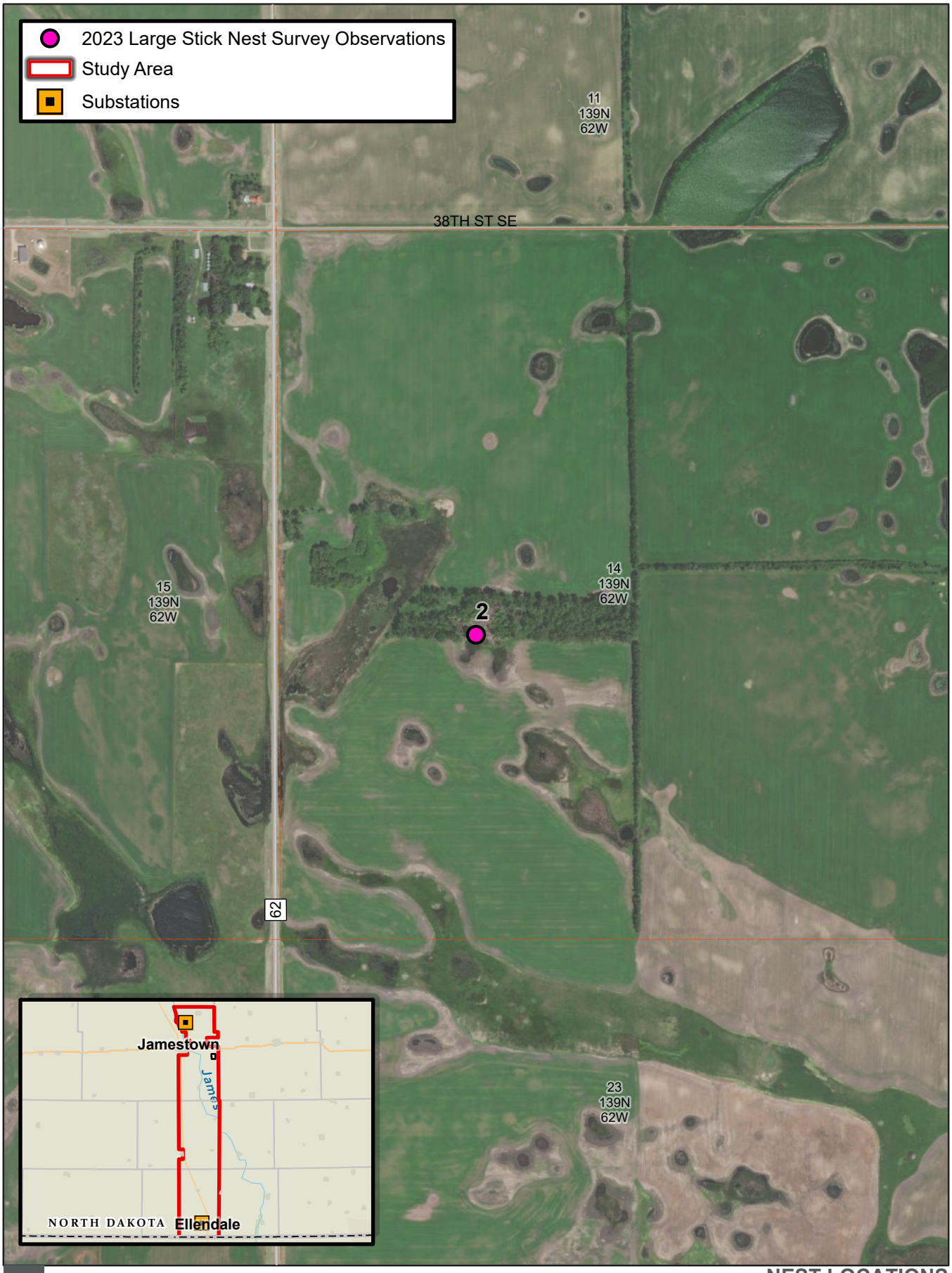
JETX TRANSMISSION LINE | JAMESTOWN TO ELLENDALE
Figure 2



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NEST LOCATIONS
NEST 2
Large Stick Nest Survey

JETX TRANSMISSION LINE | JAMESTOWN TO ELLENDALE

Figure 3

JETx 02018

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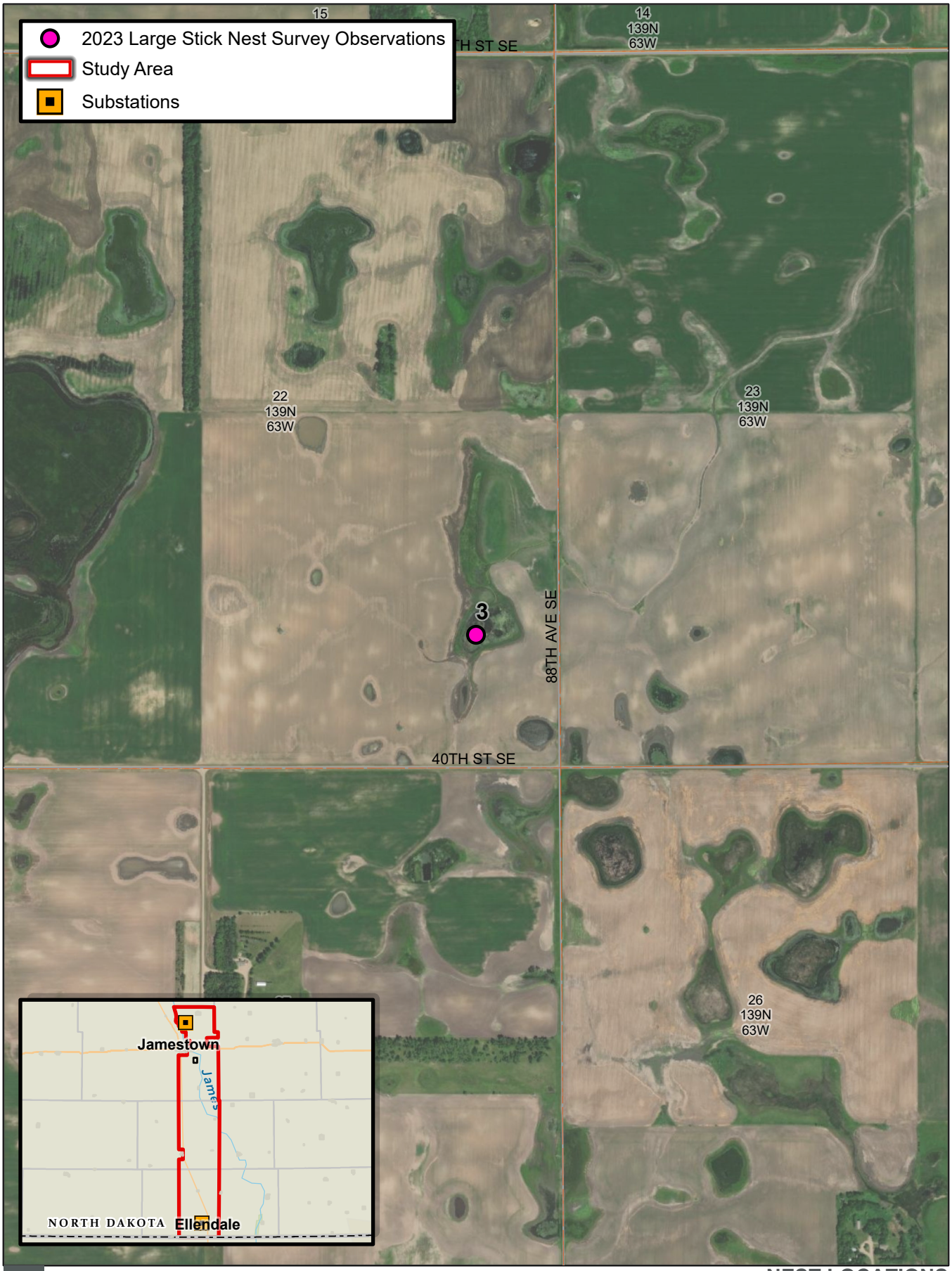

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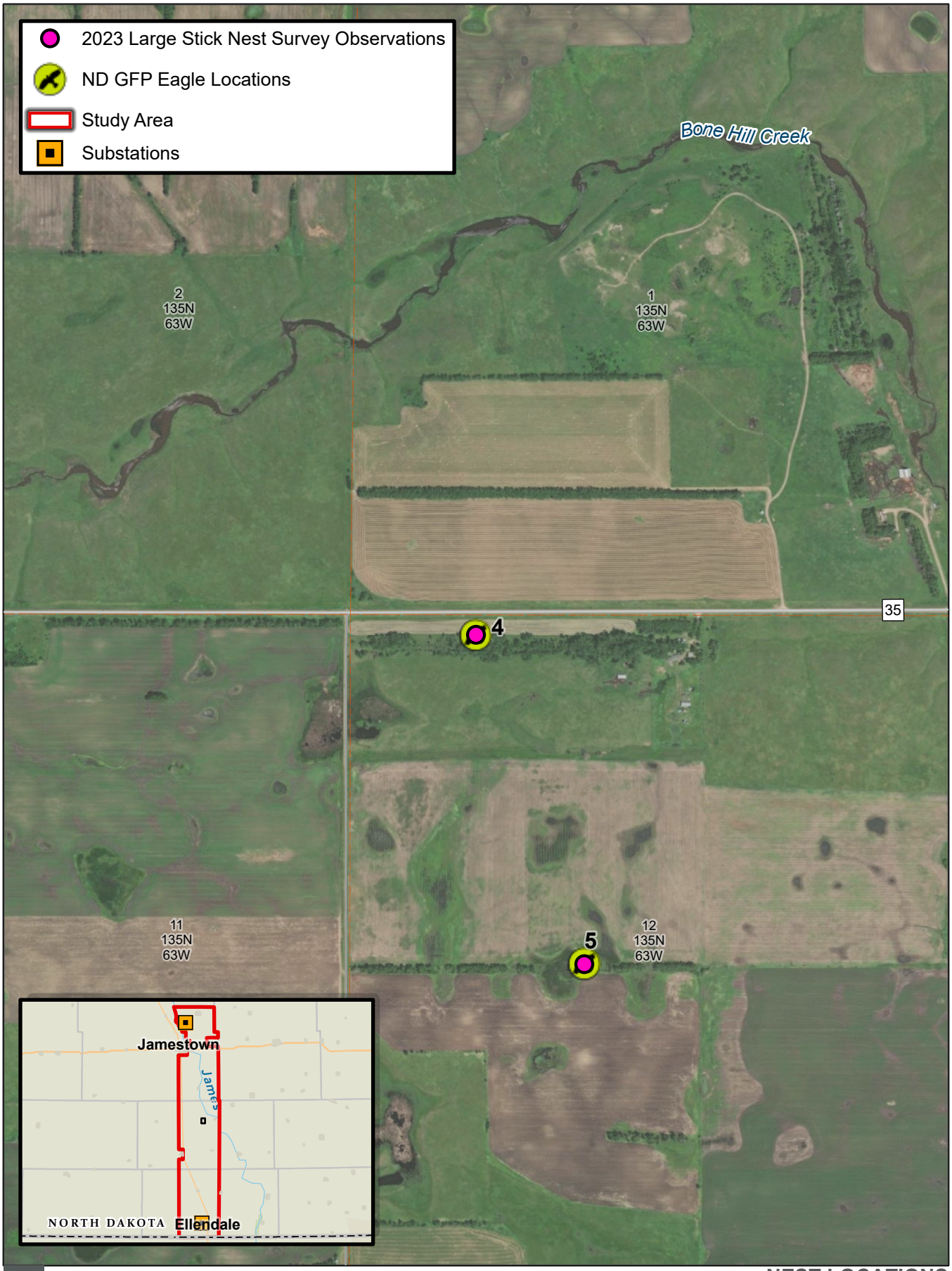
JETX TRANSMISSION LINE | JAMESTOWN TO ELLENDALE
Figure 4



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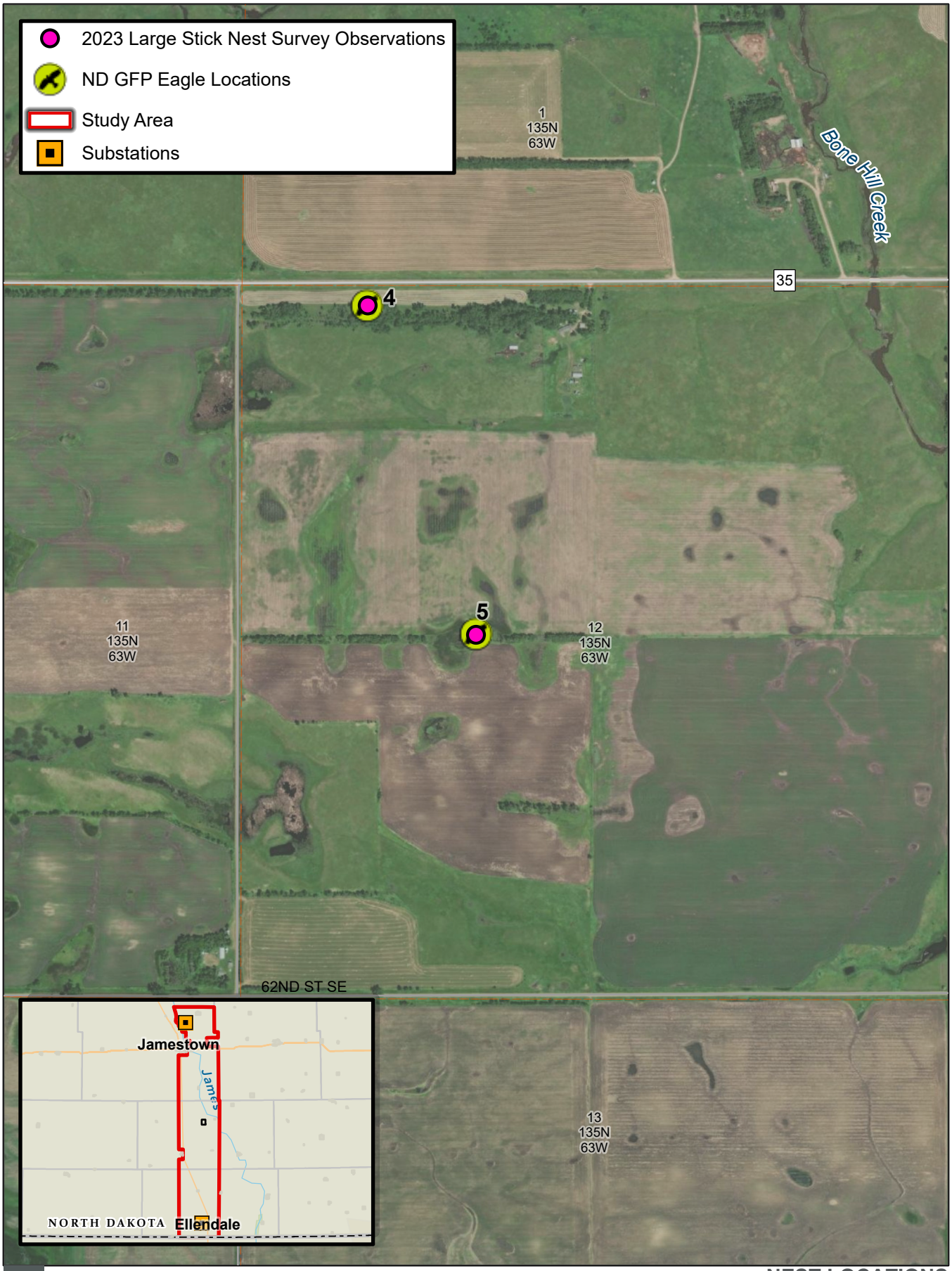
JETX TRANSMISSION LINE | JAMESTOWN TO ELLENDALE

Figure 5

JETx 02020



NEST LOCATIONS
NEST 4 & 5
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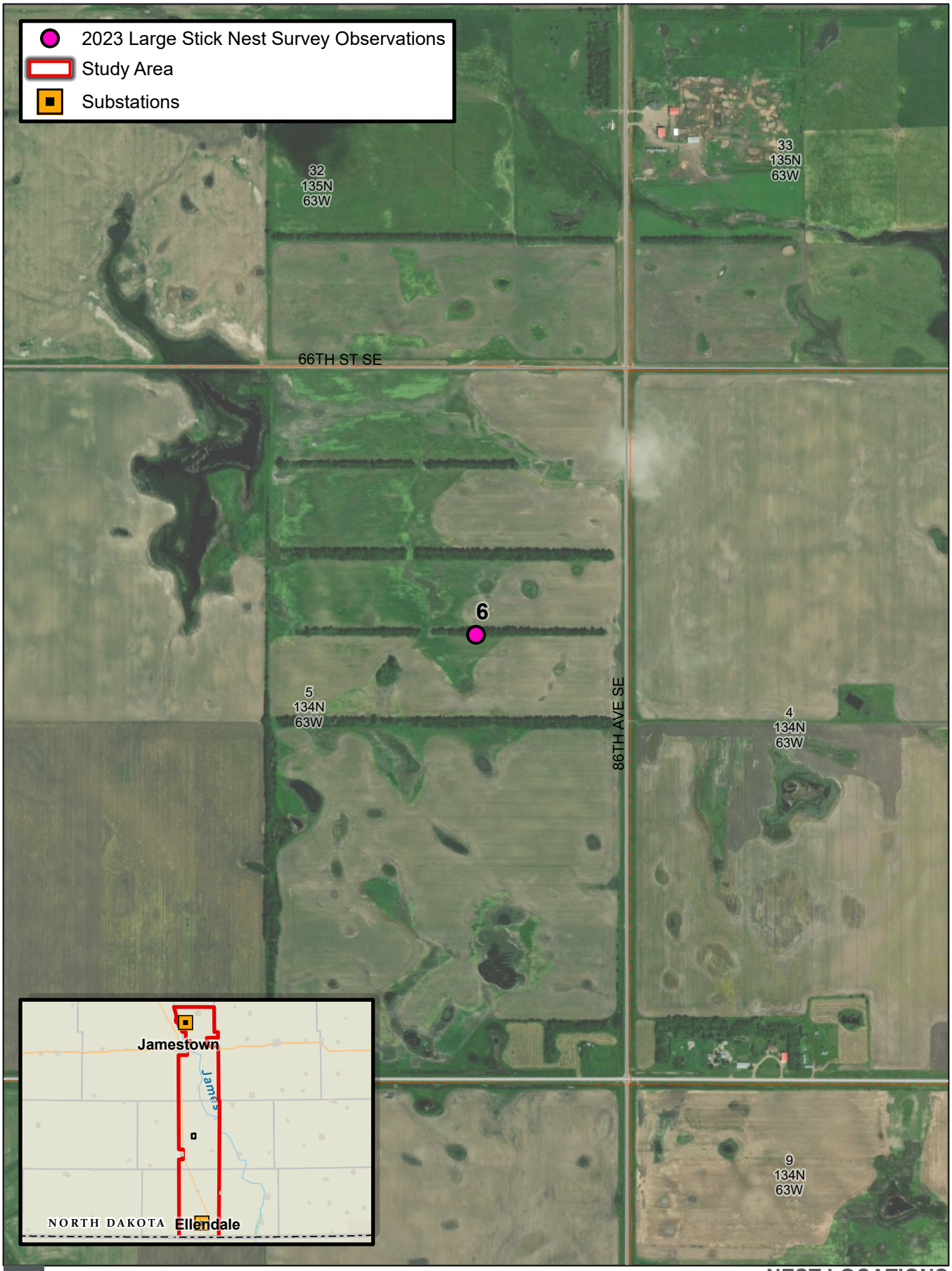
JETX TRANSMISSION LINE | JAMESTOWN TO ELLENDALE
Figure 6



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NEST LOCATIONS
NEST 6
Large Stick Nest Survey

JETX TRANSMISSION LINE | JAMESTOWN TO ELLENDALE
Figure 7

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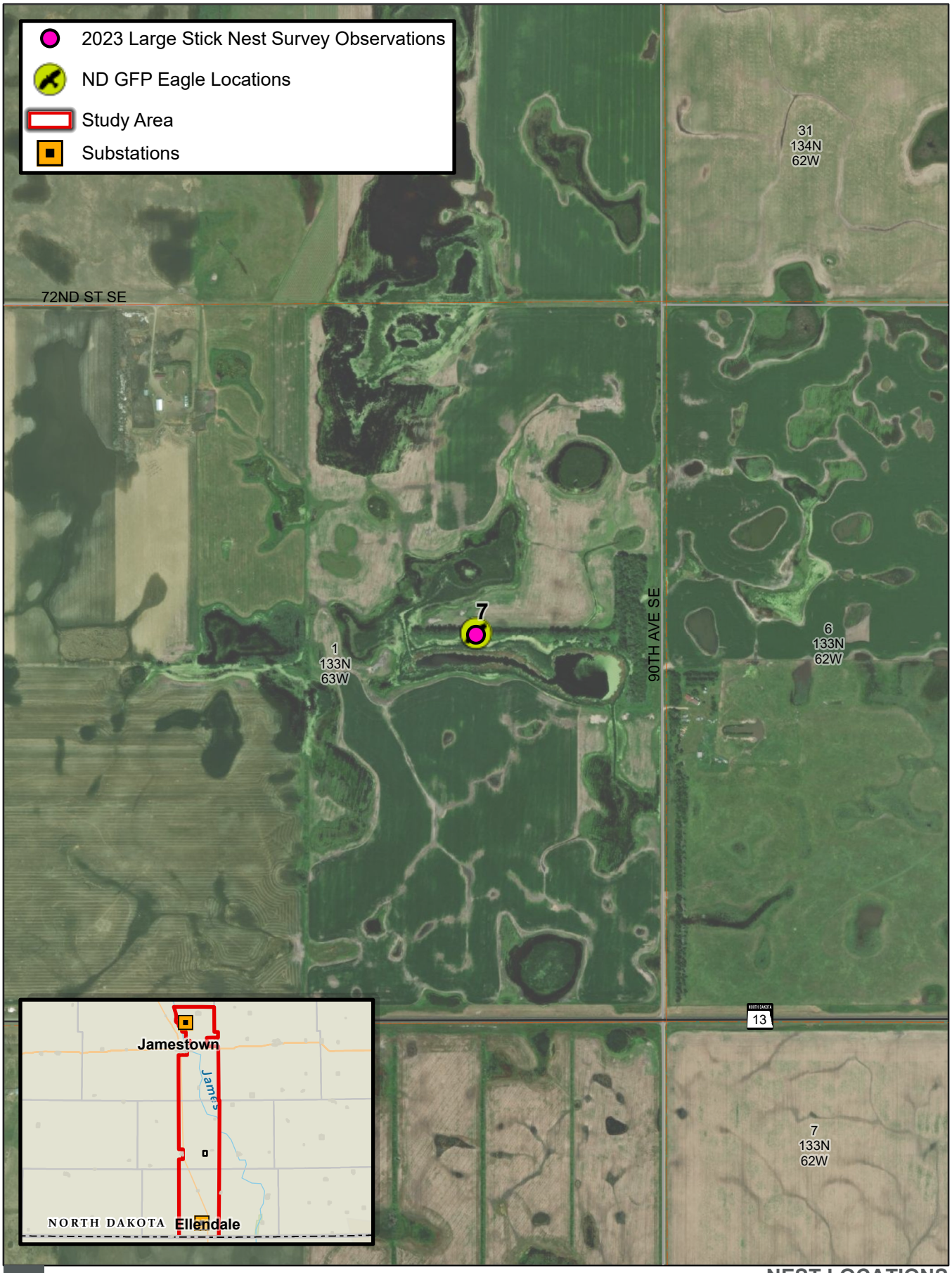

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NEST LOCATIONS
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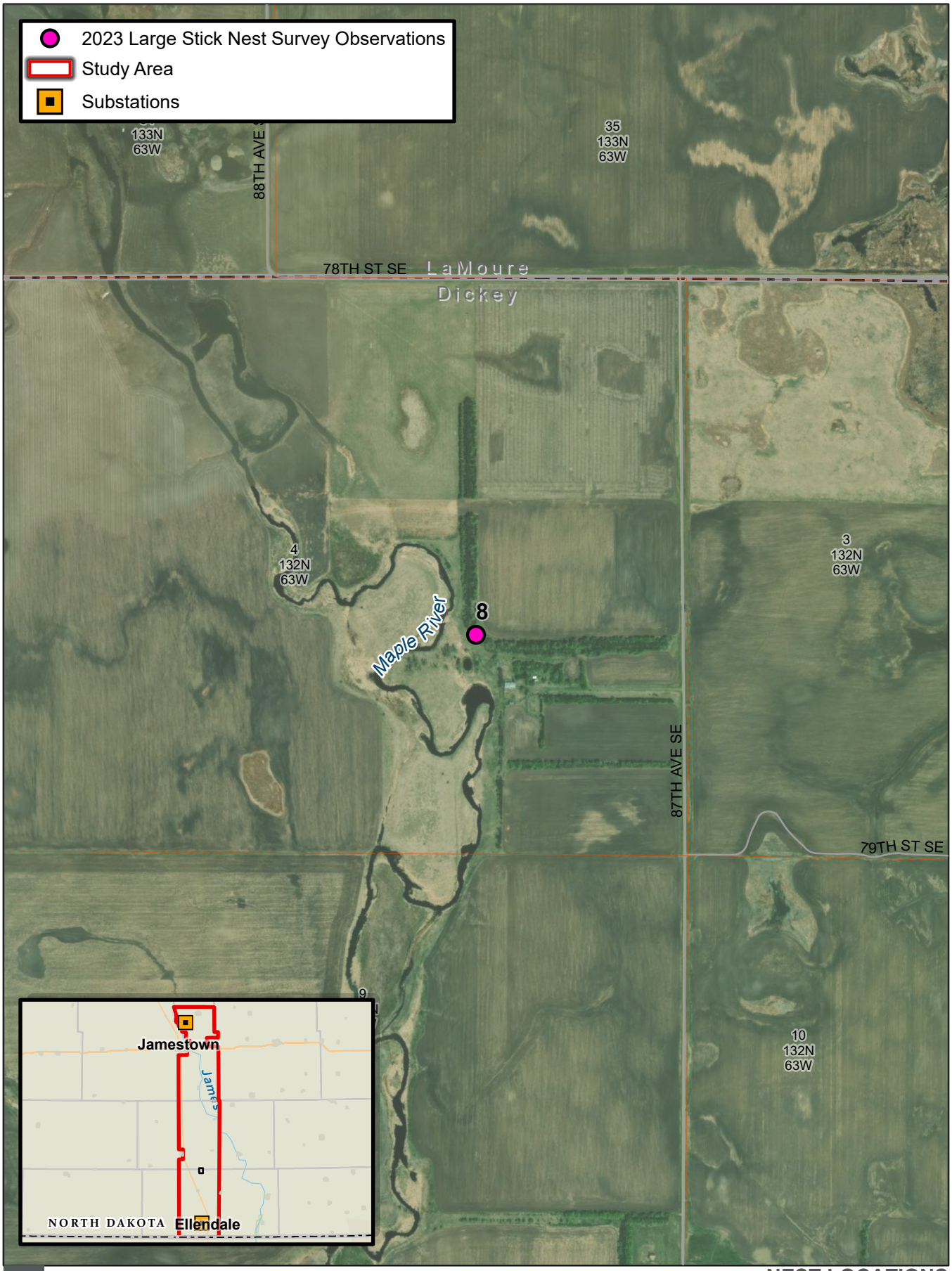
JETX TRANSMISSION LINE | JAMESTOWN TO ELLENDALE
Figure 8



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NEST LOCATIONS
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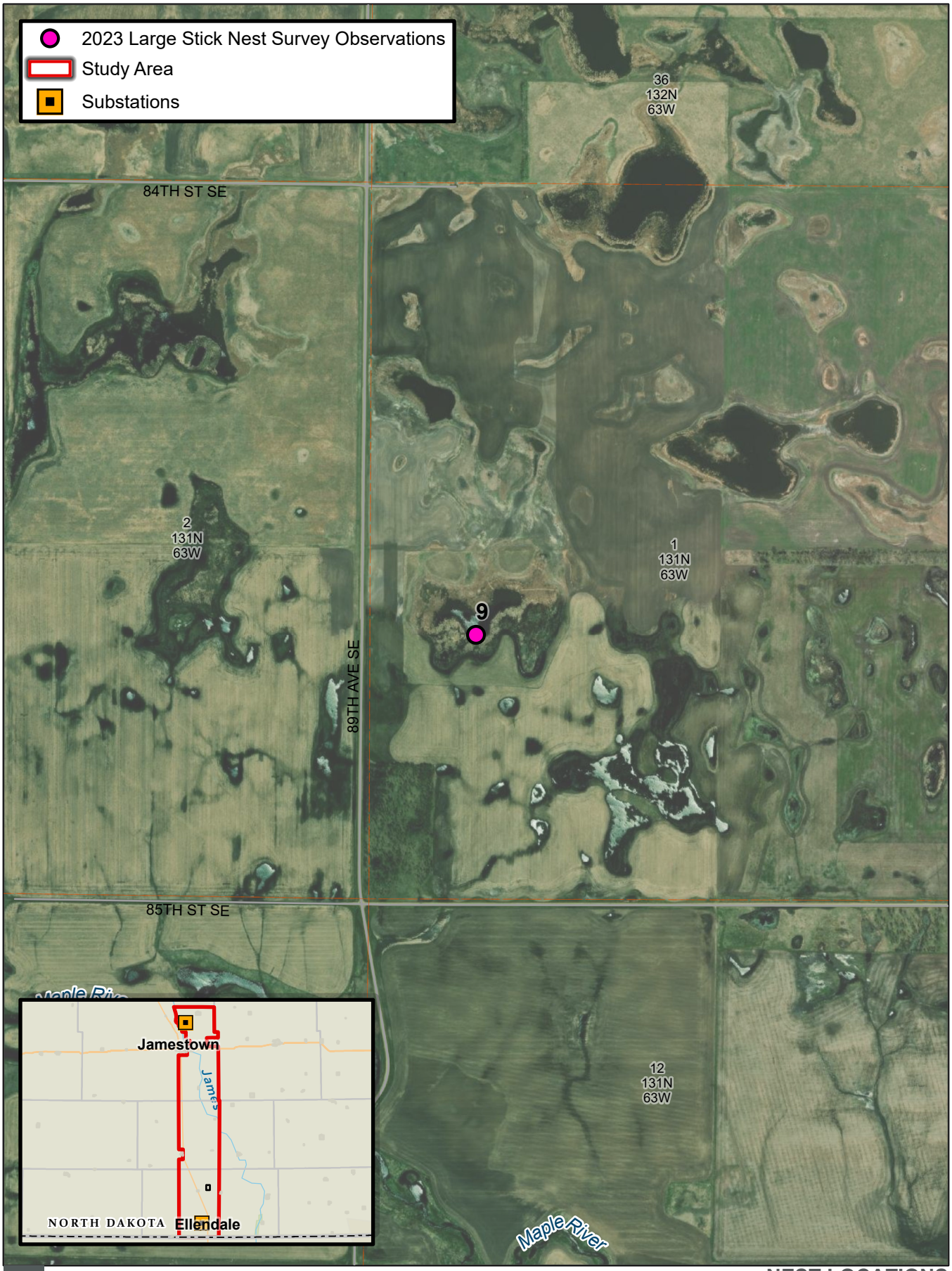
JETX TRANSMISSION LINE | JAMESTOWN TO ELLENDALE
Figure 9



NEST LOCATIONS
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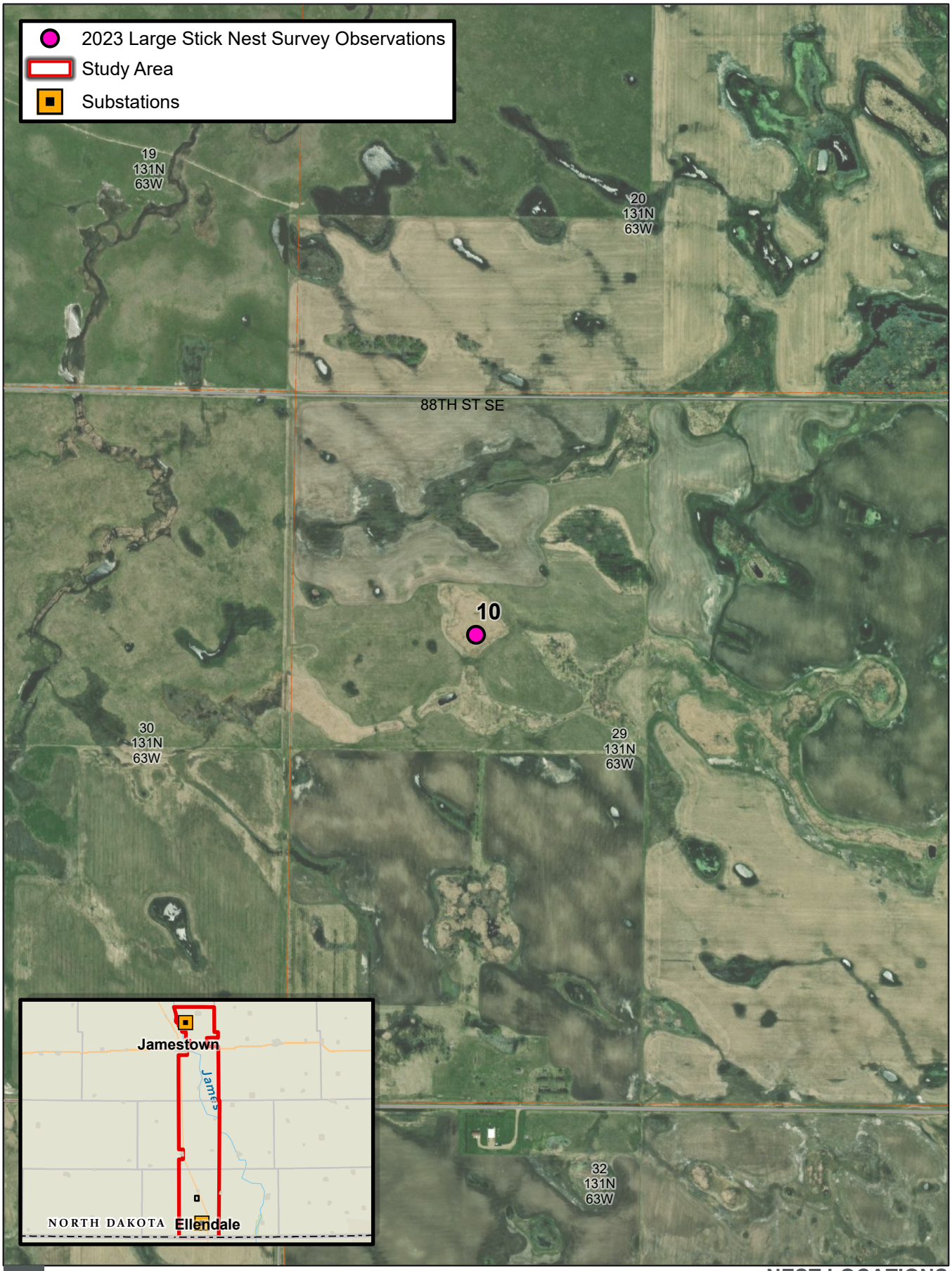
JETX TRANSMISSION LINE | JAMESTOWN TO ELLENDALE
Figure 10



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NEST LOCATIONS
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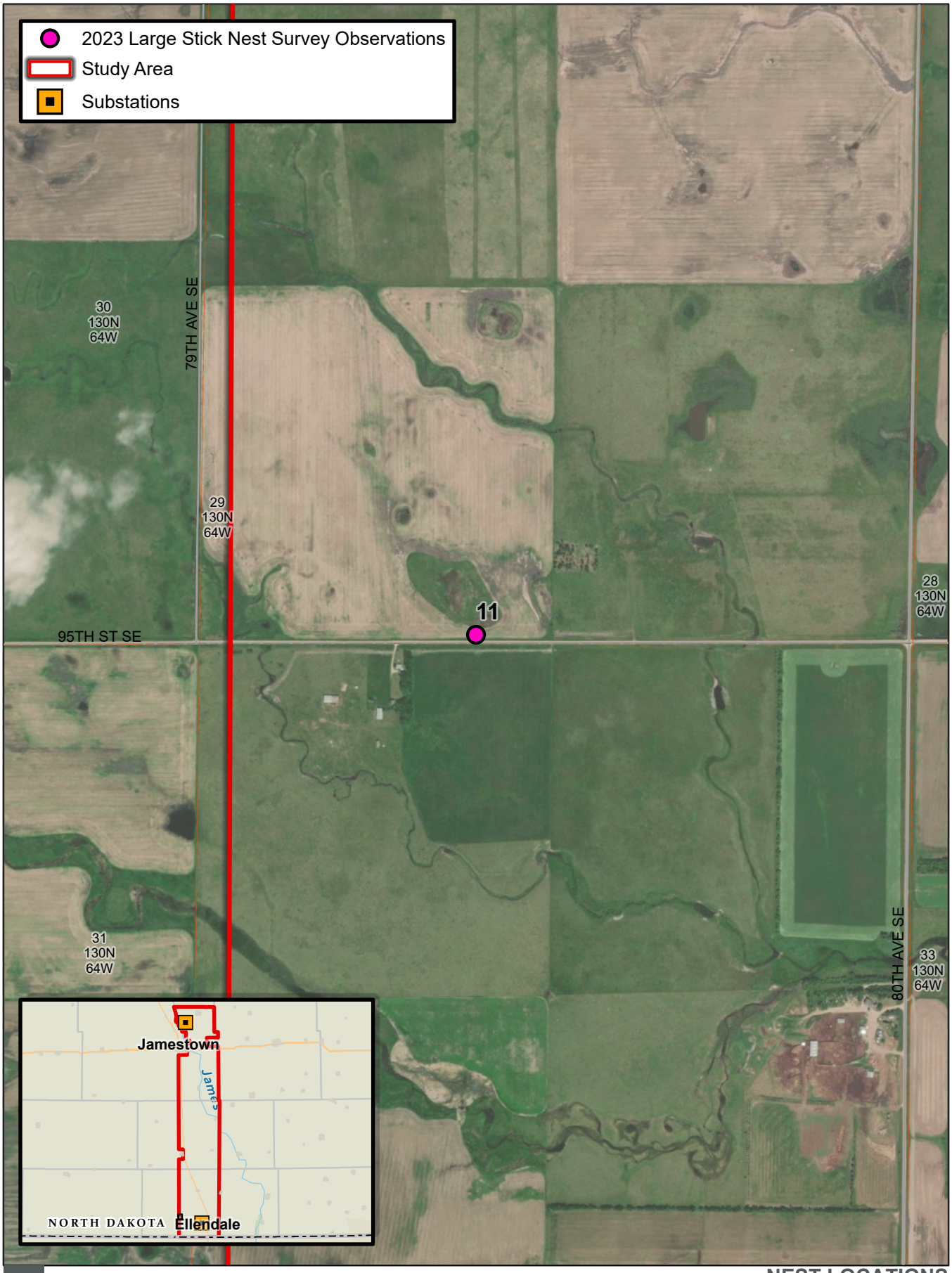
JETX TRANSMISSION LINE | JAMESTOWN TO ELLENDALE

Figure 11

JETx 02026



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NEST LOCATIONS
NEST 11
Large Stick Nest Survey

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JETX TRANSMISSION LINE | JAMESTOWN TO ELLENDALE
Figure 12

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NEST LOCATIONS
NEST 12
Large Stick Nest Survey

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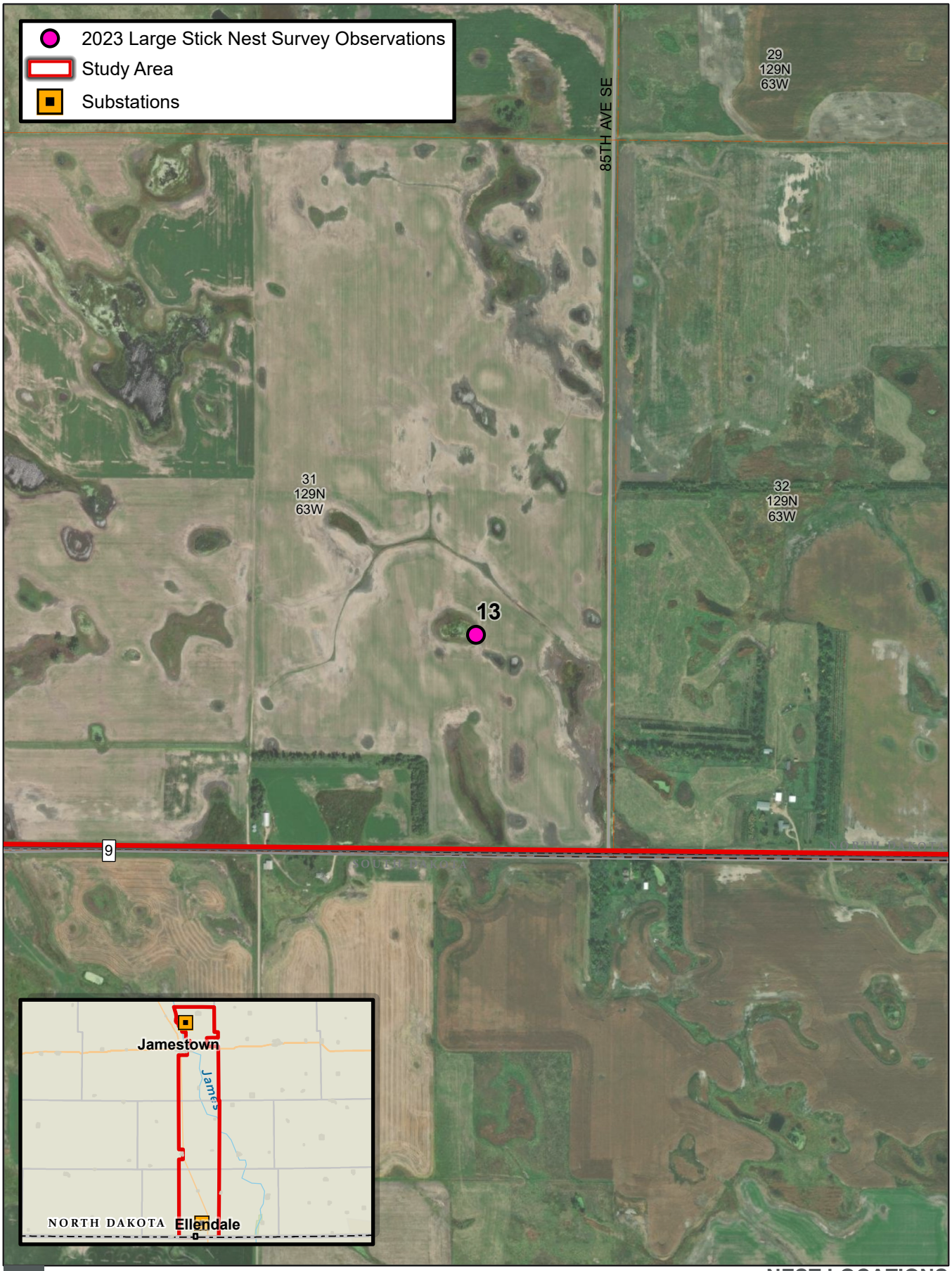
JETX TRANSMISSION LINE | JAMESTOWN TO ELLENDALE
Figure 13



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NEST LOCATIONS
NEST 13
Large Stick Nest Survey

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JETX TRANSMISSION LINE | JAMESTOWN TO ELLENDALE
Figure 14

JETx 02029

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Appendix K2:
Species-Specific Habitat Evaluation and Field Survey Plan and Reporting

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Memo

Date:	Monday, January 22, 2024
Project:	Jamestown to Ellendale 345kv Transmission Line Project (JETx)
To:	U.S. Fish and Wildlife Services (USFWS)
From:	Otter Tail Power Company, Montana-Dakota Utilities, and HDR, Inc.
Subject:	**JETx – Species-Specific Habitat Evaluation and Field Survey Plan and Reporting**

JETx Project – Proposed Species Specific Habitat Evaluation and Field Survey Plan and Reporting

Project Background

Otter Tail Power Company (OTP) and Montana-Dakota Utilities Company (MDU) jointly, (Owners) are partnering to develop, construct, and co-own a new 345-kilovolt (kV) transmission line (Project). The Project will run from an existing substation north of Jamestown, North Dakota to an existing substation northwest of Ellendale, North Dakota.

Northern long eared bat (*Myotis septentrionalis*)

Surveys will map the extent of available maternity/roosting habitat within the proposed route and associated 500 foot (ft) buffer. All trees, regardless of presence/absence of exfoliating bark, but with a minimum of 3 inches diameter at breast height (DBH) will be mapped by polygon or point features using a global navigation satellite system (GNSS) with sub-meter accuracy. Additional consideration to abandoned buildings and other artificial structures which may be suitable roosting habitat for bats will be given and these potential roost sites will be recorded with waypoints.

Dakota skipper (*Hesperia dacotae*)

Surveys will classify and map the extent of potential Dakota skipper (DASK) habitat within the proposed route and associated 500 ft buffer using a GNSS with sub-meter accuracy. Dominant plant species and photographs within the plant communities will be documented for each habitat type. Habitats will be classified into three categories:

1. **Suitable habitat** – defined as native grassland which contains one or more primary elements to complete the entire skipper life cycle, including: reproduction, feeding/foraging, and sheltering behaviors. [e.g., Little bluestem (*Schizachyrium scoparium*) dominated hillside with native forbs such as purple prairie coneflower (*Echinacea purpurea*)].

2. **Dispersal habitat** – defined as grasslands which lack primary elements to complete the entire skipper life cycle. (e.g., Smooth brome (*Bromus inermis*) dominated grassland lacking nectar forbs suitable for Dakota skipper).
3. **Unsuitable habitat** – Includes everything which is not classified as Suitable or Dispersal habitats. (e.g., cultivated cropland, forested areas, and wetlands).

Monarch Butterfly (*Danaus plexippus*)
Areas identified as potentially suitable habitat for Dakota skipper will also be evaluated for Monarch butterflies within the proposed route and associated 500 ft buffer. Additional areas to be evaluated as potential Monarch butterfly habitat may include areas not suitable for Dakota skipper, but still containing native forbs such as milkweed species (*Asclepias spp.*), wild bergamont (*Monarda fistulosa*), blazing stars (*Liatris spp.)* asters (*Aster spp.*), coneflowers (*Echinacea spp.*) and goldenrods (*Solidago spp.*) and other nectar sources such as flowering woody shrubs [e.g. common lilac (*Syringa vulgaris*)]. These areas will be mapped using a GNSS with sub-meter accuracy. Photographs will be taken and dominant plant species within the plant community will be documented.

Piping Plover (*Charadrius melodus*)
There is no critical habitat for Piping plover within the study area. During aquatic resource field delineations, notes on habitat type, characteristics, and location will be recorded if potentially suitable habitat is observed within the proposed route and associated 500 ft buffer. Incidental observations of Piping plover while in the field will be documented.

Rufa red knot (*Calidris canutus rufa*)
There is no critical habitat for Rufa red knot within the study area. During aquatic resource field delineations, notes on habitat type, characteristics, and location will be recorded if potentially suitable habitat is observed within the proposed route and associated 500 ft buffer. Incidental observations of Rufa red knot while in the field will be documented.

Whooping crane (*Grus americana*)
The Project is outside the Whooping crane migratory corridor. Potentially suitable areas within the proposed route and associated 500 ft buffer will be identified during the aquatic resources field delineation. Incidental observations of Whooping crane while in the field will be documented.

Bald and Golden Eagles
Nest location data from the previous stick nest survey completed in May 2023 will be utilized during initial routing and micro-siting efforts. An updated survey will be completed for the proposed route and associated half-mile buffer during the primary eagle nesting season (3rd week of April – end of May) in the year prior to construction (tentatively, 2025).

Migratory Birds
The primary nesting season for migratory birds in North Dakota is February 1 – July 15. Surveys for nesting migratory bird species will be completed within the proposed route and associated 500 ft buffer for any construction activities during the primary nesting period. Rope dragging

techniques will be conducted to locate, identify, monitor, and avoid nest locations of grassland nesting migratory bird species. Nest locations will be recorded using a GNSS with sub-meter accuracy.

Reporting

2023 Stick Nest Survey Report
Windshield surveys for the presence of large stick nests were completed May 1-5, 2023. Three out of four previously recorded nests as provided by the North Dakota Game and Fish and ten new nests were located. The report will be appended to the 2024 Habitat Summary Report.

Species-specific Field Survey Plan
This memo services as the Species-specific Habitat Evaluation Plan.

2024 Habitat Evaluation Summary Report
Aquatic resource field delineations will be completed in spring-summer 2024. During this time, qualified field biologists will also evaluate habitats for northern long eared bat, Dakota skipper, monarch, piping plover, rufa red knot, and whooping crane habitats. At the completion of field surveys, a Habitat Evaluation Summary Report will be compiled with the 2023 Stick Nest Report appended.

2025 Stick Nest Survey Report
The leaf-out period prior to construction commencing (currently anticipated in late 2025 - early 2026), a stick nest survey will be completed to determine the presence of any new nests.

Migratory Bird Reporting
Migratory bird nest “sweeps” will be conducted immediately prior and no later than two weeks to construction activities where all activities will occur between February 1 – July 15 by a qualified on-site environmental inspector or biologist. These migratory bird sweeps will be documented regularly as they occur using field reporting systems such as Survery123, iForm, or similar on a tablet with photographs, geospatial information, and results of the sweep. If a nest is identified, appropriate buffers and no-work restrictions will be communicated and updated in project mapping. These reports will be available upon request to USFWS or North Dakota Game and Fish, or a summary can be provided annually at the end of the migratory bird nesting period if also requested.

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Appendix K3:
USFWS Concurrence on Habitat Evaluation and Field Survey Plan

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From:	Hanley, Jennifer
To:	Jones, Seth A
Cc:	Toso, Luke B; Scheidecker, Kevin J.; Thoma, Mark; McDonald, Andy; Voth, Jaden; Peterson, Monica; Brazeal, Alex; Flege, Adam; Robinson, Tina Fricke; Weiers, Jason; Langston, Todd
Subject:	FW: [EXTERNAL] RE: JETx USFWS Meeting Summary_20240122
Date:	Wednesday, February 7, 2024 11:50:00 AM

Seth,

Thank you for concurrence with the survey plan! We'll talk as a team and we'll let you know what we decide to do with the regal fritillary.

Jen

Jennifer Hanley, PE*
D 701.353.6139

hdrinc.com/follow-us

*MN, ND, SD, MT and TX

From: Jones, Seth A <seth_jones@fws.gov>
Sent: Wednesday, February 7, 2024 10:41 AM
To: Hanley, Jennifer <Jennifer.Hanley@hdrinc.com>
Cc: Toso, Luke B <luke_toso@fws.gov>
Subject: Re: [EXTERNAL] RE: JETx USFWS Meeting Summary_20240122

Hi Jen,

Sorry for the late response as I have been at conferences and trainings the last few weeks. The habitat survey plan looks good from our perspective. I know we did not mention this is our last discussion but the only other thing I can think to potentially address for habitat surveys would be the regal fritillary. As you may know the species is currently under review for listing. We do not yet have indication of whether it will be listed or when the listing would take place if it is deemed warranted for listing but it is likely to occur in the area of the project. This would be more of a proactive and precautionary approach. The choice to include it in your survey plan is ultimately up to you and your team but I thought I would at least provide you with the information to allow you to make that choice.

The regal fritillary is more of a generalist when it comes to habitat during its adult life stage so habitat surveys already planned for the monarch would be sufficient with the addition of the documentation of violet species during those surveys as violets are necessary for regal fritillary egg laying and larvae feeding.

As mentioned the decision to include it is up to you and your team. If you do decide to include the species please let us know, but either way we believe the habitat survey plan is sufficient

to address the habitat of listed species within the project area. If you have any questions about this information or want to discuss the topic further please let me know.

Best regards,

Seth A. Jones
Fish & Wildlife Biologist
U.S. Fish and Wildlife Service
3425 Miriam Avenue
Bismarck, North Dakota 58501
Office: 701-355-8508
FWS Cell: 701-319-6284
seth_jones@fws.gov

From: Hanley, Jennifer <Jennifer.Hanley@hdrinc.com>
Sent: Friday, February 2, 2024 3:56 PM
To: Jones, Seth A <seth_jones@fws.gov>; Toso, Luke B <luke_toso@fws.gov>
Cc: Flege, Adam <Adam.Flege@hdrinc.com>; Robinson, Tina Fricke <Tina.Robinson@hdrinc.com>; Weiers, Jason <jweiers@otpco.com>; Langston, Todd <tlangston@otpco.com>; Scheidecker, Kevin J. <kscheidecker@otpco.com>; Thoma, Mark <mthoma@otpco.com>; McDonald, Andy <andy.mcdonald@mdu.com>; Voth, Jaden <jaden.voth@mdu.com>; Peterson, Monica <monica.peterson@hdrinc.com>; Brazeal, Alex <Alex.Brazeal@hdrinc.com>
Subject: [EXTERNAL] RE: JETx USFWS Meeting Summary_20240122

Luke/Seth,

Have you had an opportunity to review our plan. If you have any questions or comments, let me know! Otherwise we are looking for your concurrence on what we propose to do out on JETx this spring.

Thanks and have a great weekend!
Jen

Jennifer Hanley, PE*
D 701.353.6139

hdrinc.com/follow-us

*MN, ND, SD, MT and TX

From: Hanley, Jennifer
Sent: Monday, January 22, 2024 12:45 PM
To: Jones, Seth A <seth_jones@fws.gov>; Toso, Luke B <luke_toso@fws.gov>
Cc: Flege, Adam <Adam.Flege@hdrinc.com>; Robinson, Tina Fricke <Tina.Robinson@hdrinc.com>; Weiers, Jason <jweiers@otpco.com>; Langston, Todd <tlangston@otpco.com>; Scheidecker, Kevin J. <kscheidecker@otpco.com>; Thoma, Mark <mthoma@otpco.com>; McDonald, Andy <andy.mcdonald@mdu.com>; Voth, Jaden <jaden.voth@mdu.com>; Peterson, Monica <monica.peterson@hdrinc.com>; Brazeal, Alex <Alex.Brazeal@hdrinc.com>
Subject: JETx USFWS Meeting Summary_20240122

Luke/Seth,

Please find the JETx Species-specific Habitat Evaluation and Field Survey Plan and Reporting memo attached for your concurrence.

If you have any questions or want to discuss further, please let me know.

Thanks,
Jen

Jennifer Hanley, PE*
Environmental Project Manager

HDR
51 North Broadway, Suite 550
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Appendix K4:
Lek Survey Plan and Reporting

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Memo

Date:	Wednesday, March 27, 2024
Project:	Jamestown to Ellendale 345kv Transmission Line Project (JETx)
To:	North Dakota Game and Fish Department (NDGFD)
From:	Otter Tail Power Company, Montana-Dakota Utilities, and HDR, Inc.
Subject:	**JETx – Sharp-tailed grouse (*Tympanuchus phasianellus*) Lek Survey Plan and Reporting**

JETx Project – Sharp-tailed grouse (*Tympanuchus phasianellus*) Lek Survey Plan and Reporting

Project Background

Otter Tail Power Company (OTP) and Montana-Dakota Utilities Company (MDU) jointly (Owners), are partnering to develop, construct, and co-own a new 345-kilovolt (kV) high voltage transmission line (Project). The Project will run from an existing substation north of Jamestown, North Dakota to an existing substation west of Ellendale, North Dakota. A meeting was held between the Owners, HDR, and North Dakota Game and Fish Department (NDGFD) staff on February 27, 2024.

Survey Area

A desktop analysis of available breeding habitat for sharp-tailed grouse [*Tympanuchus phasianellus*; (STGR)] was completed within the proposed route and associated 2-mile (mi) buffer; 1 mile on either side of the route centerline. Utilizing the NDGFD Unbroken Grassland GIS spatial data[1], grassland parcels along the proposed route and associated 2-mile buffer were identified as potential STGR breeding habitat (NDGFD 2014). The Lek Survey Area is defined as all potential STGR breeding habitat within the 2-mile buffer along the proposed route (Figure 1).

Biologists will give survey discretion while in the field to marginal areas that are isolated from other grassland parcels, areas of discrepancy in land cover, or other parcels within the Survey Area with limited access and denote these areas skipped on the survey map.

Survey Methods

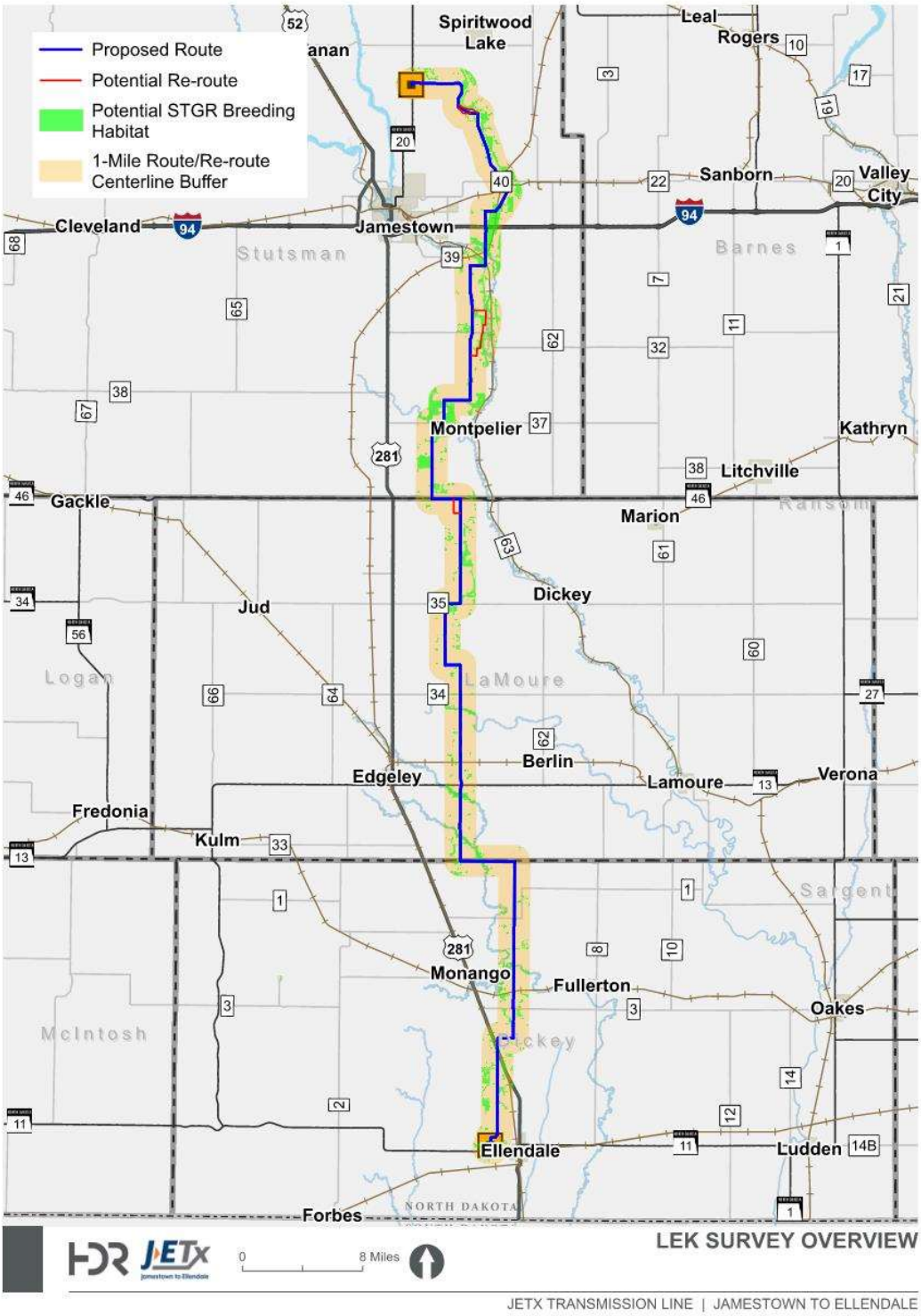
HDR proposes to complete the STGR lek survey using data acquired from the desktop assessment and following guidance from NDGFD.

[1] "NDGISHUB Unbroken Grassland 2014. Available online https://gishubdata-ndgov.hub.arcgis.com/maps/0107971cdc464f009be31cba01e6b97e/explore. As of March 2024, per NDGFD, this is the latest available spatial data for grasslands.

Three rounds of ground-based survey will be conducted along the proposed route and within an associated 2-mile buffer. These surveys will be conducted by an experienced biologist from approximately 45 minutes before sunrise until 2 hours after sunrise and during the primary lek season for prairie grouse (approximately March 15 to May 15). Surveys will be conducted via publicly accessible roads, and private field roads where permission has been granted by landowners, with listening stops at approximately every half-mile surrounding potential STGR breeding habitat. Surveys will be conducted on mornings with clear weather conditions suitable for survey (no precipitation and calm winds less than 15 mph).

Data on weather, time, activity, and number of males, females, and unknown individuals will be recorded as well as the location of listening stops and observed leks within the Survey Area. Surveys are planned for spring of 2024 and spring of 2025, the season prior to construction.

Figure 1. JETx Sharp-tailed grouse Lek Survey Area in Stutsman, LaMoure, and Dickey counties, North Dakota.



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Appendix K5:
NDGFD Concurrence on Lek Survey Plan and Reporting

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From:	Kolar, Jesse L.
To:	Hanley, Jennifer; Mueller, Elisha K.
Cc:	Scheidecker, Kevin J.; Thoma, Mark; McDonald, Andy; Voth, Jaden; Peterson, Monica; Brazeal, Alex; Flege, Adam; Langston, Todd; Weiers, Jason
Subject:	Re: JETx NDGF Lek Survey Meeting Summary and Survey Plan_20240327
Date:	Monday, April 1, 2024 2:24:17 PM

I read through those and that looks good to me also. Thanks for sending that out for review!

Jesse

From: Hanley, Jennifer <Jennifer.Hanley@hdrinc.com>
Sent: Monday, April 1, 2024 10:37 AM
To: Mueller, Elisha K. <ekmueller@nd.gov>; Kolar, Jesse L. <jlkolar@nd.gov>
Cc: Scheidecker, Kevin J. <kscheidecker@otpco.com>; Thoma, Mark <mthoma@otpco.com>; McDonald, Andy <andy.mcdonald@mdu.com>; Voth, Jaden <jaden.voth@mdu.com>; Peterson, Monica <monica.peterson@hdrinc.com>; Brazeal, Alex <Alex.Brazeal@hdrinc.com>; Flege, Adam <Adam.Flege@hdrinc.com>; Langston, Todd <tlangston@otpco.com>; Weiers, Jason <jweiers@otpco.com>
Subject: RE: JETx NDGF Lek Survey Meeting Summary and Survey Plan_20240327

Thank you Elisha!

Jennifer Hanley, PE*
D 701.353.6139

hdrinc.com/follow-us

*MN, ND, SD, MT and TX

From: Mueller, Elisha K. <ekmueller@nd.gov>
Sent: Monday, April 1, 2024 11:26 AM
To: Hanley, Jennifer <Jennifer.Hanley@hdrinc.com>; Kolar, Jesse L. <jlkolar@nd.gov>
Cc: Scheidecker, Kevin J. <kscheidecker@otpco.com>; Thoma, Mark <mthoma@otpco.com>; McDonald, Andy <andy.mcdonald@mdu.com>; Voth, Jaden <jaden.voth@mdu.com>; Peterson, Monica <monica.peterson@hdrinc.com>; Brazeal, Alex <Alex.Brazeal@hdrinc.com>; Flege, Adam <Adam.Flege@hdrinc.com>; Langston, Todd <tlangston@otpco.com>; Weiers, Jason <jweiers@otpco.com>
Subject: RE: JETx NDGF Lek Survey Meeting Summary and Survey Plan_20240327

open attachments unless you recognize the sender and know the content is safe.

Hi Jen,

Apologies for the delay, we had some time off for the holiday. Everything looks good to me. Jesse may be out surveying this morning, so he might need until the afternoon to speak up if he has any concerns. I doubt he will though, so if you don't hear anything by this afternoon, you are all set.

Thanks for checking in.

Elisha

From: Hanley, Jennifer <Jennifer.Hanley@hdrinc.com>
Sent: Monday, April 1, 2024 8:14 AM
To: Mueller, Elisha K. <ekmueller@nd.gov>; Kolar, Jesse L. <jlkolar@nd.gov>
Cc: Scheidecker, Kevin J. <kscheidecker@otpco.com>; Thoma, Mark <mthoma@otpco.com>; McDonald, Andy <andy.mcdonald@mdu.com>; Voth, Jaden <jaden.voth@mdu.com>; Peterson, Monica <monica.peterson@hdrinc.com>; Brazeal, Alex <Alex.Brazeal@hdrinc.com>; Flege, Adam <Adam.Flege@hdrinc.com>; Langston, Todd <tlangston@otpco.com>; Weiers, Jason <jweiers@otpco.com>
Subject: RE: JETx NDGF Lek Survey Meeting Summary and Survey Plan_20240327

Elisha,

We are planning to start surveys this week. Have you had an opportunity to review the revised Lek survey plan sent on 3/27/2024? If so, does NDGF concur with the plan?

Thanks,
Jen

Jennifer Hanley, PE*
D 701.353.6139

hdrinc.com/follow-us

*MN, ND, SD, MT and TX

From: Hanley, Jennifer
Sent: Wednesday, March 27, 2024 8:24 AM
To: Mueller, Elisha K. <ekmueller@nd.gov>; Kolar, Jesse L. <jlkolar@nd.gov>
Cc: Scheidecker, Kevin J. <kscheidecker@otpco.com>; Thoma, Mark <mthoma@otpco.com>; McDonald, Andy <andy.mcdonald@mdu.com>; Voth, Jaden <jaden.voth@mdu.com>; Peterson, Monica <monica.peterson@hdrinc.com>; Brazeal, Alex <Alex.Brazeal@hdrinc.com>; Flege, Adam <Adam.Flege@hdrinc.com>; Langston, Todd <tlangston@otpco.com>; Weiers, Jason

<jweiers@otpco.com>
Subject: JETx NDGF Lek Survey Meeting Summary and Survey Plan_20240327

Elisha/Jesse,

Thank you again for taking the time to meet with us yesterday. Attached you will find a summary of our meeting and our updated Lek survey plan. We would appreciate your concurrence with the plan.

Our team plans to get out to the corridor next week Wednesday to scout for potential listening stops for the first morning of survey, planned for Thursday, April 4.

Below is the tentative lek survey schedule:

Round 1: April 4-8

Round 2: April 17-22

Round 3: May 1-6

Please let us know if you have any questions!
Jen

Jennifer Hanley, PE*
Senior Environmental Project Manager

HDR
51 North Broadway, Suite 550
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Appendix K6:
Sharp-Tailed Grouse Lek Survey Memo

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Memo

Date:	Friday, June 14, 2024
Project:	Jamestown to Ellendale 345kv Transmission Line Project (JETx)
To:	Otter Tail Power Company and Montana-Dakota Utilities Co.
From:	HDR
Subject:	**Survey Results: JETx – Sharp-tailed grouse (*Tympanuchus phasianellus*) Lek Survey Memo**

Survey Results: JETx Project – Sharp-tailed grouse (*Tympanuchus phasianellus*) Lek Survey Memo

Introduction

Otter Tail Power Company (OTP) and Montana-Dakota Utilities Co. (Montana-Dakota) jointly (Owners), are partnering to develop, construct, and co-own a new 345-kilovolt (kV) high voltage transmission line (Project). The Project will run from an existing substation north of Jamestown, North Dakota to an existing substation west of Ellendale, North Dakota.

Portions of the Project are located within suitable breeding habitat for sharp-tailed grouse (*Tympanuchus phasianellus*). In springtime, the sharp-tailed grouse congregate in this habitat where the males display to attract mates, these congregations are known as leks. The Owners contracted HDR to complete sharp-tailed grouse lek surveys for the Project to avoid and minimize impacts to the species and its associated habitats. On March 27, 2024, the Owners and HDR met with the North Dakota Game and Fish Department (NDGFD) to discuss surveying for sharp-tailed grouse leks along the proposed route. A survey plan was submitted to NDGFD and approved on April 1, 2024.

Survey Area

The Project traverses from the Jamestown 345kV Substation in Stutsman County, North Dakota, to the Ellendale 345kV Substation in Dickey County, North Dakota (Figure 1). The proposed route is approximately 95 miles[1] long.

Utilizing the NDGFD Unbroken Grassland GIS spatial data[2], grassland areas along the proposed route and associated 2-mile buffer (Survey Area) were analyzed and areas to survey for potential sharp-tailed grouse breeding habitat were identified (NDGISHUB 2014). This desktop analysis resulted in approximately 15,575 acres (ac) of potentially suitable breeding habitat within the Survey Area.

[1] Proposed route as of June 2024.
[2]As of March 2024, per NDGFD, this is the latest available spatial data for grasslands.

Survey Methods

HDR completed three rounds of ground-based lek surveys within the Survey Area between April 4th – 6th, April 17th – 20th, and May 3rd, May 4th and May 9th, 2024, using data acquired from the desktop assessment and following guidance and survey methods from NDGFD (NDGFD 2021), as approved in the survey plan.

Lek surveys were conducted by an experienced biologist from approximately 45 minutes before sunrise until 2 hours after sunrise and during the primary lek season for sharp-tailed grouse (approximately March 15 to May 15). Surveys were conducted via publicly accessible roads and private field roads where permission has been granted by landowners, with listening stops at approximately every half-mile surrounding potential sharp-tailed grouse breeding habitat. At listening stops, biologists completed a visual scan using binoculars and spotting scopes while simultaneously listening for auditory cues of breeding grouse.

Surveys were conducted on mornings with clear weather conditions suitable for survey (no precipitation and calm winds less than 20 mph). Data on location, weather, time, activity, and number of males, females, and unknown individual grouse at each lek were recorded. The location of listening stops and observations of individual grouse not at a lek were recorded as well.

Biologists gave survey discretion while in the field to marginal areas that were isolated from other grassland parcels, areas of discrepancy in land cover, or other areas within the Survey Area with limited access and noted these on the survey map.

Lek observations are considered preliminary if male courtship behavior was not observed or was only observed during one of the three survey rounds. Lek observations are considered confirmed if courtship behavior was observed in at least two out of three of the survey rounds. Confirmed leks are given consideration for avoidance and mitigation measures.

Results

HDR biologists recorded (8) observations of individual sharp-tailed grouse and (11) observations of sharp-tailed grouse leks within the Survey Area (Figure 2; Table 1). Of these lek observations, (6) are confirmed active for the 2024 season (Table 1).

A more detailed view of each confirmed lek location can be found in Figures 3 – 8.

Table 1. Confirmed Active Sharp-tailed Grouse Lek locations within the Survey Area in Stutsman, LaMoure, and Dickey counties, North Dakota.

Lek ID	PLSS Coordinates	Peak Number in Attendance
Lek-01	NE ¼ of Section 1, T140N R63W	33
Lek-02	NE ¼ of Section 30, T140N R62W	11
Lek-03	NW ¼ of Section 31, T140N R62W	18
Lek-04	SE ¼ of Section 13, T139N R63W	13
Lek-05	NE ¼ of Section 7, T132N R63W	16
Lek-06	SW ¼ of Section 16, T132N R63W	9

Discussion

Most observations recorded during the lek survey were made in the northern portion of the Project, along Sevenmile Coulee. Following guidance from, and coordination with the NDGFD, seasonal construction restriction dates will be determined, generally March 15 through May 15, and construction will be limited to designated hours when leks are not active (approximately 2-3 hours after sunrise). Construction restrictions are anticipated to be implemented within a 1-mile buffer around active lek locations per NDGFD recommendation. Prior to the start of an active construction year, additional surveys for sharp-tail grouse leks will be conducted each spring to identify leks and avoid impacts to sharp-tailed grouse and their breeding habitat.

Additional mitigation measures may be implemented following consultation with NDGFD.

Literature Cited

NDGFD 2021. Key Wind Energy Development in North Dakota: Best Management Practices. June 2021.

NDGISHUB Unbroken Grassland 2014. Available online https://gishubdata-ndgov.hub.arcgis.com/maps/0107971cdc464f009be31cba01e6b97e/explore. Revised 2022.

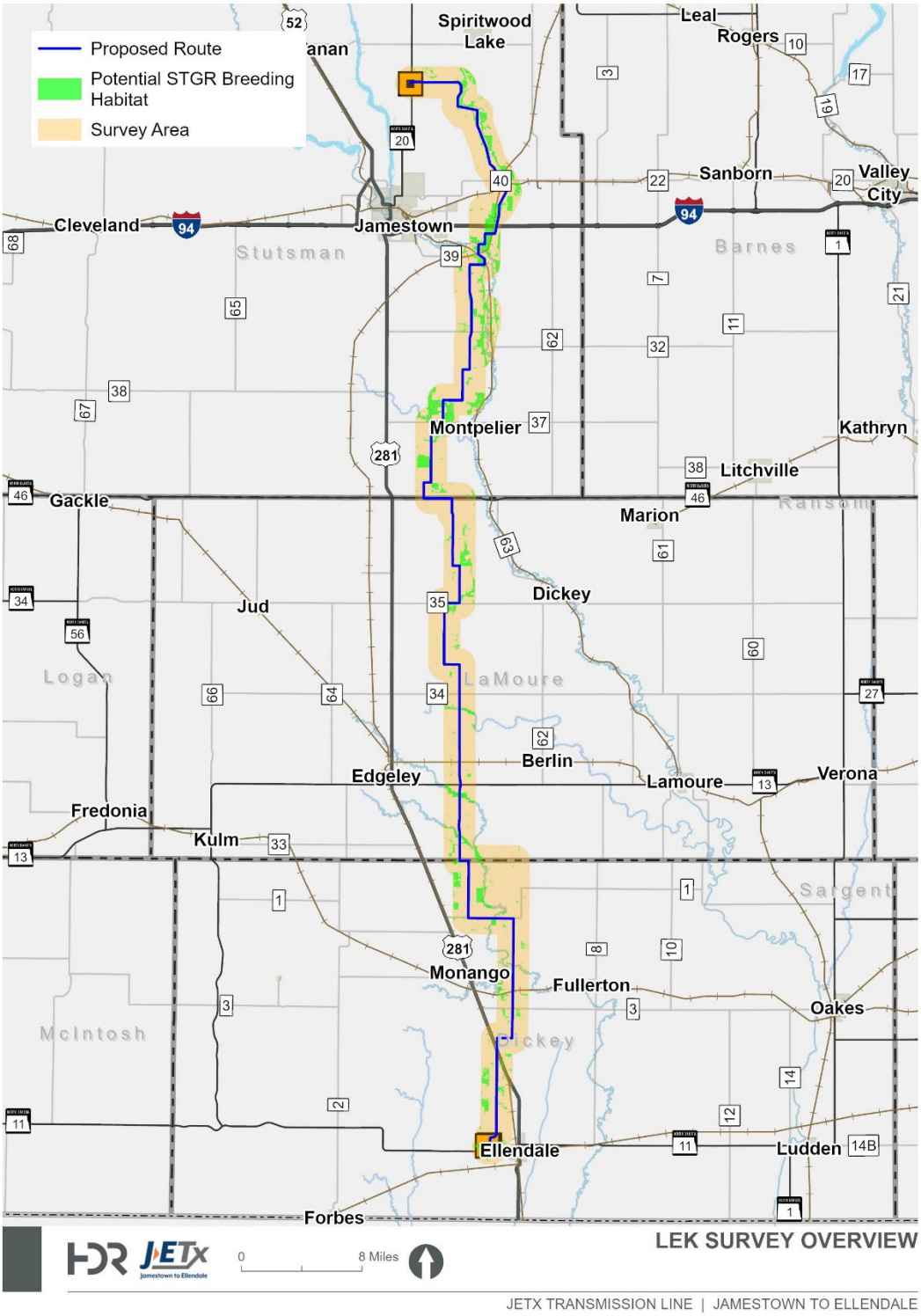

Figure 1. JETx Sharp-tailed grouse lek Survey Area in Stutsman, LaMoure, and Dickey counties, North Dakota.

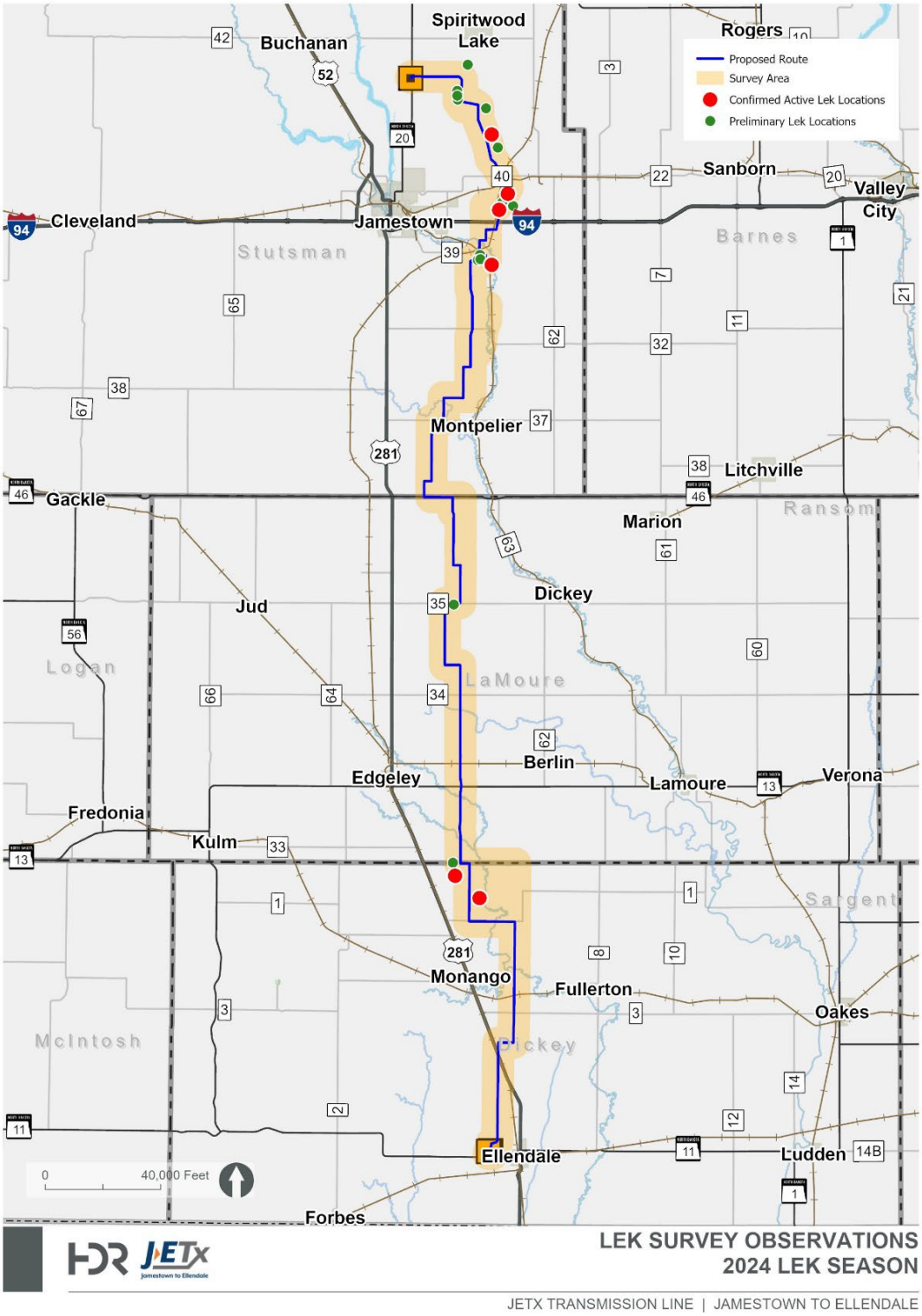

Figure 2. Results of the Sharp-tailed grouse lek survey completed from April to May, 2024.

Figure 3. Location of Lek-01 in the JETx Sharp-tailed grouse Survey Area.

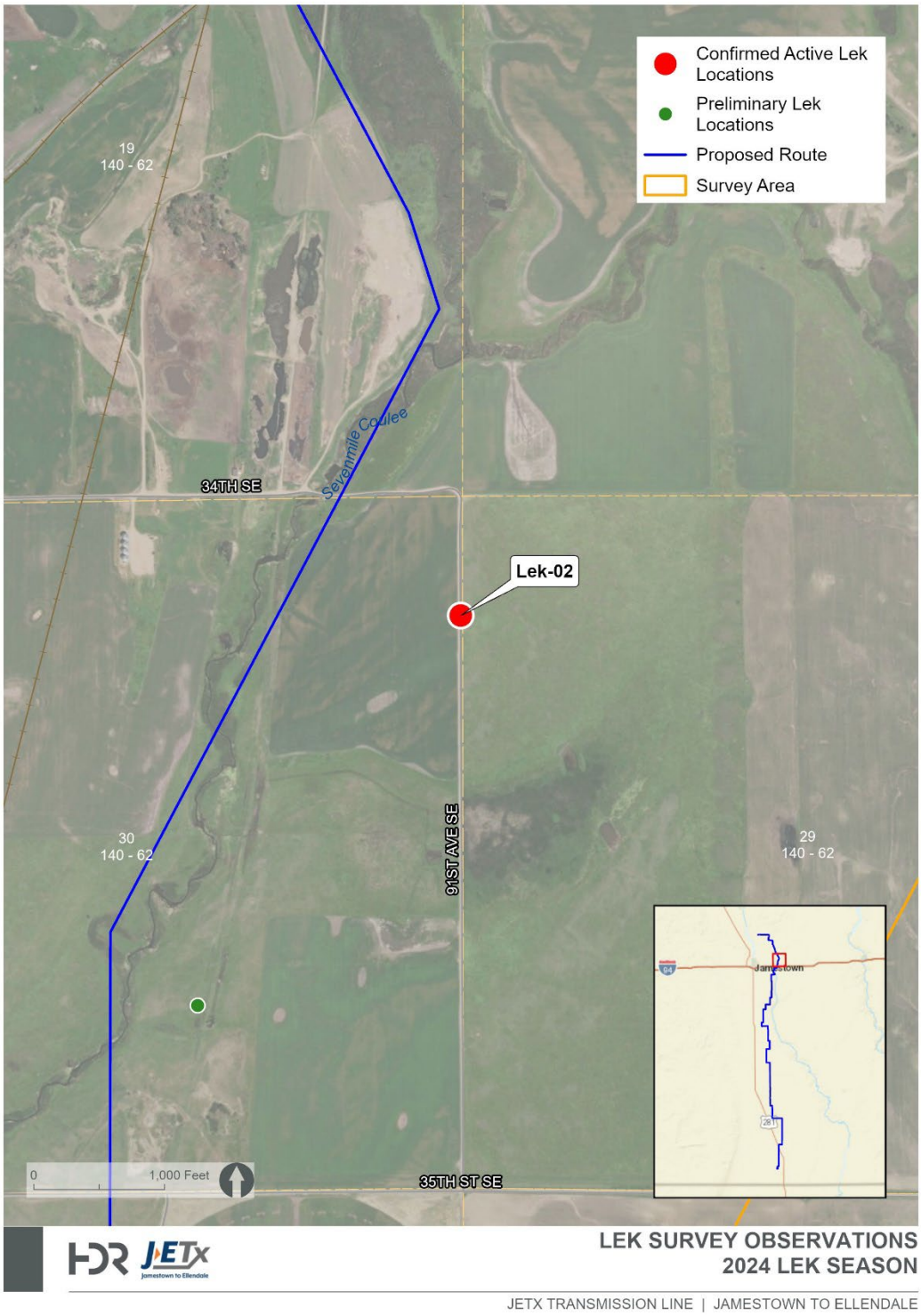

Figure 4. Location of Lek-02 in the JETx Sharp-tailed grouse Survey Area.

Figure 5. Location of Lek-03 in the JETx Sharp-tailed grouse Survey Area.

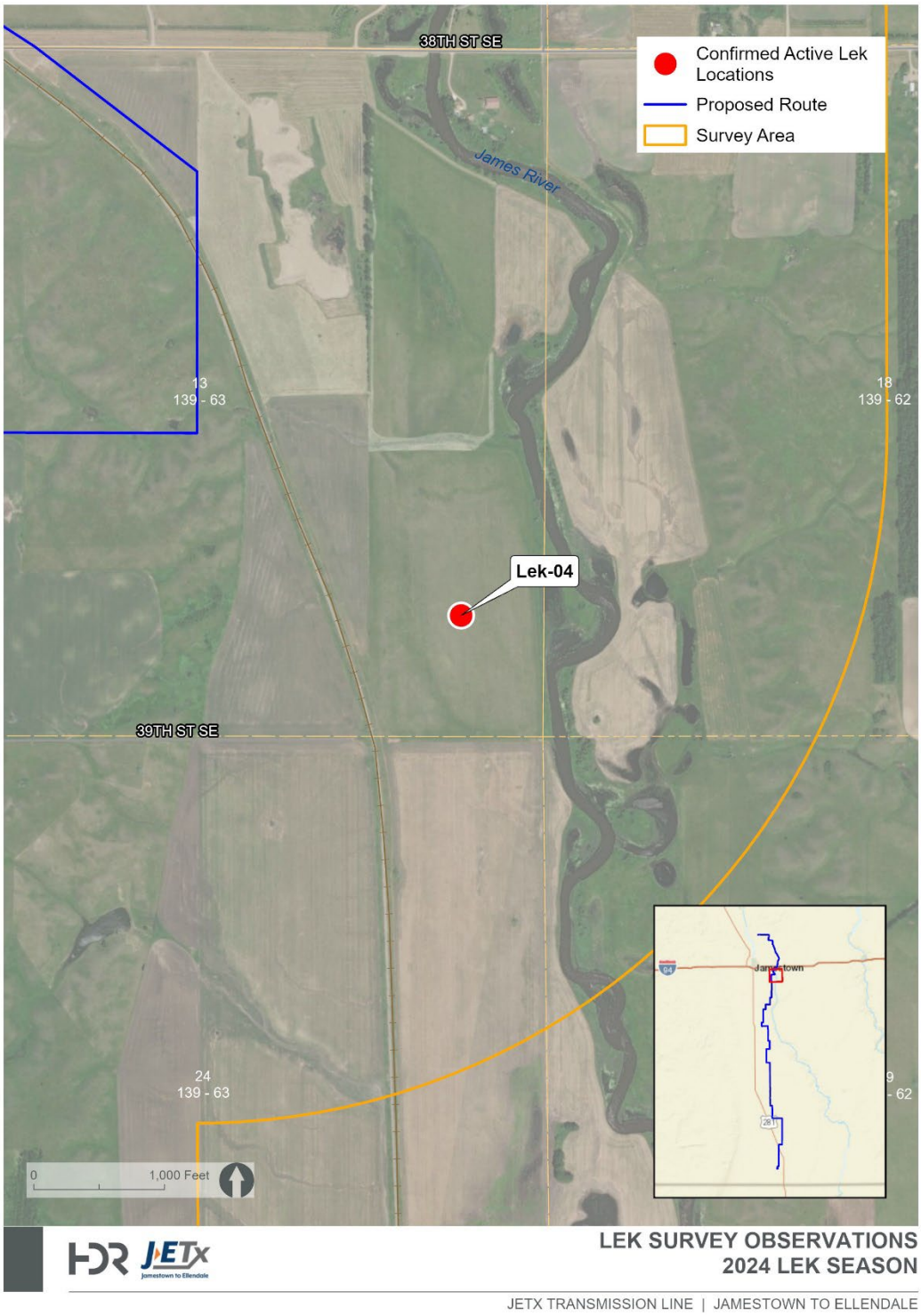

Figure 6. Location of Lek-04 in the JETx Sharp-tailed grouse Survey Area.

Figure 7. Location of Lek-05 in the JETx Sharp-tailed grouse Survey Area.

Figure 8. Location of Lek-06 in the JETx Sharp-tailed grouse Survey Area.

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Appendix K7:
Cover Letter to USFWS for Habitat Evaluation Report

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December 12, 2024

US Fish and Wildlife Service – North Dakota Ecological Field Office
3425 Miriam Avenue
Bismarck, ND 58501-7926

Otter Tail Power Company (OTP) and Montana-Dakota Utilities Co. (MDU) jointly, (Owners) are partnering to develop, construct, and co-own a new 345-kilovolt (kV) transmission line (Project). The Project will run from an existing substation north of Jamestown, North Dakota to an existing substation northwest of Ellendale, North Dakota.

In February 2024, the Owners received concurrence from USFWS for survey plans to identify threatened and endangered (T&E) species habitat within a 500-foot Survey Area. HDR biologists, on behalf of the Owners, conducted field habitat evaluations from May to September 2024 for seven T&E species identified to have potential to occur within the Project. Additional analysis of identified whooping crane stopover habitat was completed for the Project in October 2024.

The Survey Area totaled approximately 5,556.5-acres, crossing Stutsman, LaMoure, and Dickey counties, North Dakota. The habitat evaluations (field surveyed and desktop analysis where right of entry has not been granted) identified 111.77 acres of suitable habitat for northern long-eared bat (NLEB), 21.58 acres of suitable reproductive habitat for Dakota skipper (DASK), 6.48 acres of suitable habitat for monarch butterfly (Monarch), and 112.66 acres of suitable stopover habitat for whooping crane across 142 wetland areas. Suitable habitat was not found within the Study Area for piping plover or rufa red knot, and no incidental observations of either species occurred during field surveys.

We respectfully submit this T&E habitat evaluation report for your review and consideration, and if you have any feedback, we would appreciate hearing back from you within 30 days of receipt of this letter. This report includes a combination of field surveyed data and desktop analysis. Areas which were not granted Right of Entry were analyzed through desktop analysis. As detailed in the report, the data gathered by this evaluation will be utilized during project planning for avoidance, minimization, and mitigation efforts of the evaluated threatened and endangered species.

If you have any questions or comments, please feel free to contact me at 701-353-6139 or jennifer.hanley@hdrinc.com.

Sincerely,

Jennifer Hanley

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Enclosures

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Appendix K8:
Threatened & Endangered Species Habitat Evaluation Report

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Threatened & Endagered Species Habitat Evaluation Report

Jamestown to Ellendale 345kV
Transmission Line Project

Stutsman, LaMoure, and Dickey counties
North Dakota

December 10, 2024

Study Participants

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Executive Summary

Otter Tail Power Company (OTP) and Montana-Dakota Utilities, Co. (Montana-Dakota) jointly, (Owners) are partnering to develop, construct, and co-own a new 345-kilovolt (kV) transmission line (Project) in Stutsman, LaMoure, and Dickey counties, North Dakota. The Owners contracted HDR to assess the presence and extent of suitable habitat for threatened or endangered (T&E) species with potential to occur within the Project. The seven T&E species identified with potential to occur within the Survey Area are:

- Northern long eared bat (*Myotis septentrionalis*)
- Dakota skipper (*Hesperia dacotae*)
- Monarch butterfly (*Danaus Plexippus*)
- Piping plover (*Charadrius melodus*)
- Rufa red knot (*Calidris canutus rufa*)
- Whooping crane (*Grus americana*)
- Western regal fritillary (*Speyeria idalia)*

Survey plans were developed following US Fish and Wildlife Service (USFWS) regional species-specific guidance and approved by the North Dakota USFWS Ecological Services Field Office in February 2024. HDR biologists conducted field habitat evaluation for seven T&E species along the route and within an associated 500-foot (ft) buffer of the centerline (Survey Area). Field habitat evaluations were completed from May to September 2024. A desktop evaluation was completed for areas that were not able to be field evaluated. Additional analysis of identified whooping crane stopover habitat was completed for the Project in October 2024.

Approximately 111.77 acres of suitable habitat were identified and mapped for northern long-eared bat. Suitable habitat for Dakota skipper within the Survey Area totaled approximately 21.58 acres. Field evaluations for monarch butterfly resulted in approximately 6.48 acres of suitable habitat for the species. There were no areas of suitable habitat identified within the Survey Area for piping plover or rufa red knot and there were no incidental observations of either species during field surveys. The field habitat evaluation resulted in 142 wetlands potentially suitable for whooping crane stopover habitat, covering approximately 112.66 acres of wetlands within the Survey Area. Additional analysis of whooping crane stopover habitat using the Niemuth model and near analysis predicts that approximately 42 percent of the Project is located within 400 meters of areas with relatively high probability of use by whooping cranes.

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1 Introduction

Otter Tail Power Company (OTP) and Montana-Dakota Utilities Co. (Montana-Dakota) jointly, (Owners) are partnering to develop, construct, and co-own a new 345-kilovolt (kV) transmission line (Project). The Project, also referred to herein as the JETx project, will run from an existing substation north of Jamestown, North Dakota to an existing substation west of Ellendale, North Dakota.

The US Fish and Wildlife Service (USFWS) administers the Endangered Species Act (ESA), which grants protection for species federally listed as threatened or endangered (T&E) and their associated habitats. An endangered species is one in danger of extinction throughout all or a significant portion of its range. A threatened species is one likely to become endangered in the foreseeable future. Critical habitat for T&E species can be designated if that habitat includes specific areas that are occupied by a species at the time of listing or unoccupied areas that are considered essential to the conservation of a species. Candidate listed species receive no statutory protection from the USFWS until they are formally listed. A Proposed Threatened species has been determined by the service that the species is likely to become endangered and listing is warranted.

Twelve species are federally listed in North Dakota, and the USFWS Information for Planning and Consultation (IPaC) tool indicated that six T&E species could potentially occur within the 150-foot (ft) Project Corridor (USFWS 2024). Where consultation has been needed for identifying protected species with potential to occur in the Project Corridor, the Owners received concurrence on survey plans with USFWS in February 2024. The western regal fritillary (*Speyeria idalia*) has been determined Proposed Threatened by USFWS since original consultation with the North Dakota Ecological Services Field Office. Subsequent consultation with the North Dakota Ecological Services Field Office on this species identified that areas with suitable habitat for monarch butterfly (*Danaus plexippus*) would also be given consideration for the western regal fritillary. The Owners contracted HDR to assess the presence and map the extent of suitable habitat for T&E species within a 500-ft Survey Area. Surveys were conducted, where access was allowed, from May through September 2024.

The seven T&E species that could potentially occur within the Project Corridor are shown in Table 1 below.

Table 1: List of T&E species that could potentially occur within the Project Corridor.

Common Name	Scientific Name	Status
Northern long-eared bat	*Myotis septentrionalis*	Endangered
Dakota skipper	*Hesperia dacotae*	Threatened
Monarch butterfly	*Danaus plexippus*	Candidate
Piping plover	*Charadrius melodus*	Threatened
Rufa red knot	*Calidris canutus rufa*	Threatened
Whooping crane	*Grus americana*	Endangered
Western regal fritillary	*Speyeria idalia*	Proposed Threatened

2 Survey Area

Habitat evaluations were conducted along the Route and within an associated 500-ft buffer of centerline for a total area of approximately 5,556.5-acre (ac) (Survey Area; Figure 1).

Figure 1. Project Location of the JETx Survey Area in Stutsman, LaMoure, and Dickey counties, North Dakota.

2.1 Eco-Region Description

The Survey Area is within the Northern Glaciated Plains Level III Ecoregion. The Northern Glaciated Plains Ecoregion is characterized by a flat to gently rolling landscape composed of glacial drift. The subhumid conditions foster a grassland transitional between tall and shortgrass prairie. High concentrations of temporary and seasonal wetlands create favorable conditions for waterfowl nesting and migration. Because of the productive soil and level topography, this ecoregion is almost entirely cultivated, with many wetlands drained or tilled and planted. The prairie grasses have been largely replaced by fields of row crops and hay fields (USFS 1994).

2.2 Land Cover within the Survey Area

Within the Survey Area, land cover and land use is primarily agricultural. According to the National Land Cover Database (NLCD), approximately 63.4 percent of the Survey Area is cultivated crops and approximately 18.2 percent of the Survey Area is hay/pastureland. Areas of herbaceous vegetation make up approximately 6.9 percent of the Survey Area and emergent herbaceous wetlands account for approximately 5.1 percent of the Survey Area. Developed, open space is minimal, accounting for approximately 4.4 percent of the Survey Area (USGS 2022). All other land cover types each account for less than one percent of the Survey Area (Table 2, Appendix A).

Table 2. Land cover types within the JETx Survey Area in Stutsman, LaMoure, and Dickey counties, North Dakota.

NLCD Land Cover Category	Acres	Percent in Corridor
Cultivated Crops	3,521.2	63.4%
Hay/Pasture	1,010.9	18.2%
Herbaceous	383.7	6.9%
Emergent Herbaceous Wetlands	281.8	5.1%
Developed, Open Space	244.7	4.4%
Open Water	48.0	0.9%
Developed, Low Intensity	24.5	0.4%
Deciduous Forest	22.8	0.4%
Developed, Medium Intensity	7.3	0.1%
Shrub/Scrub	4.0	0.1%
Woody Wetlands	3.4	0.1%
Barren Land	2.4	<0.1%
Developed, High Intensity	2.0	<0.1%
Total	**5,556.5**	**100.0%**

The cultivated crops commonly grown within the Survey Area include wheat, corn, soybeans, dry beans, canola, flax, sunflowers, barley, and edible beans. Haying and grazing are also a common agricultural practice within the Survey Area.

2.3 Unbroken Grasslands

Unbroken grasslands are often associated with suitable habitat for Dakota skipper (*Hesperia dacotae*). These areas are grasslands that have not been historically tilled and are composed primarily of native grasses, forbs, and legumes.

A desktop analysis utilizing the NDGFD unbroken grasslands data layer indicates there are approximately 958.3 acres[1] of potentially unbroken grasslands within the Survey Area (NDGFD 2022). Unbroken grasslands are included in both the hay/pasture and herbaceous NLCD land cover categories.

3 Species Background Information

3.1 Northern long-eared bat (*Myotis septentrionalis*)

The Northern long-eared bat (NLEB), is a wide-ranging, federally endangered bat species, found in 37 states and 8 provinces in North America and was listed as endangered under the ESA in 2022. The species typically overwinters in caves or mines and spends the remainder of the year in forested habitats. As its name suggests, the NLEB is distinguished by its long ears, particularly as compared to other bats in the genus Myotis (USFWS 2023b). Although there are many threats to the species, their predominant threat is white-nose syndrome. If this disease had not emerged, the NLEB would unlikely be experiencing such a dramatic population decline. White-nose syndrome was the main reason for initially listing the species as threatened under the ESA in 2015. NLEB population numbers, gathered from hibernacula counts, have declined by 97 to 100 percent across the species range (USFWS 2023b).

3.1.1 Suitable Habitat

There are no designated critical habitat or documented hibernacula for NLEB in North Dakota. Suitable habitat for NLEB in North Dakota is often associated with forested areas for summer maternity and roosting activities. The summer maternity and roosting forested habitat is defined by trees with a minimum diameter at breast height (DBH) of three inches and with exfoliating bark. Additional habitats are found in natural cavities of dead or damaged trees, referred to as dead snags (USFWS 2023b).

3.2 Dakota skipper (*Hesperia dacotae*)

The Dakota skipper is a small butterfly that lives in high-quality mixed and tallgrass prairie. The species experienced a decline coinciding with the conversion and degradation of its prairie habitat and was listed as threatened under the ESA in 2014. A total of 85 to 99 percent of the original tallgrass prairie in the historical range for the Dakota skipper has been lost. This range once included Illinois and Iowa and now occurs in remnants of native mixed and tallgrass prairie in Minnesota, the Dakotas, and southern Canada. The Dakota skipper may survive in areas where grazing or haying occurs and in fact are dependent on habitat that experiences periodic

[1] Unbroken grassland calculations are sourced from NDGFD unbroken grassland layer and are part of both the hay/pasture and herbaceous land cover categories (NDGFD 2022).

disturbance; however, Dakota skipper populations decline when disturbances become too intense (USFWS 2023c).

3.2.1 Suitable Habitat

Critical habitat has been designated for the Dakota skipper. The Project is not located in designated critical habitat. Suitable habitat for Dakota skipper is typically categorized into Type A and Type B Habitats (USFWS 2016a). Type A habitat is characterized as low-wet mesic prairie with little topographic relief that occurs on near-shore glacial lake deposits (Royer et al. 2008). Plant communities in Type A habitat are dominated by native grasses and forbs such as mountain deathcamas (*Anticlea elegans*), bluebell bellflower (*Campanula rotundifolia L*.), and prairie lilies (*Lilium philadelphicum*). Type B habitat often occurs on the western edge of the species range and is characterized by rolling terrain, often found near hill tops and in areas with shallow, rocky soils. Plant communities in Type B habitat are dominated by native warm-season grasses such as little bluestem (*Schizachyrium scoparium*) and green needlegrass (*Nassella viridula*). Type B habitat also typically contains coneflowers [e.g., purple coneflower (*Echinacea angustifolia*)] and asters [e.g., hairy golden aster (*Heterotheca villosa*)] as nectar sources (Royer and Marrone 1992).

3.3 Monarch butterfly (*Danaus Plexippus*)

The monarch butterfly (Monarch) is large and brightly colored and has two sets of wings that span three to four inches. Monarch caterpillars, or larvae, have black, yellow, and white stripes and reach lengths of two inches before metamorphosis. Native to North and South America, Monarchs have since spread to other locations where milkweed and suitable temperatures exist, including Australia, New Zealand, and portions of the Iberian Peninsula. For the eastern North American population, most Monarchs overwinter in oyamel fir tree roosts located in mountainous regions in central Mexico (USFWS 2023d).

On December 17, 2020, the USFWS determined that the monarch butterfly warrants protection under the ESA (USFWS 2023j). However, due to higher-priority listing actions, it has been designated as a candidate species rather than being officially listed or proposed for listing under the ESA (USFWS 2024b).

3.3.1 Suitable Habitat

There is not a designated critical habitat for the monarch butterfly. Monarchs are dependent upon flowering plants, and particularly, various species of milkweed. Adult Monarchs feed on the nectar of a variety of flowers during breeding and migration, but they only lay eggs on milkweed plants (USFWS 2023d). Suitable habitat in North Dakota is often found in areas containing native forbs such as milkweed species (*Asclepias spp.),* wild bergamot (*Monarda fistulosa*), blazing stars (*Liatris spp*.) asters (*Aster spp.),* coneflowers (*Echinacea spp.)* and goldenrods (*Solidago spp.)* and other nectar sources such as flowering woody shrubs [e.g., common lilac (*Syringa vulgaris*)].

3.4 Piping plover (*Charadrius melodus*)

The piping plover is a small migratory shorebird that nests and feeds along coastal sand and gravel beaches in North America. Adult breeding plumage includes a single, black breast band,

which is often incomplete, and a black bar across the forehead. The Northern Great Plains population was listed as threatened in 1985 (USFWS 1986).

The greatest threats to piping plovers are destruction and modification of reservoirs, channelization of rivers, and modification of river flows. The draft revised recovery plan of 2015 also noted additional negative impacts to piping plover from agricultural development, insecticide use (including neonicotinoids), increases in invasive species, and intraspecific aggression that results from increasing densities in population (USFWS 2023e).

3.4.1 Suitable Habitat

The USFWS designated critical habitat for the Northern Great Plains breeding population in 2002 (USFWS 2002). The Project is not located in designated critical habitat. The nearest designated critical habitat to the project is approximately 10 miles away at Arrowwood National Wildlife Refuge (NWR). Primary foraging habitats include sandy mud flats, ephemeral pools, and seasonally emergent seagrass beds with abundant invertebrates (USFWS 2016). In the Northern Great Plains population, nesting habitats are largely associated with sandbars along the Missouri river and the sandy, gravelly shorelines of open water and large reservoirs (NDGFD 2015).

3.5 Rufa red knot (*Calidris canutus rufa*)

The rufa red knot is a stocky, medium-sized shorebird with a relatively short bill and short legs. The face, prominent stripe above the eye, breast, and upper belly are a rich rufous-red with few scattered light-colored feathers mixed in. Traveling more than 9,300 miles from south to north each spring and repeating the trip from north to south each autumn, the rufa red knot is one of the longest-distance migrants in the animal kingdom (USFWS 2023f).

3.5.1 Suitable Habitat

Critical habitat for the rufa red knot was designated in 2023 across 13 coastal states. The Project is not located in designated critical habitat. In the Northern Great Plains, rufa red knots use inland saline lakes as stopover habitat and some information may suggest that freshwater areas such as wetlands and riverine sandbars may warrant evaluation for potential stopover habitat (USFWS 2023f).

3.6 Whooping crane (*Grus americana*)

The whooping crane is North America's tallest bird, standing approximately five feet tall with a wingspan of more than seven feet. Adult plumage is a snowy white with black primary feathers on their wings and a vivid crimson crown. Historically, more than 10,000 whooping cranes once populated North America. Population declines have been caused primarily by shooting individual cranes and by the destruction of habitat in the prairies from agricultural development (USFWS 2007). However, strict legal protection, habitat preservation, captive breeding, and international cooperation between Canada and the United States have helped to promote recovery of the species.

3.6.1 Suitable Habitat

Whooping cranes utilize a wide variety of habitats during breeding, migration, and foraging. Coastal marshes and estuaries, inland marshes, salt marshes, and sand or tidal flats are common areas for wintering whooping cranes. During the migration and breeding season in the northern great plains, whooping cranes can be found in lakes and open ponds, seasonal and temporary wetlands, wet meadows, rivers, pastures, and cultivated crop fields (USFWS 2023g, 2023h).

The US Geological Survey (USGS) have delineated a migration corridor that varies in size and shape across the northern great plains and uses available data on whooping crane locations during migration. This whooping crane migratory corridor is the area where whooping cranes migrate between their breeding grounds at Wood Buffalo National Park in Canada and their wintering grounds at Aransas National Wildlife Refuge in Texas. The Survey Area is located within the 95 percent whooping crane migratory corridor, approximately 53 miles from its eastern edge (USGS 2018).

4 Methodology

4.1 Northern long-eared bat (*Myotis septentrionalis*)

During field surveys, the extent of available maternity/roosting habitat was mapped within the Survey Area. All trees, regardless of the presence or absence of exfoliating bark, which had a minimum of three inches diameter at breast height (DBH) were mapped by polygon or point features using a global navigation satellite system (GNSS) with sub-meter accuracy. Additional consideration to dead snags and abandoned buildings or other artificial or man-made structures which may be suitable roosting habitat for bats were given and these potential roost sites were recorded.

4.2 Dakota skipper (*Hesperia dacotae*)

Field habitat evaluations classified and mapped the extent of suitable Dakota skipper habitat within the Survey Area using a GNSS with sub-meter accuracy. Dominant plant species within the plant communities were photographed and documented for each habitat type. Habitats were classified into three categories:

- Suitable habitat – defined as native grassland which contains one or more primary elements to complete the entire skipper life cycle, including: reproduction, feeding/foraging, and sheltering behaviors [e.g., little bluestem (*Schizachyrium scoparium*) dominated hillside with native forbs such as purple prairie coneflower (*Echinacea purpurea*)]. Includes both Type A and Type B habitat categories.
- Dispersal habitat – defined as grasslands which lack primary elements to complete the entire skipper life cycle (e.g., smooth brome (*Bromus inermis*) dominated grassland lacking forbs suitable for Dakota skipper).
- Unsuitable habitat – defined as all other lands not classified as Suitable or Dispersal habitats (e.g., cultivated cropland, forested areas, and wetlands).

4.3 Monarch butterfly (*Danaus Plexippus*)

Areas identified as potentially suitable habitat for Dakota skipper within the Survey Area were also evaluated for monarch butterflies. Additional areas to be evaluated as potential Monarch habitat included areas not suitable for Dakota skipper, but still containing native forbs such as milkweed species (*Asclepias spp*.), wild bergamot (*Monarda fistulosa*), blazing stars (*Liatris spp.)* asters (*Aster spp.),* coneflowers (*Echinacea spp.)* and goldenrods (*Solidago spp.)* and other nectar sources such as flowering woody shrubs [e.g. common lilac (*Syringa vulgaris*)]. These areas were mapped using a GNSS with sub-meter accuracy. Areas suitable for Monarch were photographed and dominant plant species within the plant community were documented.

4.4 Piping plover (*Charadrius melodus*)

During the field habitat evaluation, notes on habitat type, characteristics, and location of wetlands were recorded if potentially suitable habitat was observed. Field biologists also recorded any incidental observations of piping plover while conducting the habitat evaluations and aquatic resource field delineations.

4.5 Rufa red knot (*Calidris canutus rufa*)

During the field habitat evaluation, notes on habitat type, characteristics, and location were recorded if potentially suitable habitat was observed within the Survey Area. Field biologists also recorded any incidental observations of rufa red knot while conducting the habitat evaluations and aquatic resource field delineations.

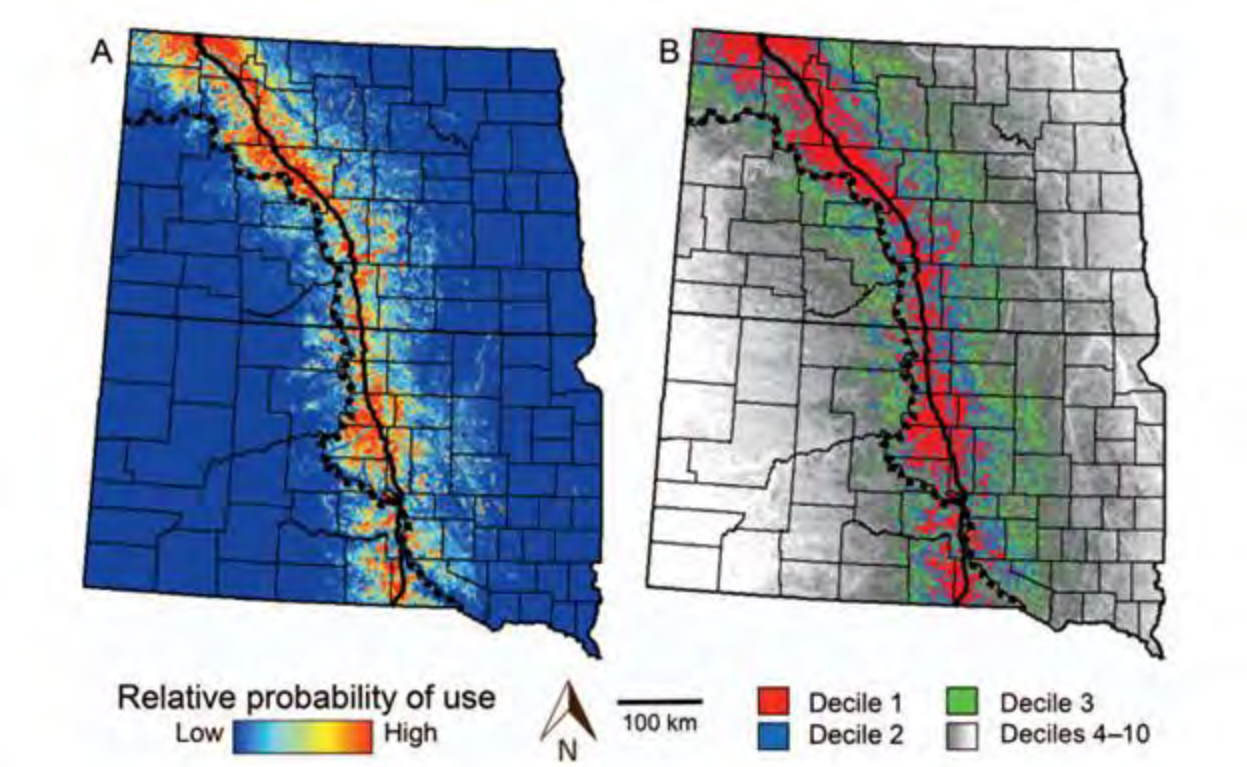
4.6 Whooping crane (*Grus americana*)

4.6.1 Field Survey Habitat Analysis

Wetland areas potentially suitable for whooping crane stopover habitat within the 150-ft right-of-way (ROW) were identified during the aquatic resources field delineation. Field biologists also recorded any incidental observations of whooping crane while conducting the habitat evaluation within the Survey Area.

4.6.2 Niemuth Model Stopover Habitat Analysis

Niemuth et. al (2018) developed a model to predict relative probability of habitat use for whooping cranes at stopover locations in North Dakota and South Dakota (Niemuth Model; [2]Figure 2 (A)). The Niemuth Model considers 12 variables for predicting whooping crane habitat use and is validated using location data from GPS-marked whooping cranes (Niemuth et. al 2018). The Niemuth Model was then used to create a predictive map which shows the relative probability of occurrence as classified into 10 equal-area categories referred to as deciles across North Dakota and South Dakota ([2]Figure 2 (B)).



[2]Figure 2. (A) Predicted relative probability of landscape-level habitat use by migrant whooping cranes in North Dakota and South Dakota, USA; and (B) ranked probability of landscape-level habitat use by migrant whooping cranes in North Dakota and South Dakota.

Deciles 1-4 were selected for this analysis as they contain the greatest relative probability of whooping crane use; 91.1% of the validated whooping crane sightings and 93.3% of the modeled whooping crane sightings (Table 3). The predictive map within Niemuth et al. (2018) was used as the basis for a GIS analysis (i.e., near analysis) to quantify the proportion of the transmission line that is within 400 meters of Deciles 1-4. The 400-meter distance was selected for this analysis following guidance from the Avian Power Line Interaction Committee (APLIC) on placement of power lines (APLIC 2012; Faanes 1987).

[2]Table 3. The number of whooping crane sightings and percentage of sightings in each decile included in the probability map indicating ranked probability of use for whooping crane model building (MB) and validation (VAL) datasets.

	Sightings (n)		Percentage of sightings	
Decile	**MB**	**VAL**	**MB**	**VAL**
1	306	167	64.0	39.1
2	84	98	17.6	23.0
3	34	71	7.1	16.6
4	22	53	4.6	12.4
5	21	18	4.4	4.2
6	1	12	0.2	2.8
7	7	4	1.5	0.9

[2] Source: Niemuth, N.D., A.J. Ryba, A.T. Pearse, S.M. Kvas, D.A. Brandt, B. Wangler, J.E. Austin, and M.J. Carlisle. 2018. Opportunistically Collected Data Reveal Habitat Selection by Migrating Whooping Cranes in the U.S. Northern Plains.

	Sightings (n)		Percentage of sightings	
Decile	MB	VAL	MB	VAL
8	2	2	0.4	0.5
9	0	2	0.0	0.5
10	1	0	0.2	0.0

4.7 Desktop Evaluation

Of the approximately 5,556.5 acres within the Survey Area, there are approximately 1,128.2 acres which have not been field evaluated for T&E species habitat due to lack of Right-Of-Entry (Figure 4). A desktop evaluation utilizing several available background resources has been completed in these areas. A Dakota skipper habitat probability map from USFWS and an unbroken grasslands layer from NDGFD were used to evaluate areas potentially suitable for Dakota skipper and monarch butterfly. NLCD data of these areas was reviewed to identify potential forested habitats for NLEB. Additionally, data from a desktop delineation of aquatic resources was used to identify areas potentially suitable as stopover habitat for piping plover, rufa red knot, and whooping crane.

5 Results and Discussion

5.1 Northern long-eared bat (*Myotis septentrionalis*)

Surveys for suitable NLEB habitat occurred between May and September 2024. The habitat evaluation resulted in a total of 111.77 acres of potential NLEB summer roosting habitat within the Survey Area. Refer to Appendix B for detailed locations of recorded suitable NLEB habitat within the Survey Area. A table of NLEB habitat locations recorded during field habitat evaluation can be found in Appendix C. There are no known designated critical habitat or hibernacula for NLEB in North Dakota and the species is unlikely to collide with the transmission line during the brief spring and fall migration periods. Tree removal should be minimized to the extent feasible. Where tree removal is required, to reduce potential impacts to NLEB and following guidance from USFWS, the Owners should limit the period of tree removal to the suggested tree removal period (November 1 to April 14). Due to the limited summer roosting habitat within the Survey Area and mitigation to remove trees outside of the roosting/maternity season, the short migration periods, and no known hibernacula in North Dakota, permanent impacts to the NLEB are not anticipated.

5.2 Dakota skipper (*Hesperia dacotae*)

A plant community-based habitat evaluation was completed within the Survey Area between May and September 2024 to identify suitable habitat. The habitat evaluation resulted in a total of 21.58 acres of suitable reproductive Dakota skipper habitat within the Survey Area. Refer to Appendix D for detailed locations of recorded suitable Dakota skipper habitat within the Survey Area. A table of Dakota skipper habitat locations recorded during field habitat evaluation can be found in Appendix E.

There is no designated critical habitat within the Survey Area or within the counties crossed by the Project. There is risk of temporary impacts from construction activities to the Dakota skipper

during the species' primary flight season (June 10 – July 25). To minimize potential impacts to the Dakota skipper, construction activities, including movements of vehicles and crews, and staging of equipment within suitable reproductive Dakota skipper habitat, should be avoided.

5.3 Monarch butterfly (*Danaus Plexippus*)

A plant community-based habitat evaluation was completed within the Survey Area between May and September 2024. The habitat evaluation resulted in a total of 6.48 acres of suitable Monarch habitat within the Survey Area. Refer to Appendix F for detailed locations of recorded monarch butterfly habitat within the Survey Area. A table of Monarch habitat locations recorded during field habitat evaluation can be found in Appendix G**.**

As the monarch butterfly is a candidate species, there is no designated critical habitat. There is risk of temporary impacts from construction activities to the monarch butterfly. To minimize potential impacts to the monarch butterfly, construction activities, including movements of vehicles and crews and staging of equipment within suitable Dakota reproductive skipper habitat and identified suitable monarch butterfly habitat, should be avoided.

5.4 Piping plover (*Charadrius melodus*)

A habitat evaluation was completed within the Survey Area between May and September 2024. No potential piping plover habitat was identified within the Survey Area. There were no incidental observations of piping plover during habitat evaluations.

The nearest designated critical habitat for piping plover is located approximately 10 miles from the Survey Area and within Arrowwood NWR. The Project is also located outside of the Alkali Lakes Core Area, an area identified by NDGFD as a Key Area for the species in North Dakota (NDGFD 2015). Due to the lack of habitat, it is unlikely that the piping plover will occur within the Survey Area and collision risk is low for the species.

5.5 Rufa red knot (*Calidris canutus rufa*)

A habitat evaluation was completed within the Survey Area between May and September 2024. No potential rufa red knot habitat was identified within the Survey Area. There were no incidental observations of rufa red knots during habitat evaluations.

There is no designated critical habitat or known stopover habitat for the rufa red knot identified within the Survey Area. Moreover, observations of rufa red knot are rare in North Dakota (NDGFD 2015) and there is no designated critical habitat in North Dakota. Due to its rare occurrence in North Dakota and lack of available habitat within the Survey Area, no impacts to rufa red knot are anticipated.

5.6 Whooping crane (*Grus americana*)

5.6.1 Field Survey Habitat Analysis

A habitat evaluation was completed within the ROW between May and September 2024. The habitat evaluation resulted in a total of 142 stopover habitat areas accounting for approximately 112.66 acres of potential habitat within the ROW. There were no incidental observations of

whooping cranes during habitat evaluations. Refer Appendix H for detailed locations of recorded whooping crane habitat within the Survey Area. A table of wetlands suitable for whooping crane stopover habitat can be found in Appendix I.

5.6.2 Niemuth Model Stopover Habitat Analysis

Additional analysis of identified whooping crane stopover habitat was completed for the Project in October 2024. The Niemuth Model and predictive map were applied to the Project and near analysis was completed for the highest use deciles; Deciles 1-4. The near analysis resulted in approximately 42 percent of the Project located within 400 meters of Deciles 1-4 (Figure 3; Table 4).

Table 4. Results of the near analysis for the JETx Project in Stutsman, LaMoure, and Dickey counties, North Dakota.

Distance Category (Meters from Decile 1-4)	T-Line Length (Feet)	Proportion of Project (%)
0	106,512	22%
1-400	95,011	20%
>400	279,532	58%
Total	481,056	100%

No critical habitat has been designated in North Dakota and the Project is located within the 95 percent whooping crane migration corridor, approximately 53 miles from the Corridor's eastern edge (USGS 2018). Based on the field survey and Niemuth Model, there is potential whooping crane stopover habitat within the ROW, and although whooping crane have been documented to avoid powerline infrastructure, there is potential collision mortality risk associated with the Project (USGS 2021). The Owners should follow guidelines from the Avian Power Line Interaction Committee (APLIC) through the design, construction, operation, and maintenance of the Project to minimize potential impacts from collisions. APLIC guidelines include the use of bird flight diverters in key areas to provide visibility and minimize collision risks for whooping cranes and other avian species.

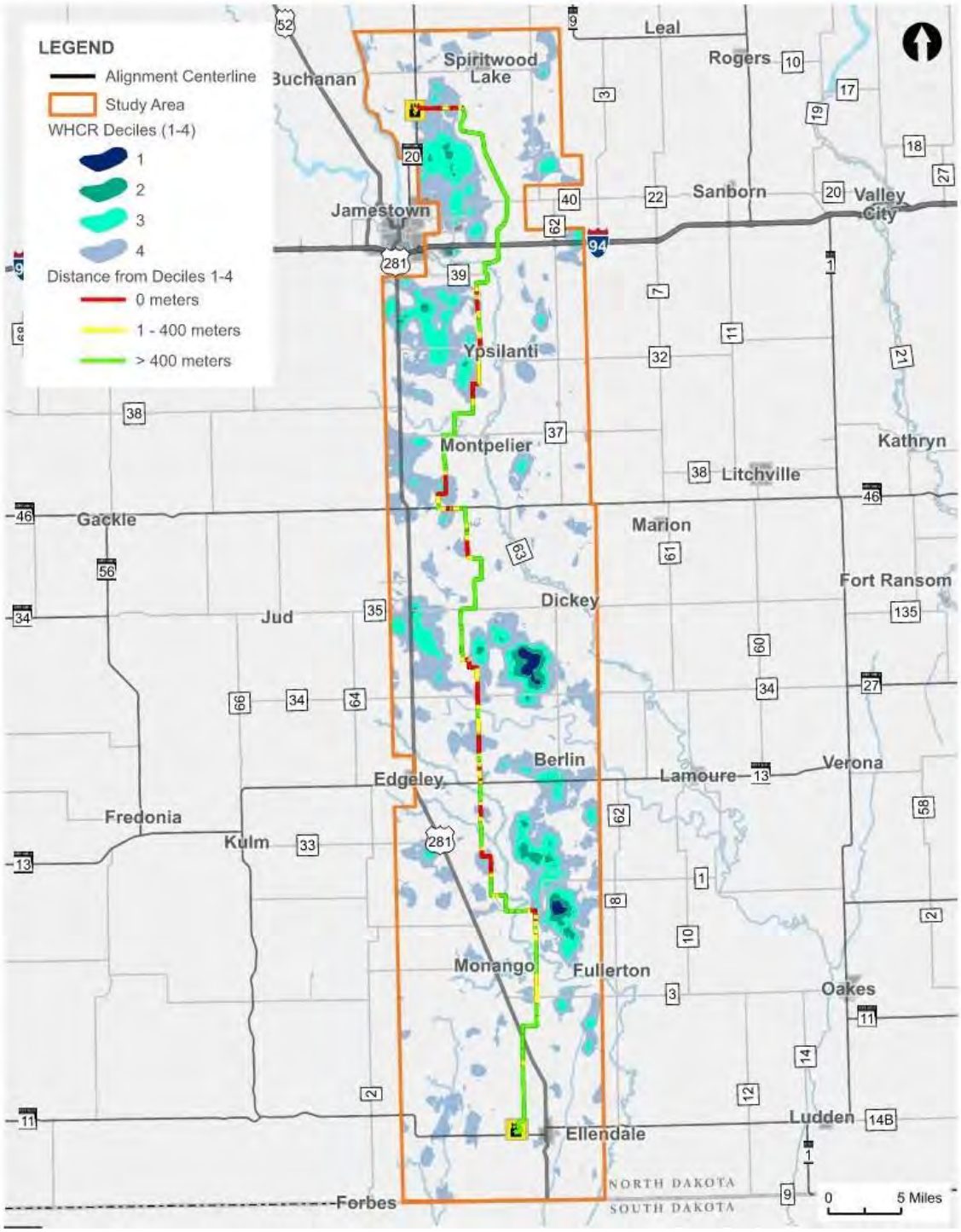


Figure 3. Location of the JETx Project in Stutsman, LaMoure, and Dickey counties, North Dakota relative to whooping crane Deciles 1-4.

5.7 Desktop Evaluation

The desktop evaluation resulted in approximately 97.7 acres of unbroken grasslands; potentially suitable reproductive habitat for Dakota skipper and monarch butterfly (NDGFD 2022). Additionally, there are approximately 3.5 acres of forested habitat; potentially suitable roosting/maternity habitat for NLEB (USGS 2022). Lastly there are approximately 2.2 acres of wetlands which may provide stopover habitat for whooping crane, piping plover and rufa red knot.

Figure 4. Habitat Evaluation type across the JETx Survey Area in Stutsman, LaMoure, and Dickey counties, North Dakota.

6 Literature Cited

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Appendix A. Land Cover Types within the JETx Survey Area in Stutsman, LaMoure, and Dickey counties, North Dakota.

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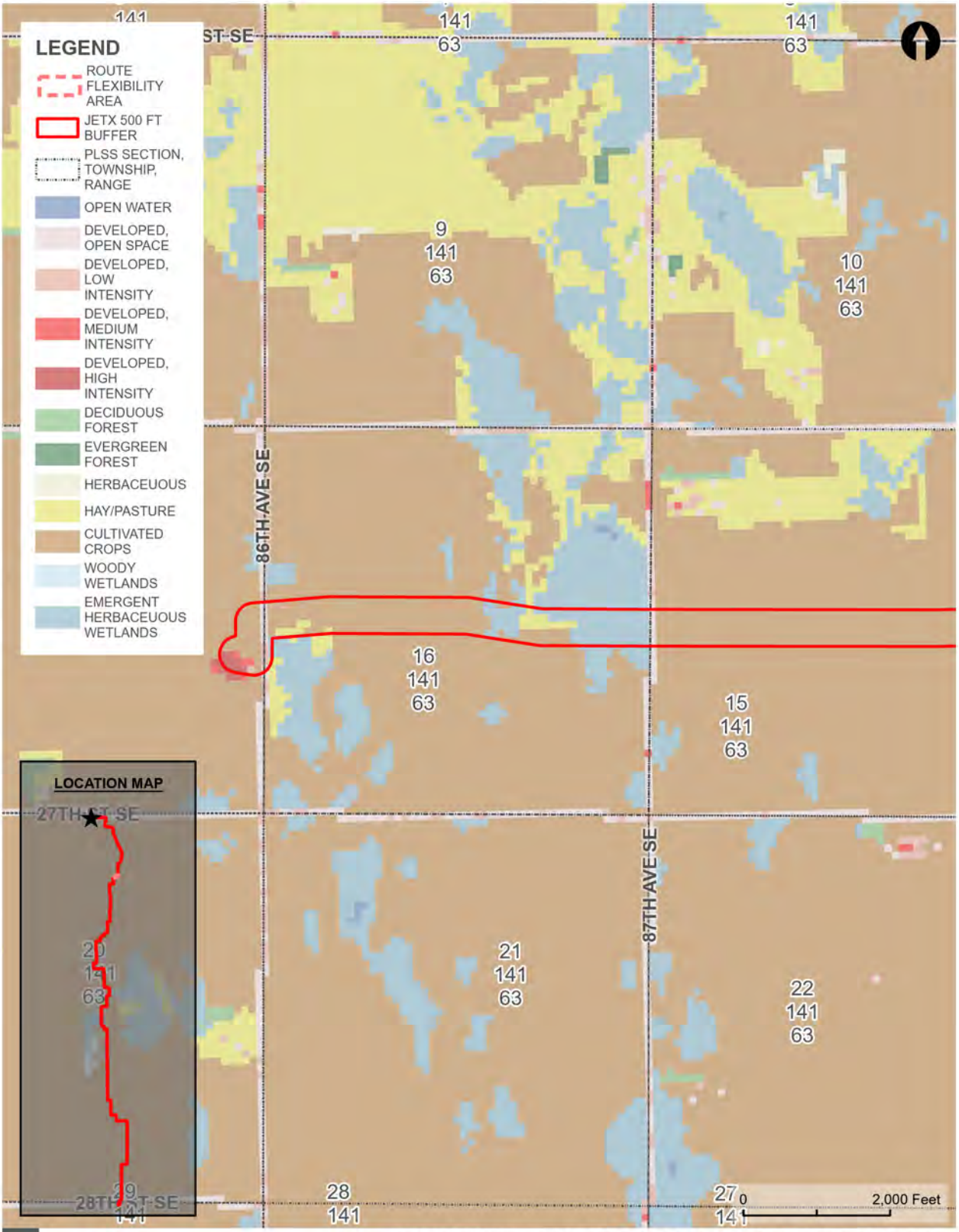

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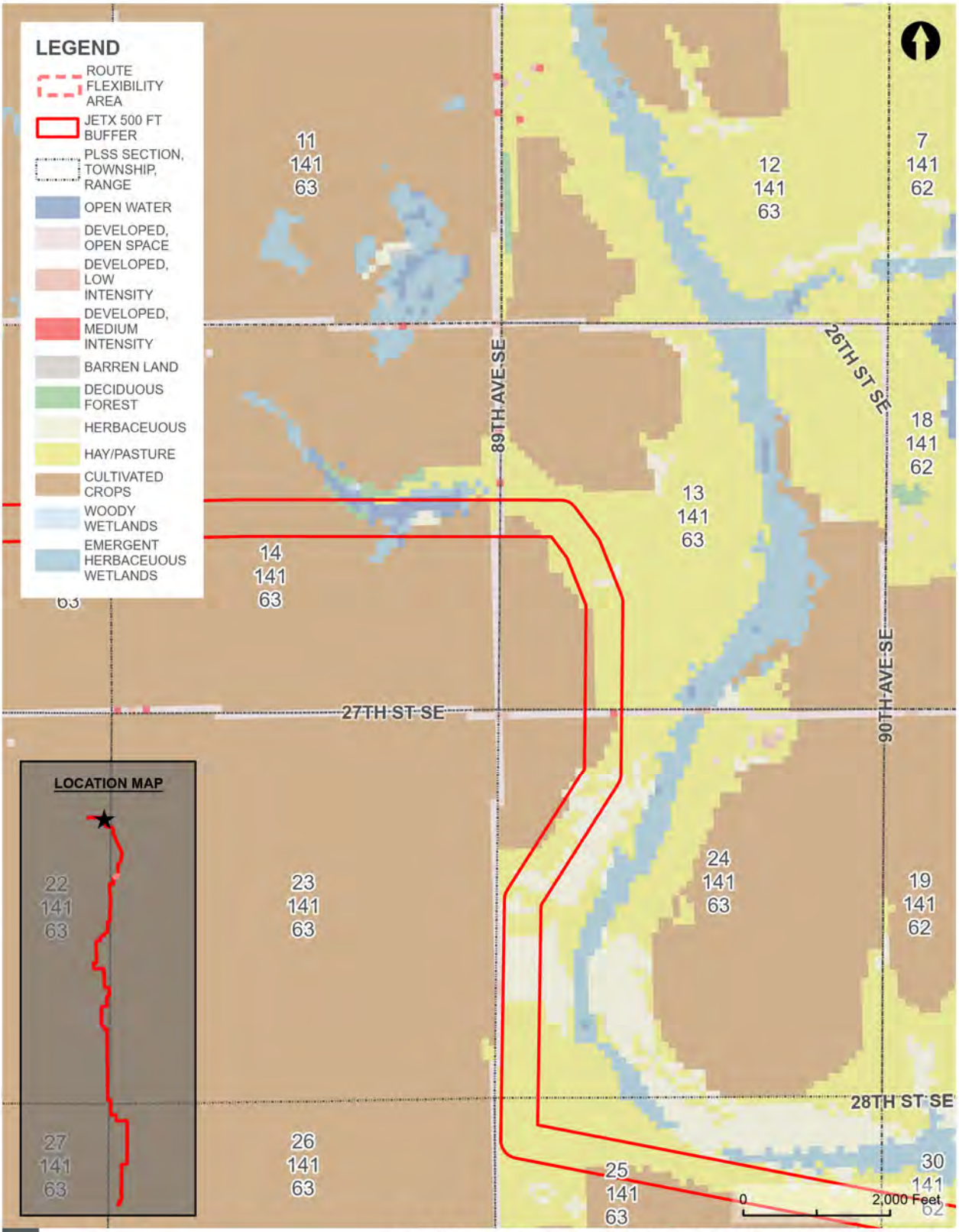

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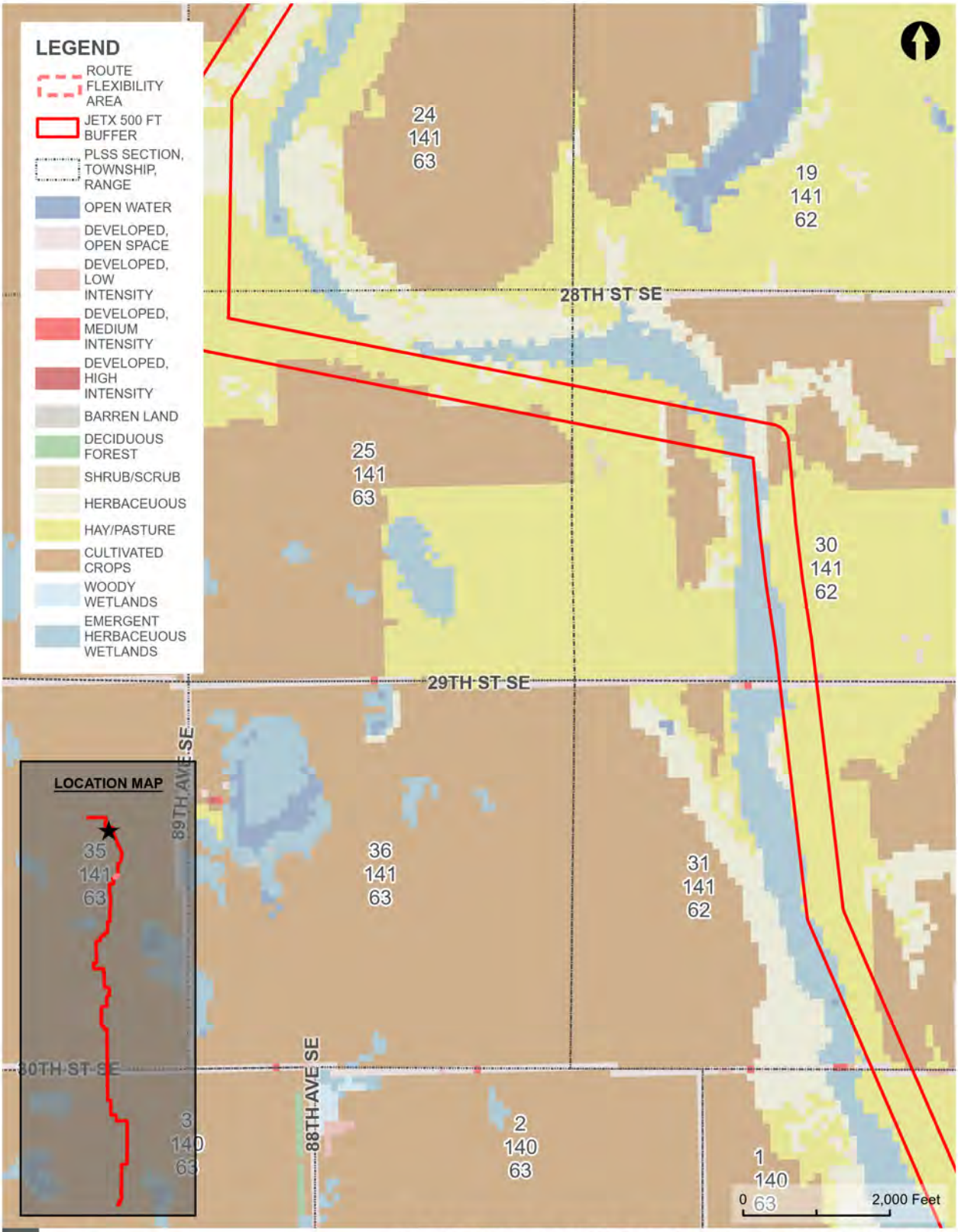

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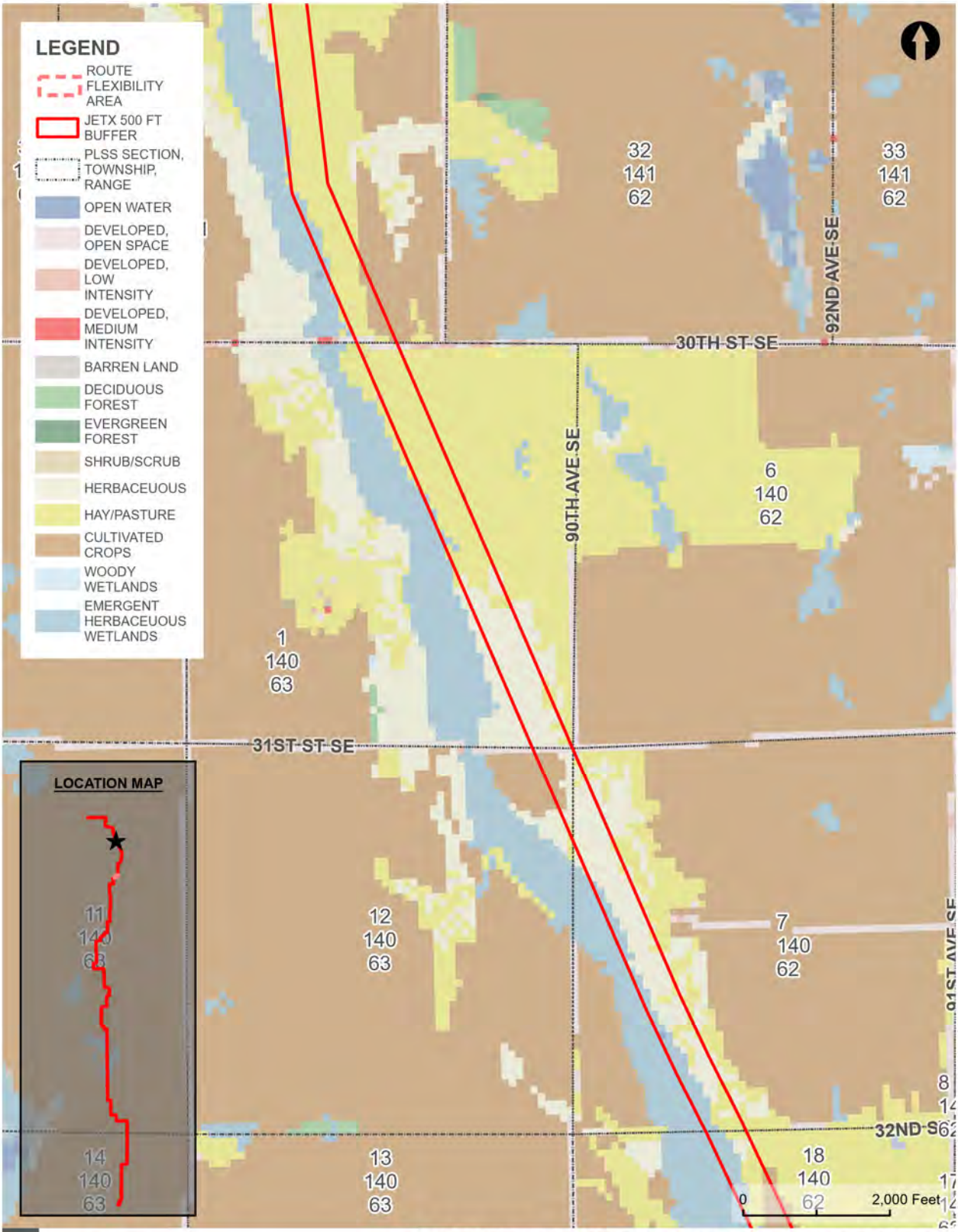

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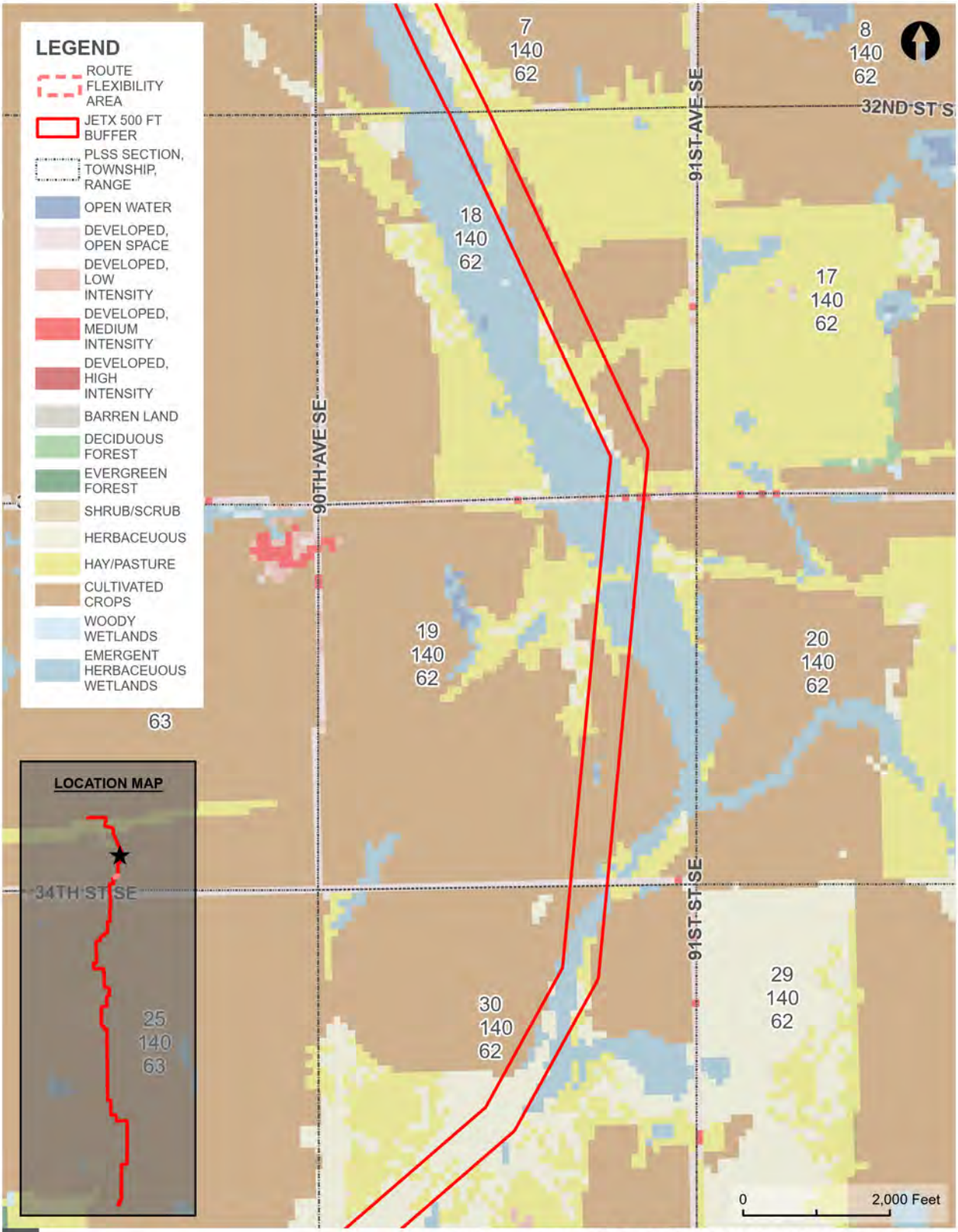

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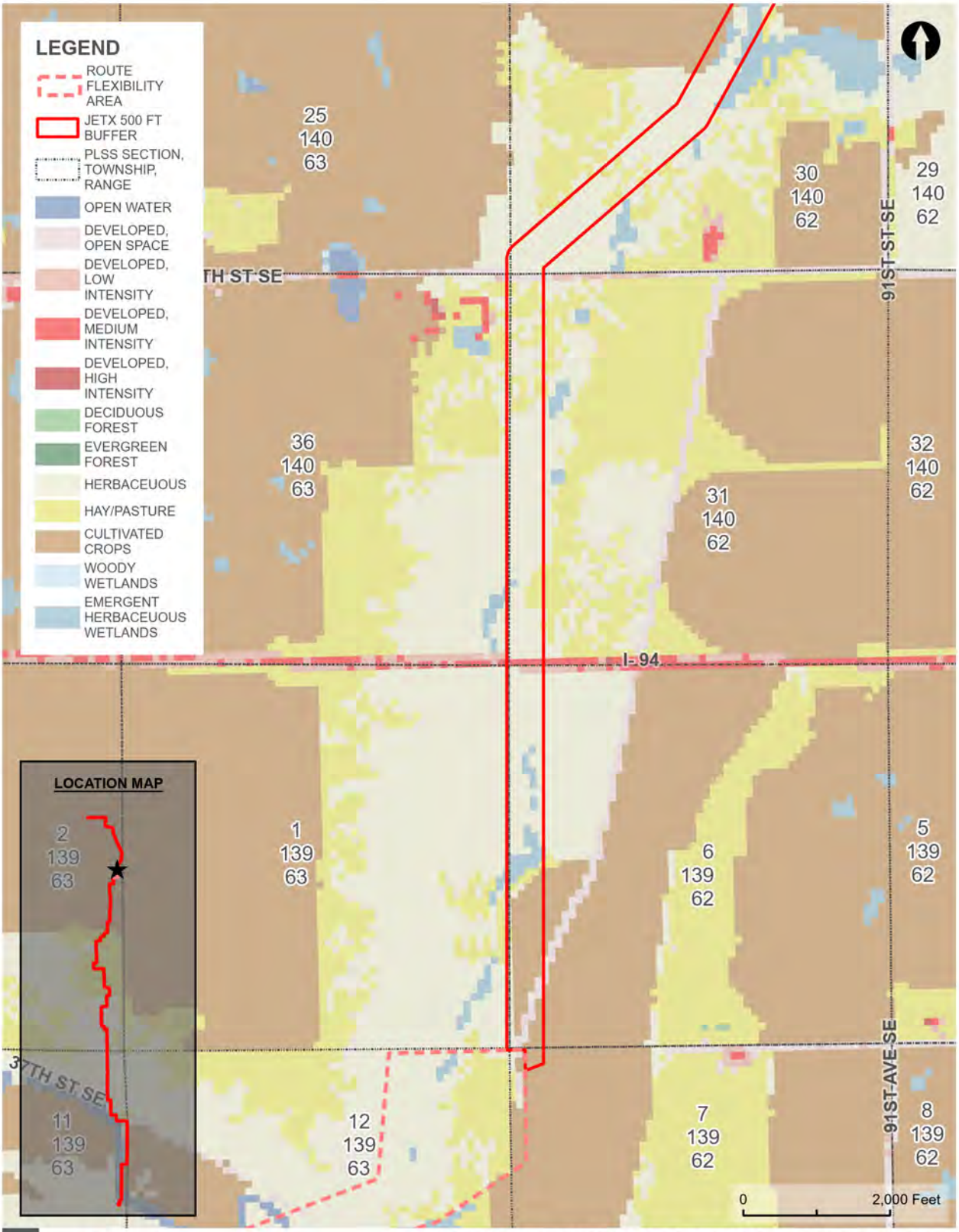

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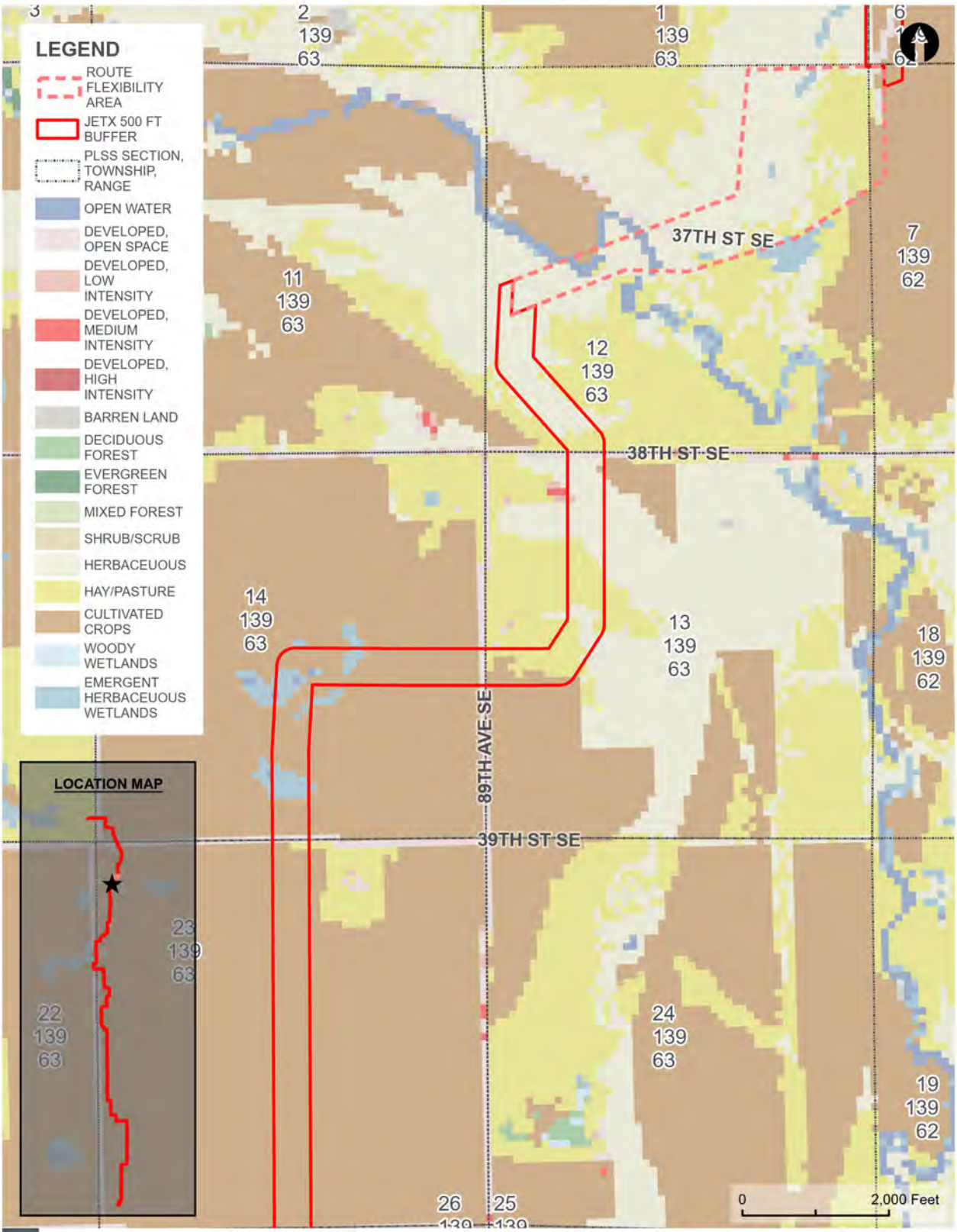

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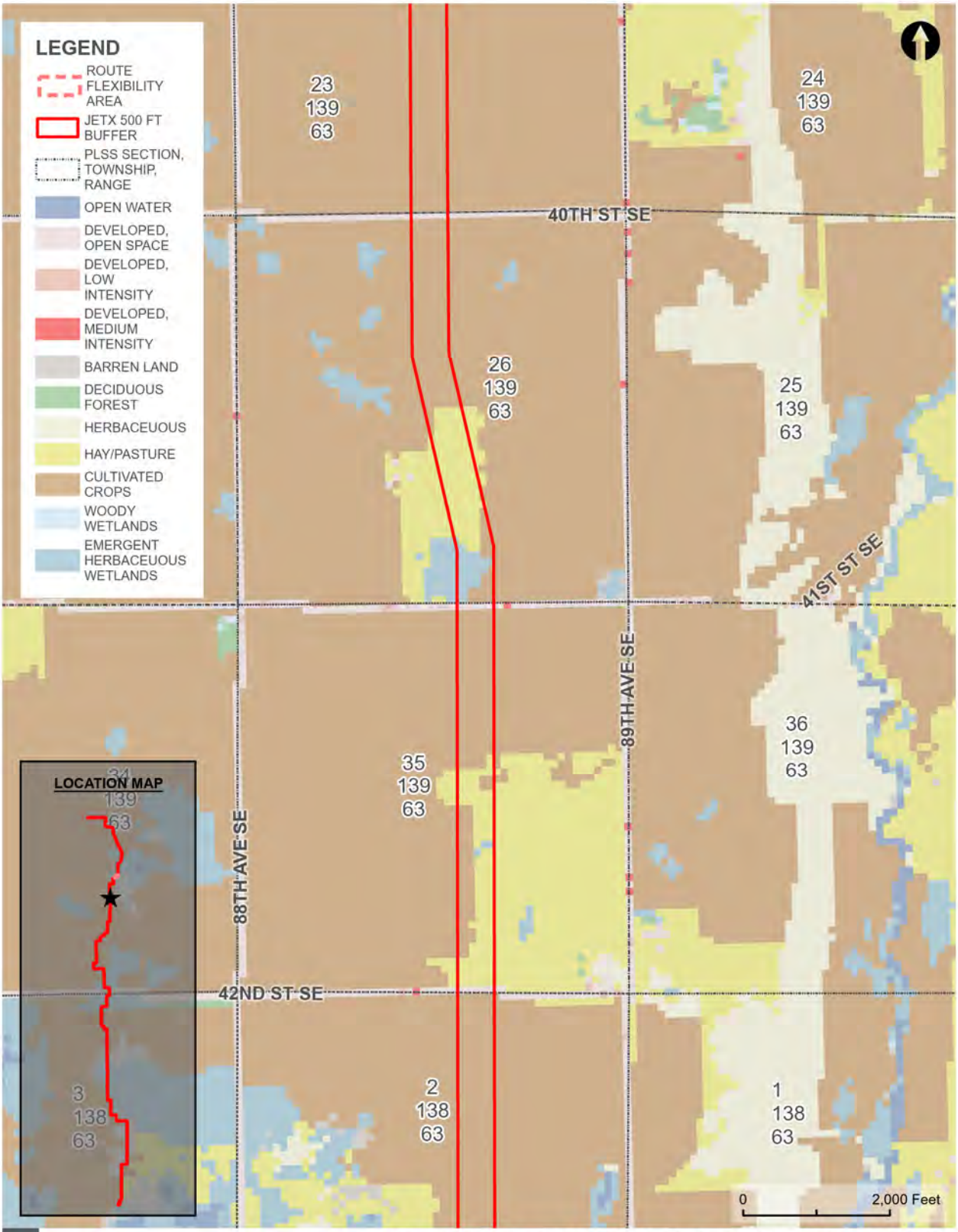

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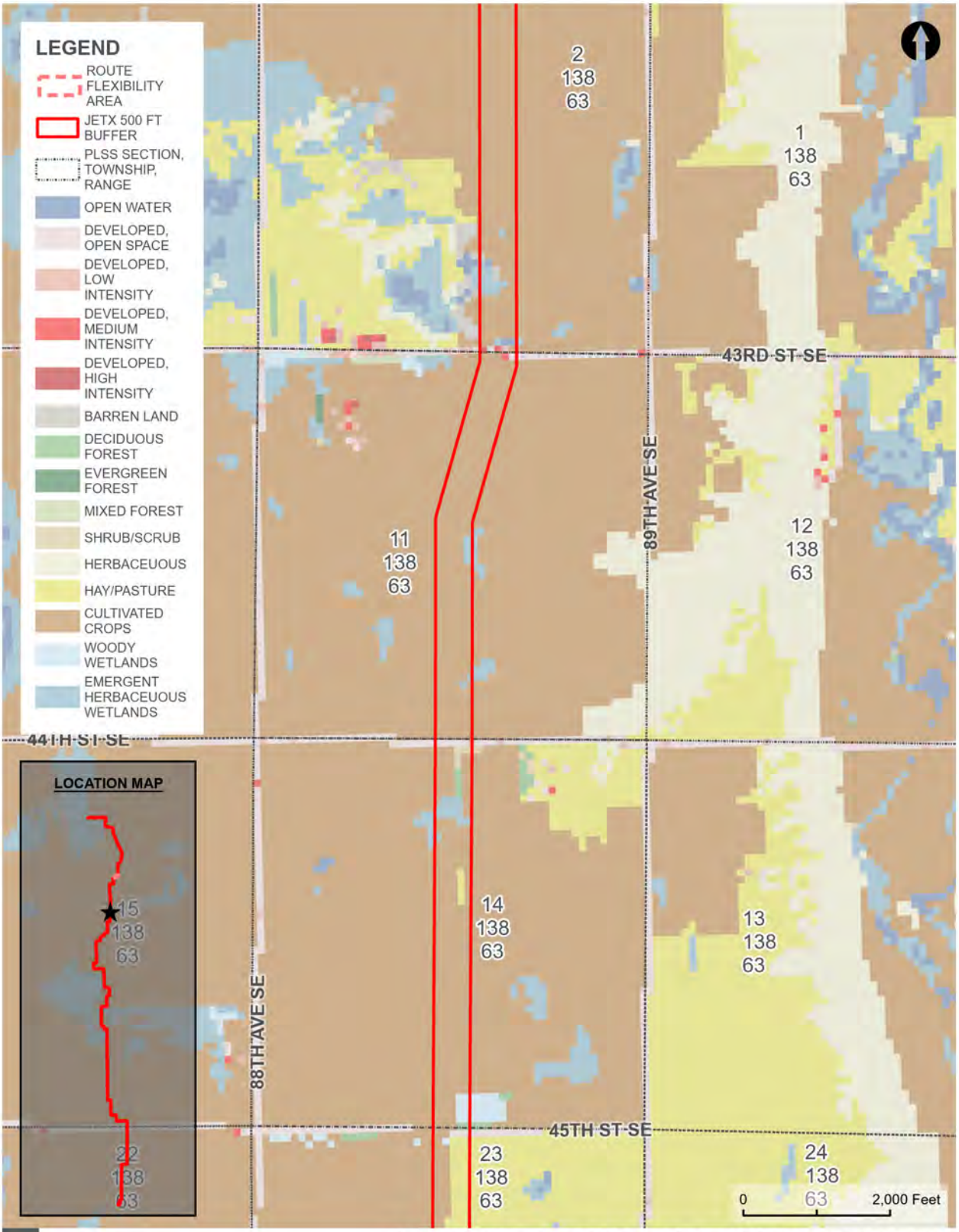

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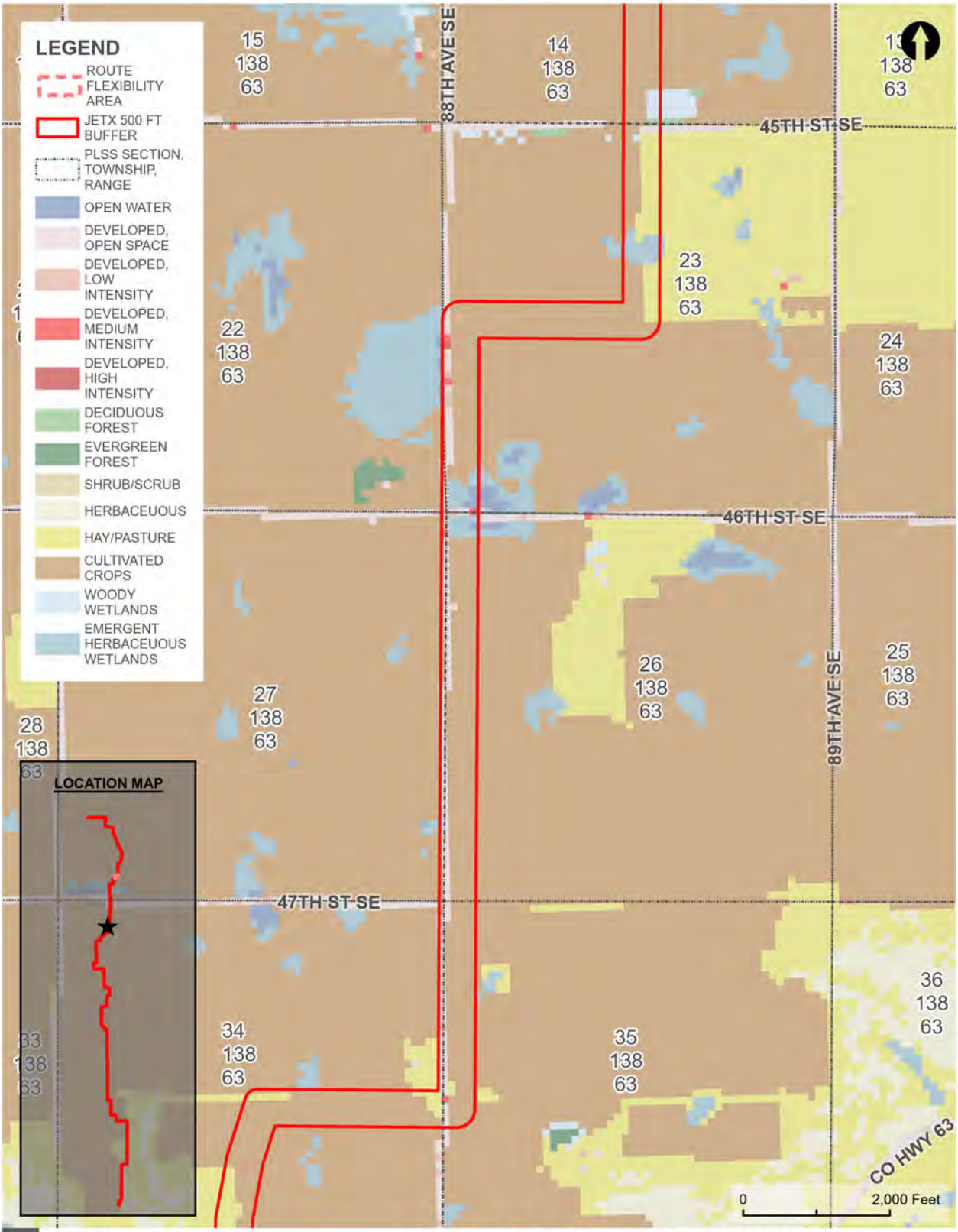

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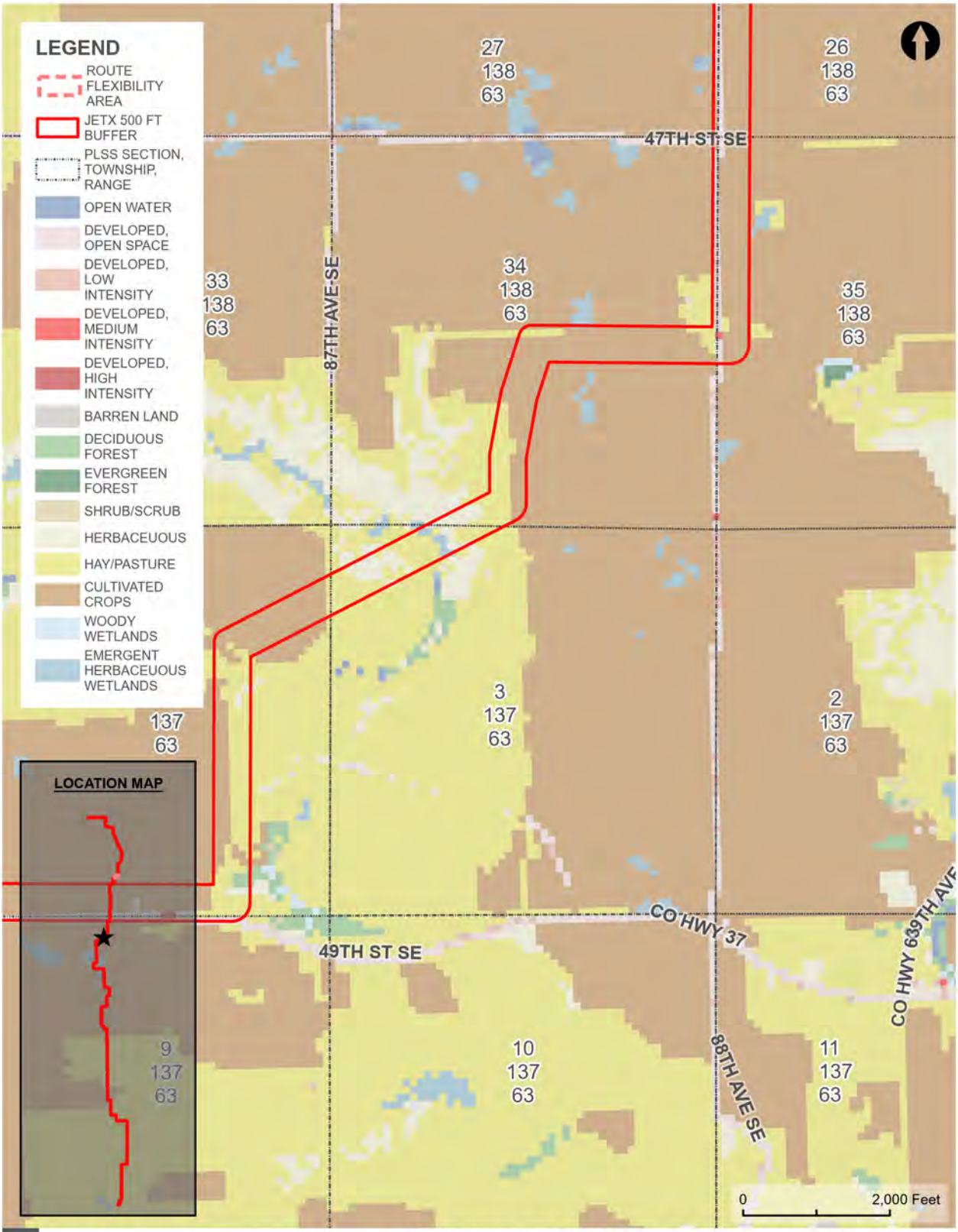

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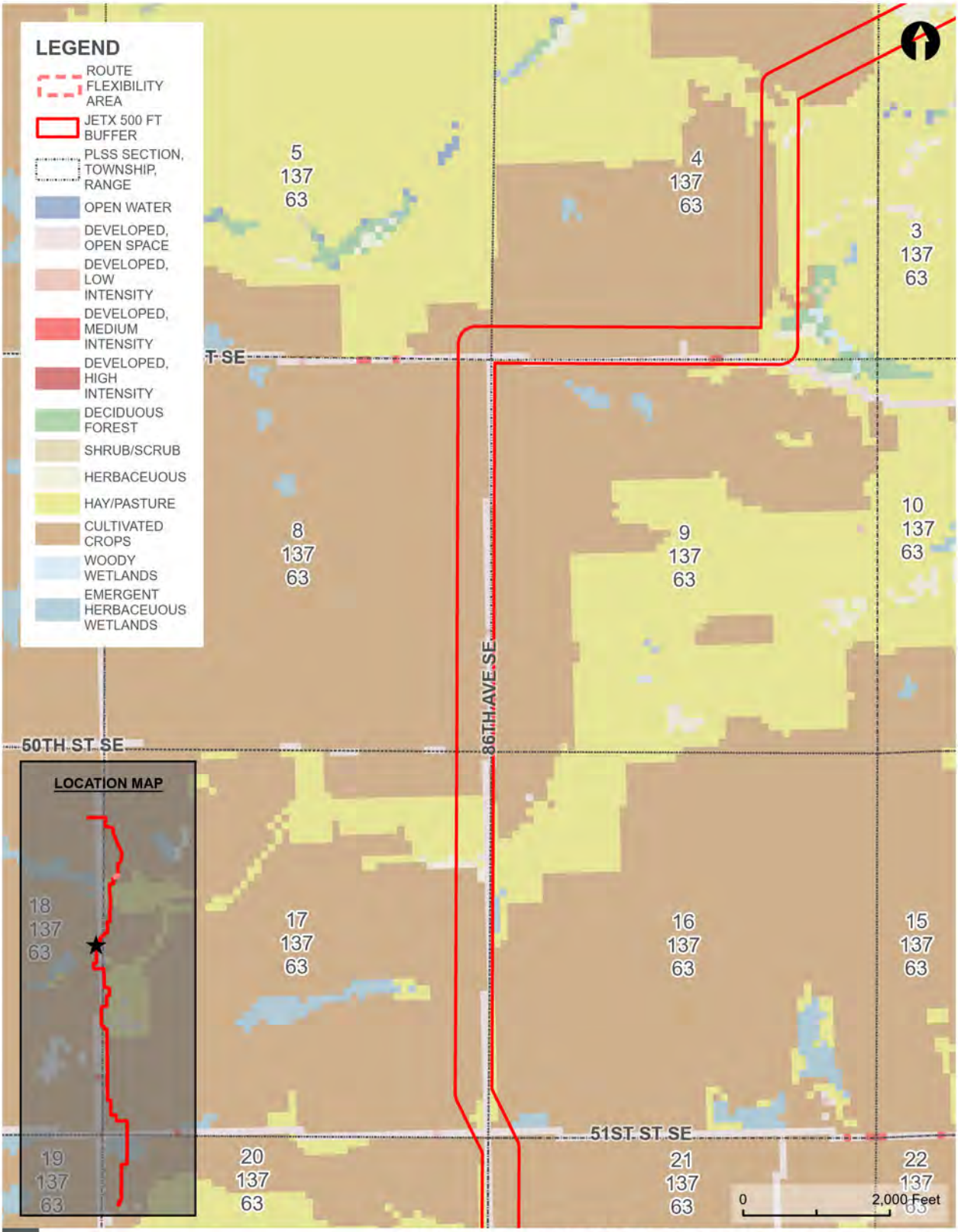

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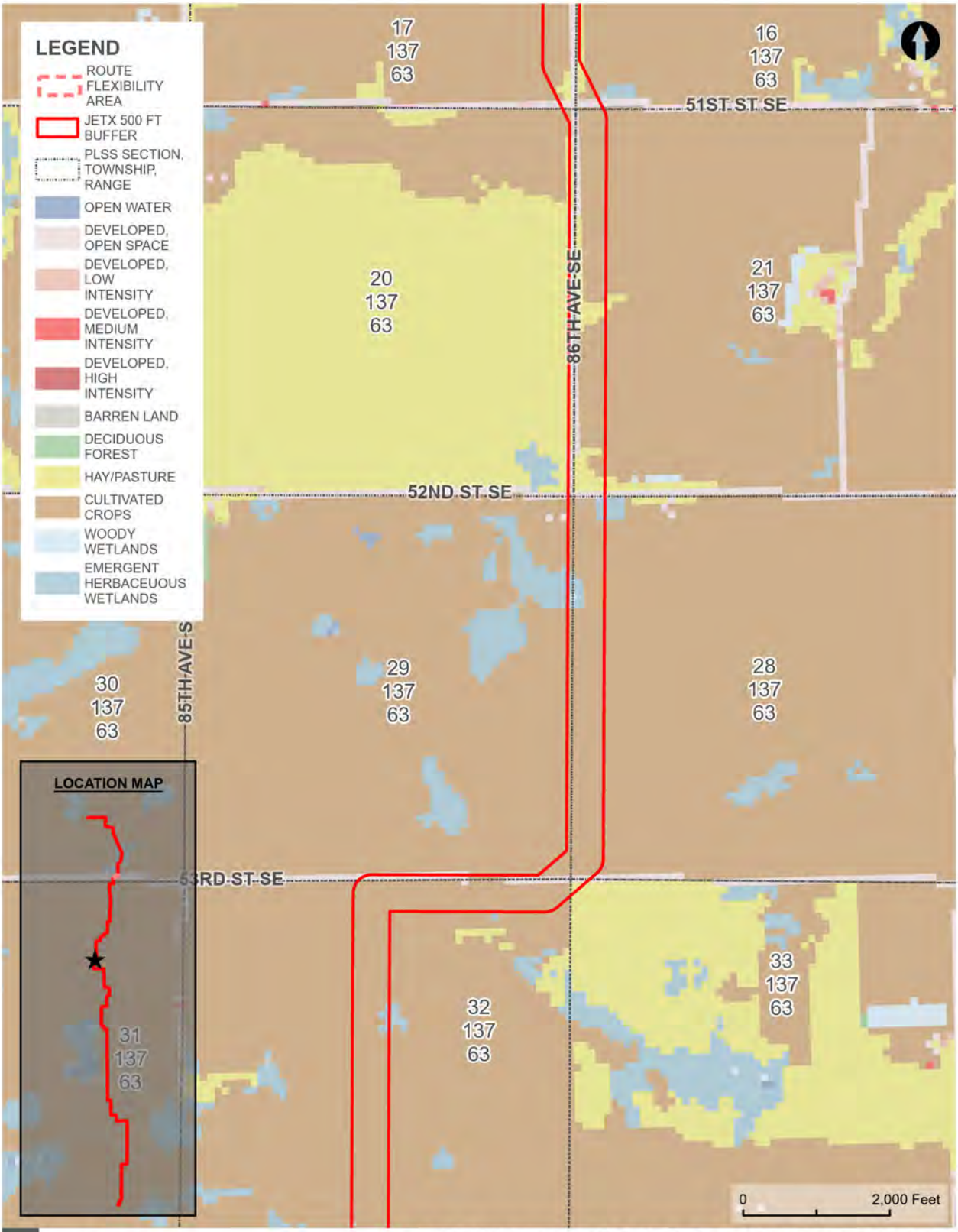

JETx Jamestown to Ellendale

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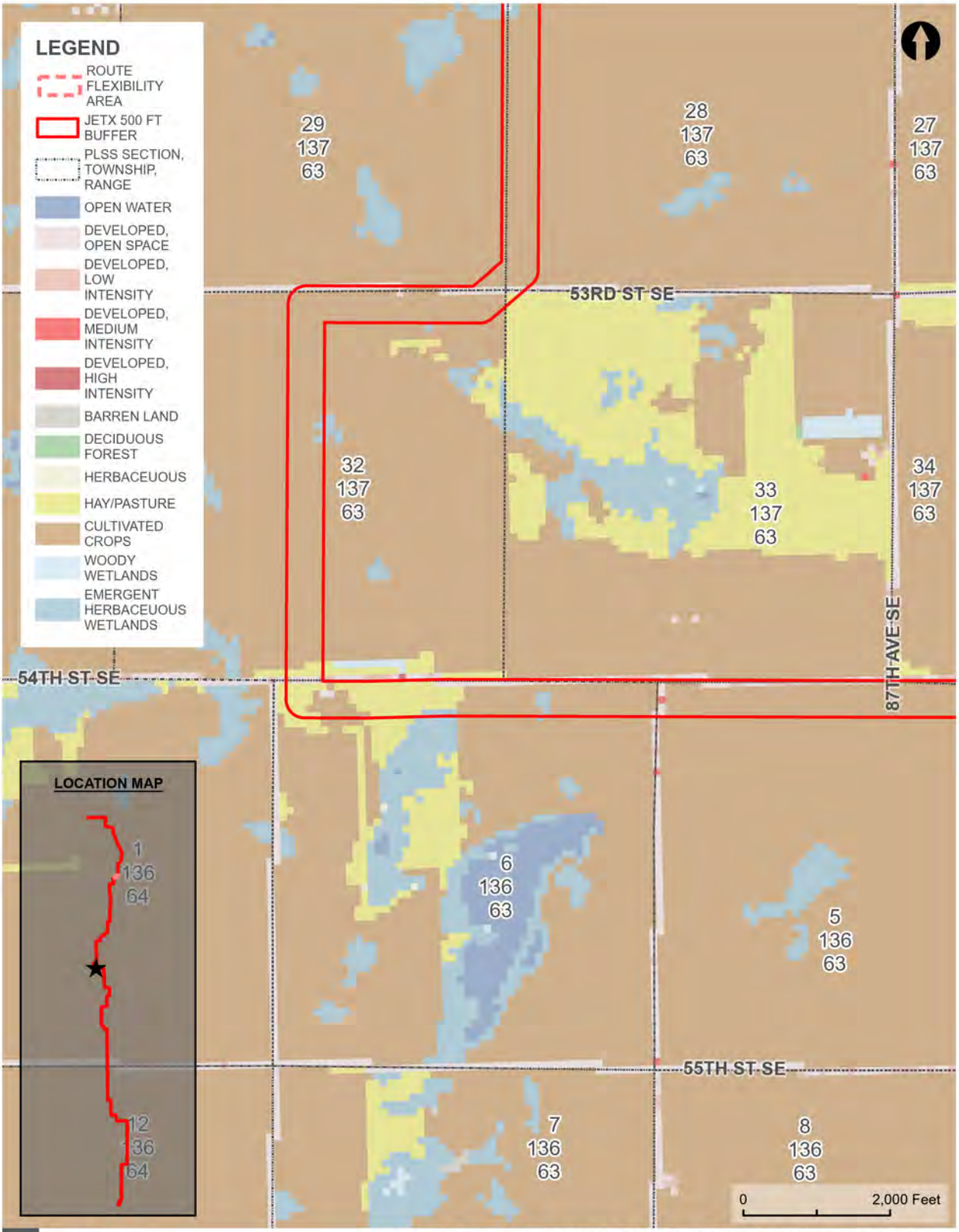

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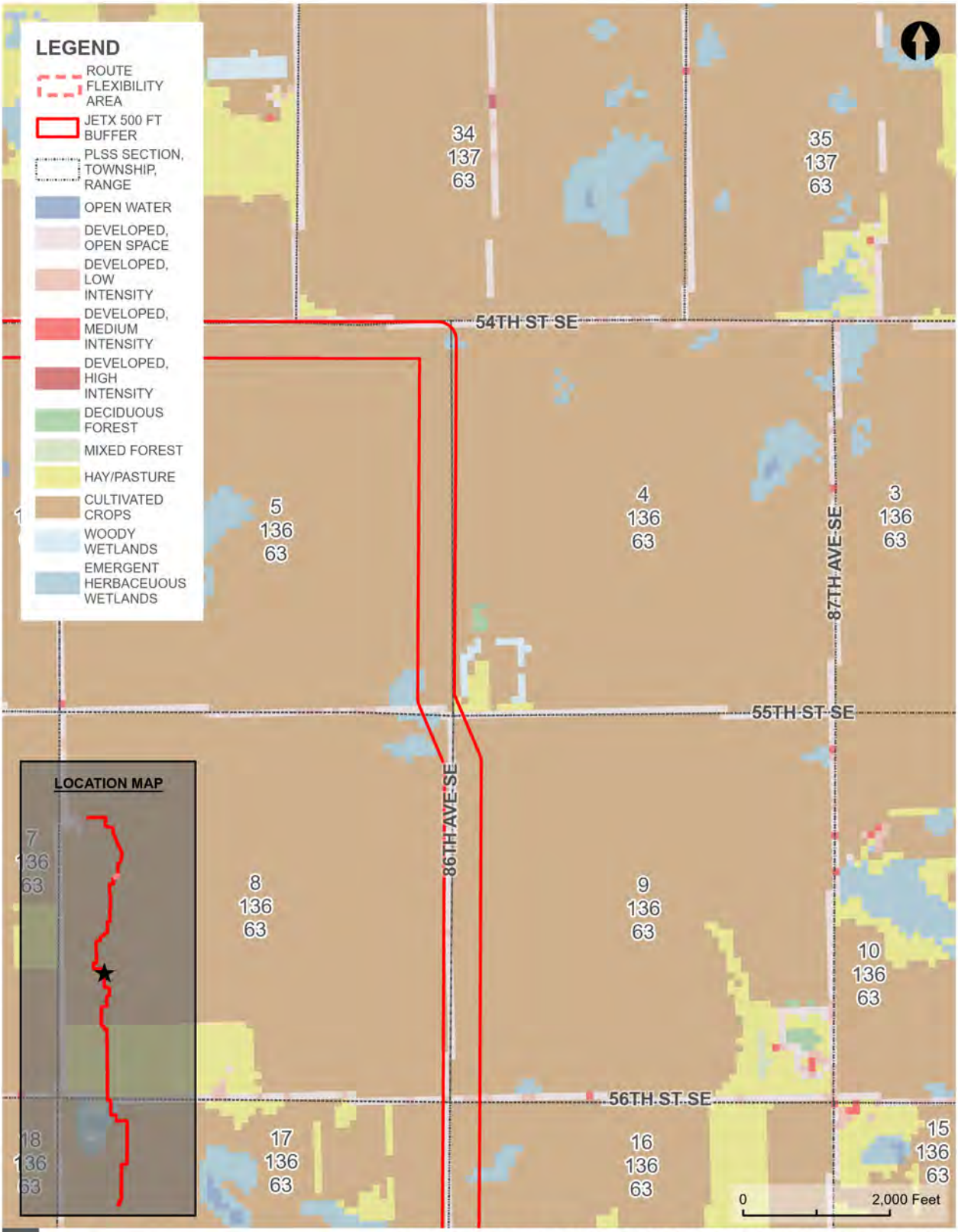

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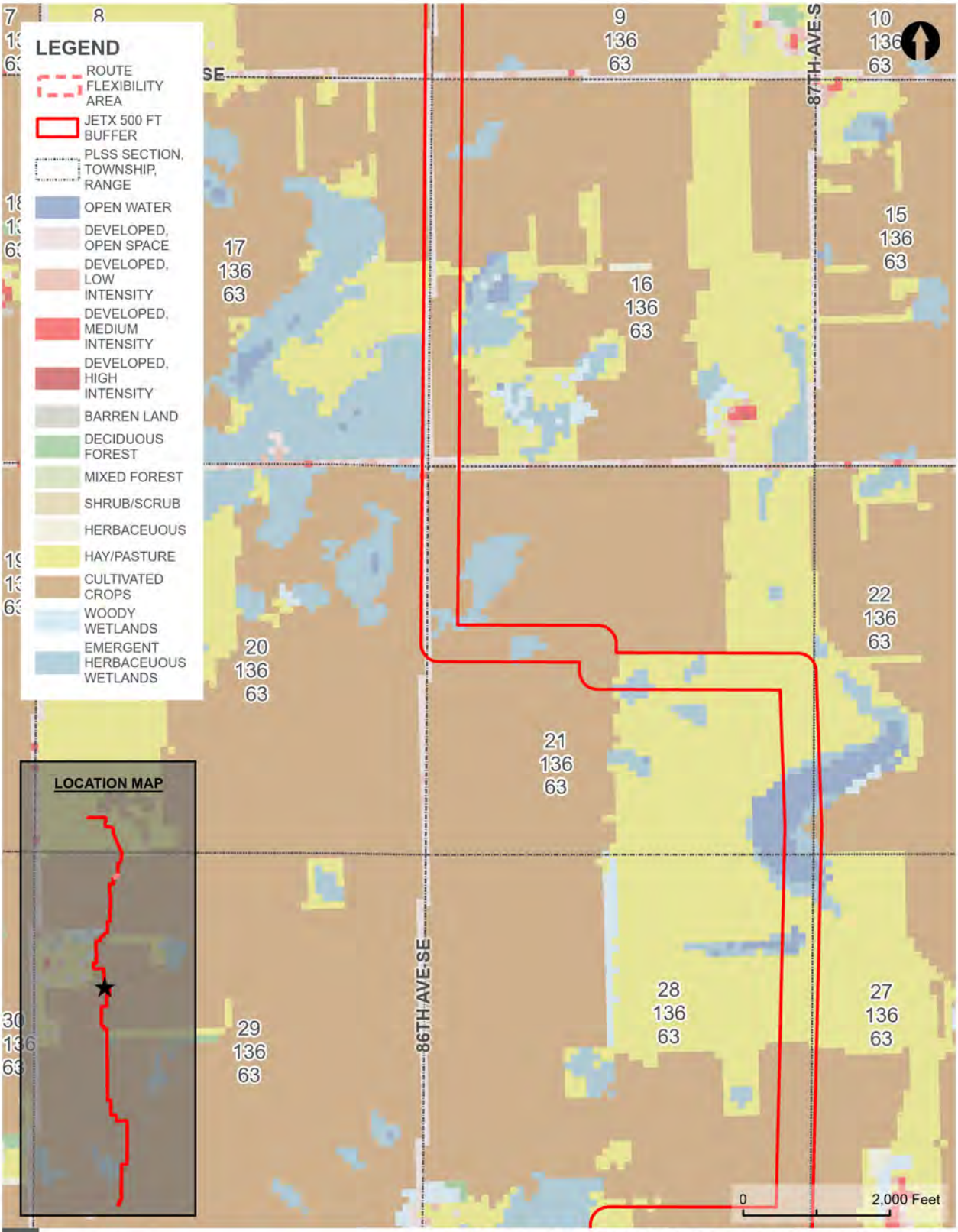

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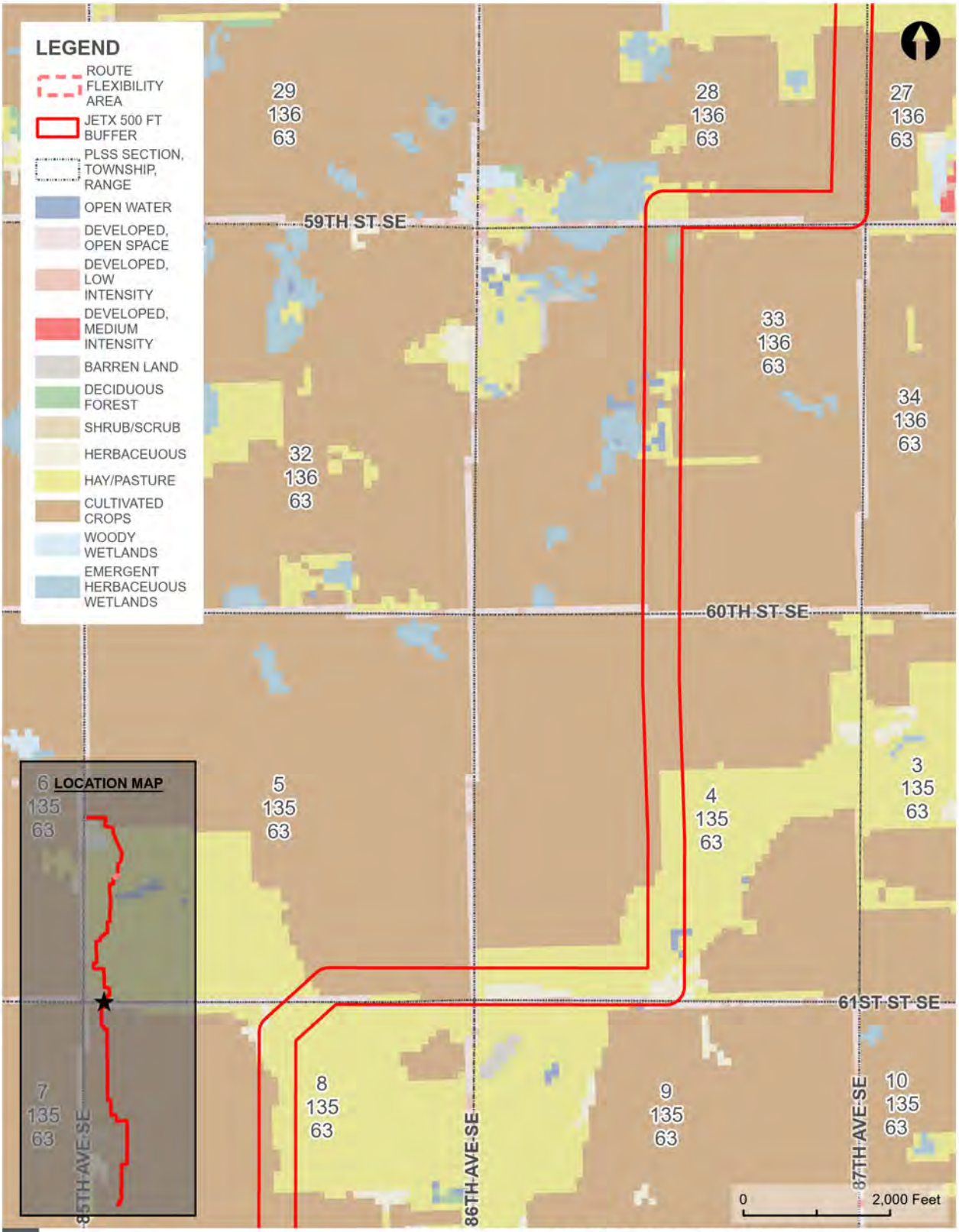

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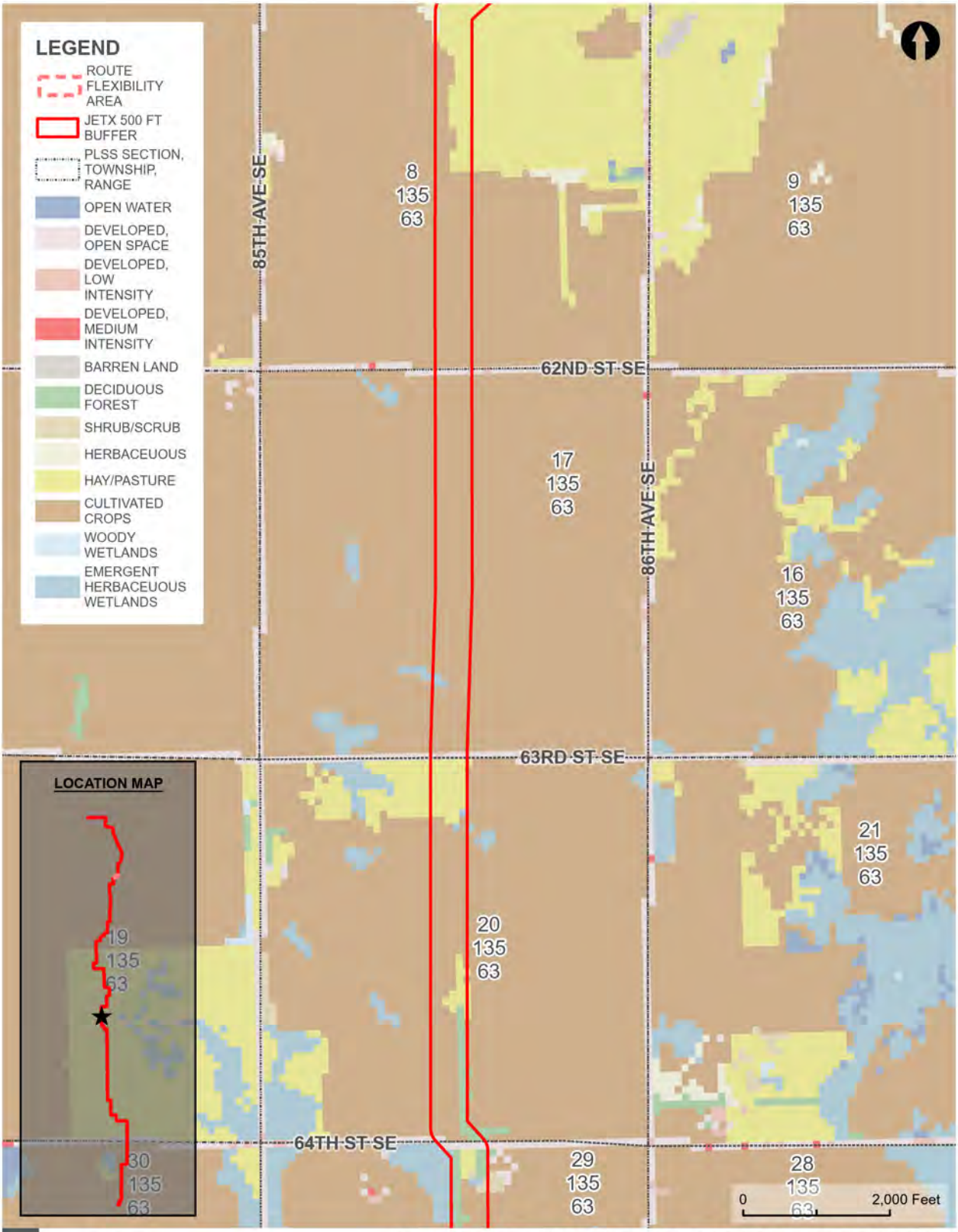

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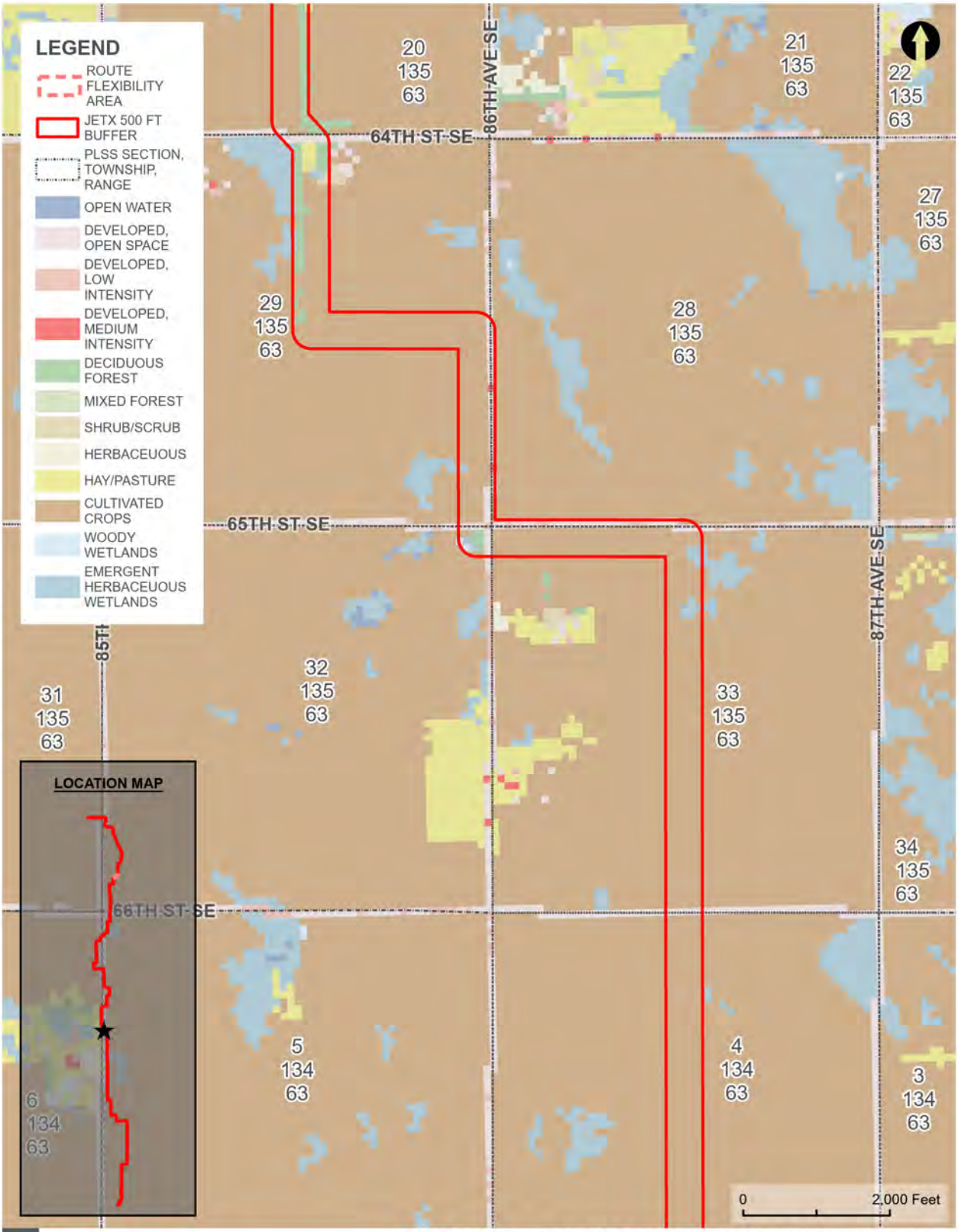

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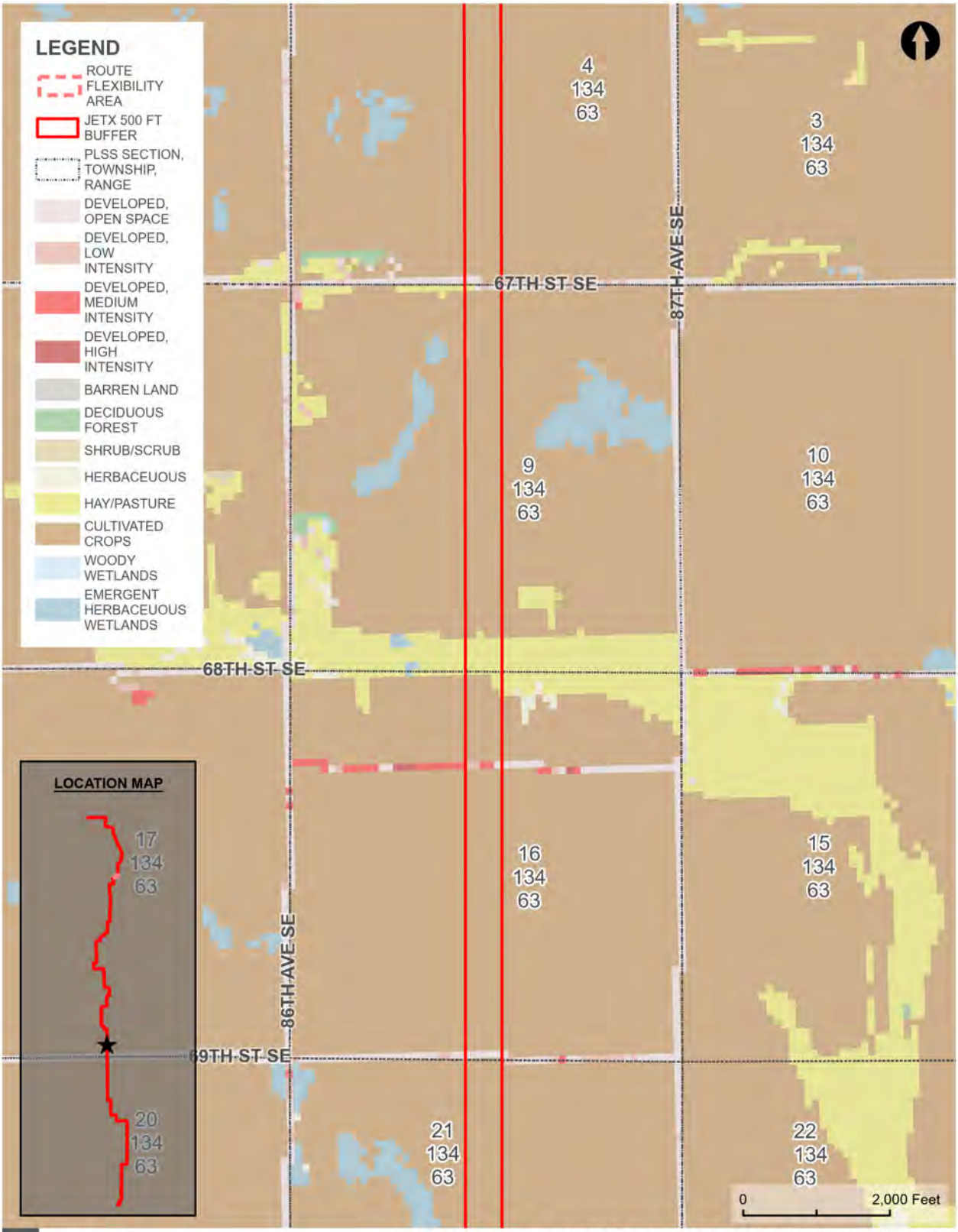

JETx Jamestown to Ellendale

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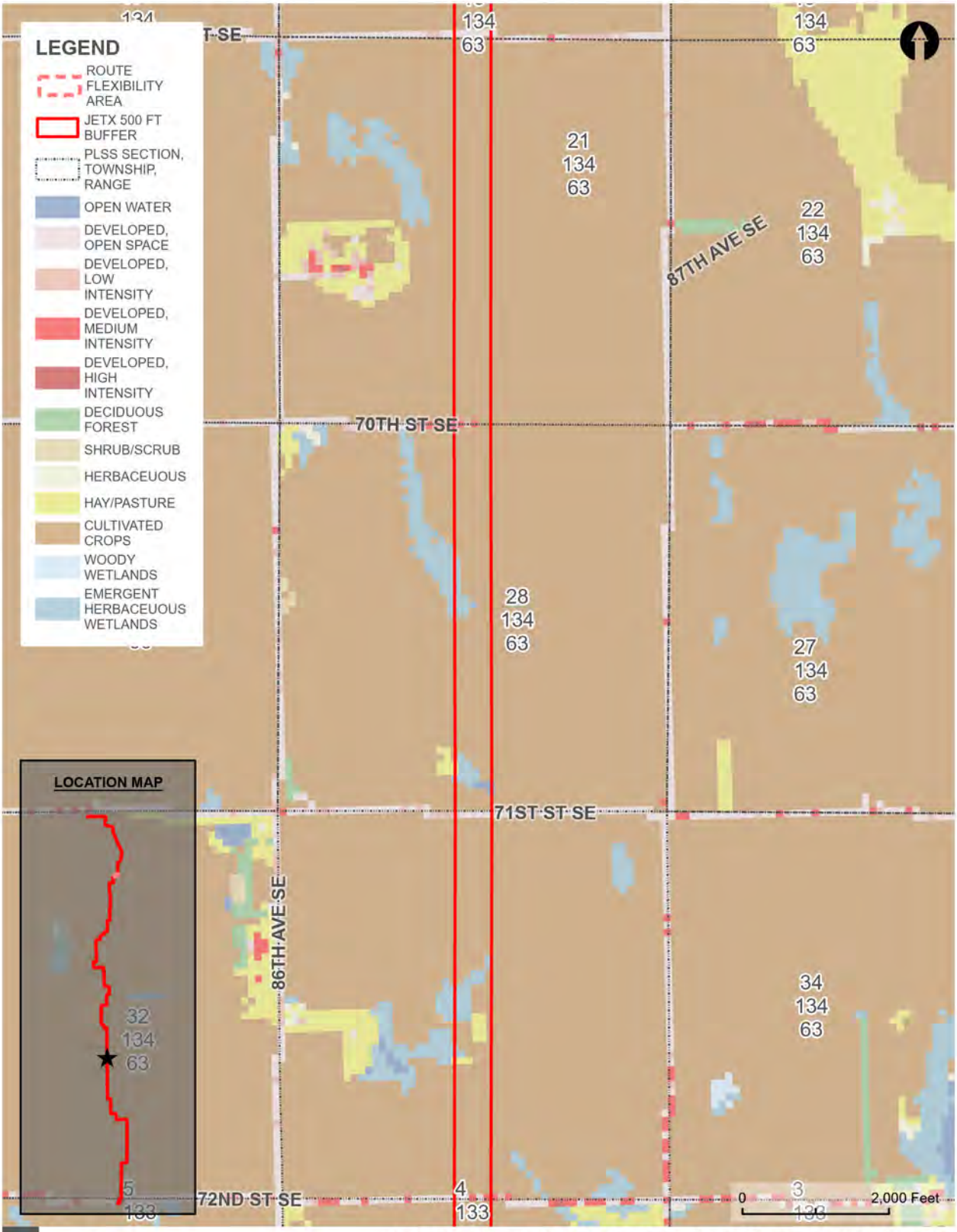

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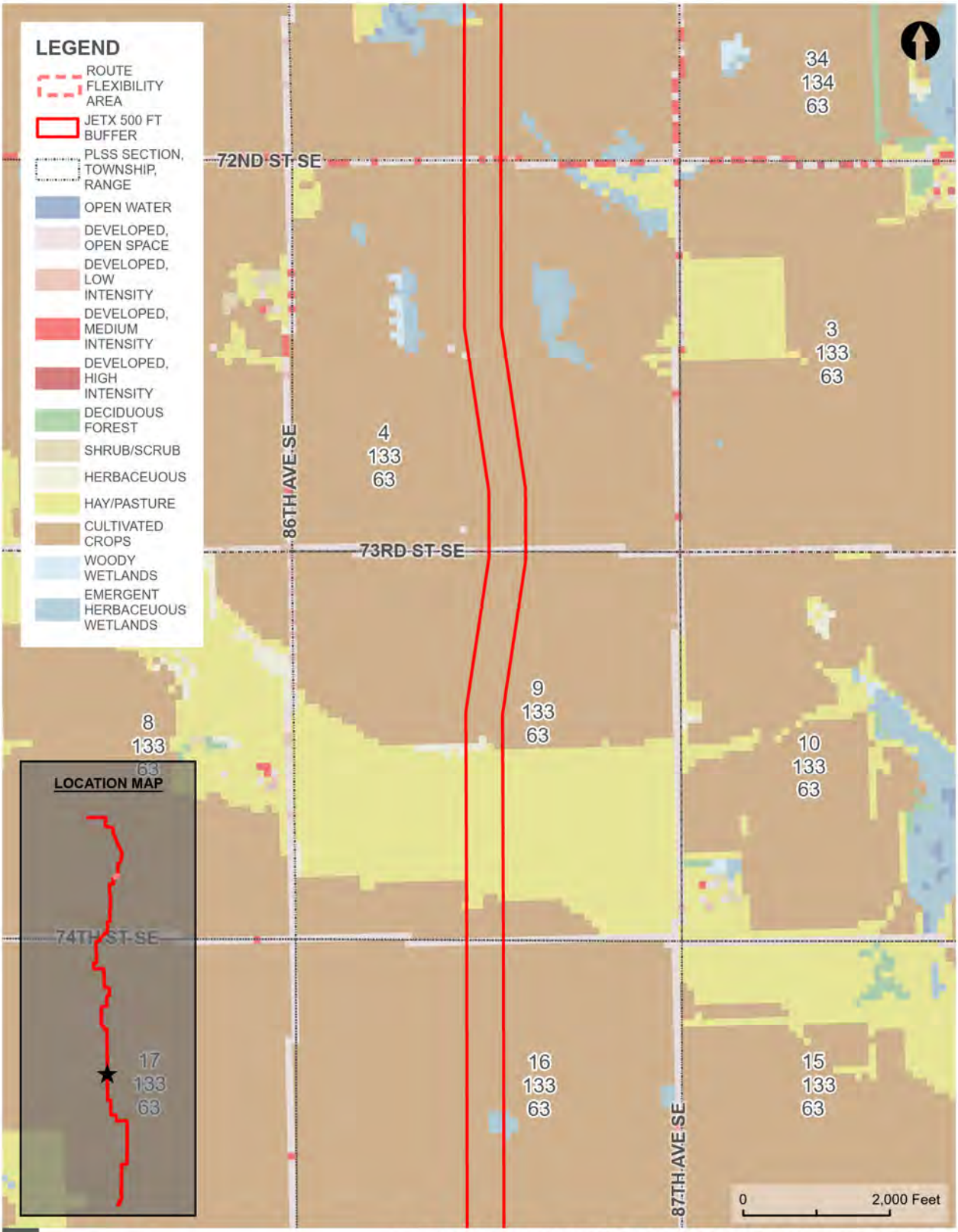

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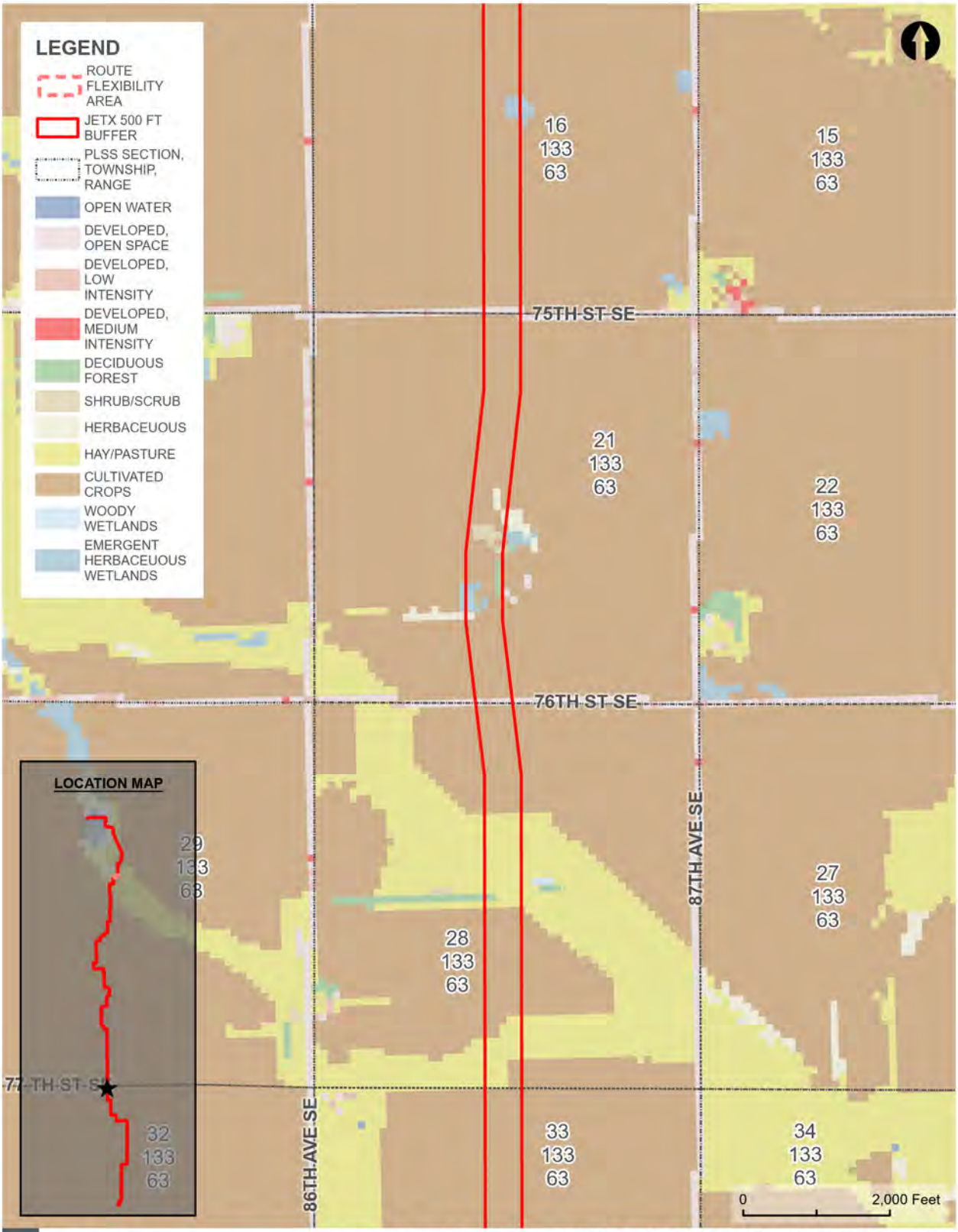

JETx Jamestown to Ellendale

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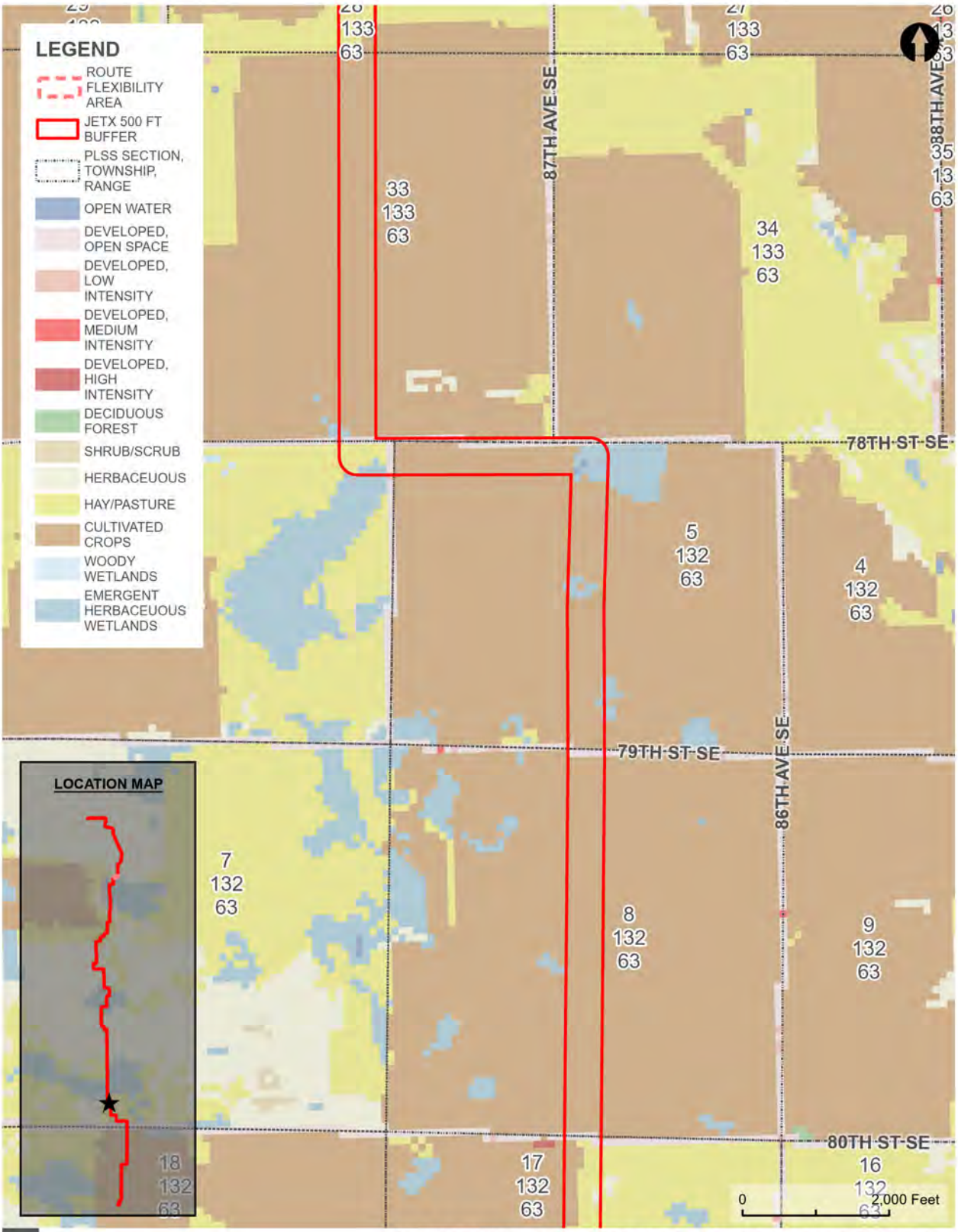

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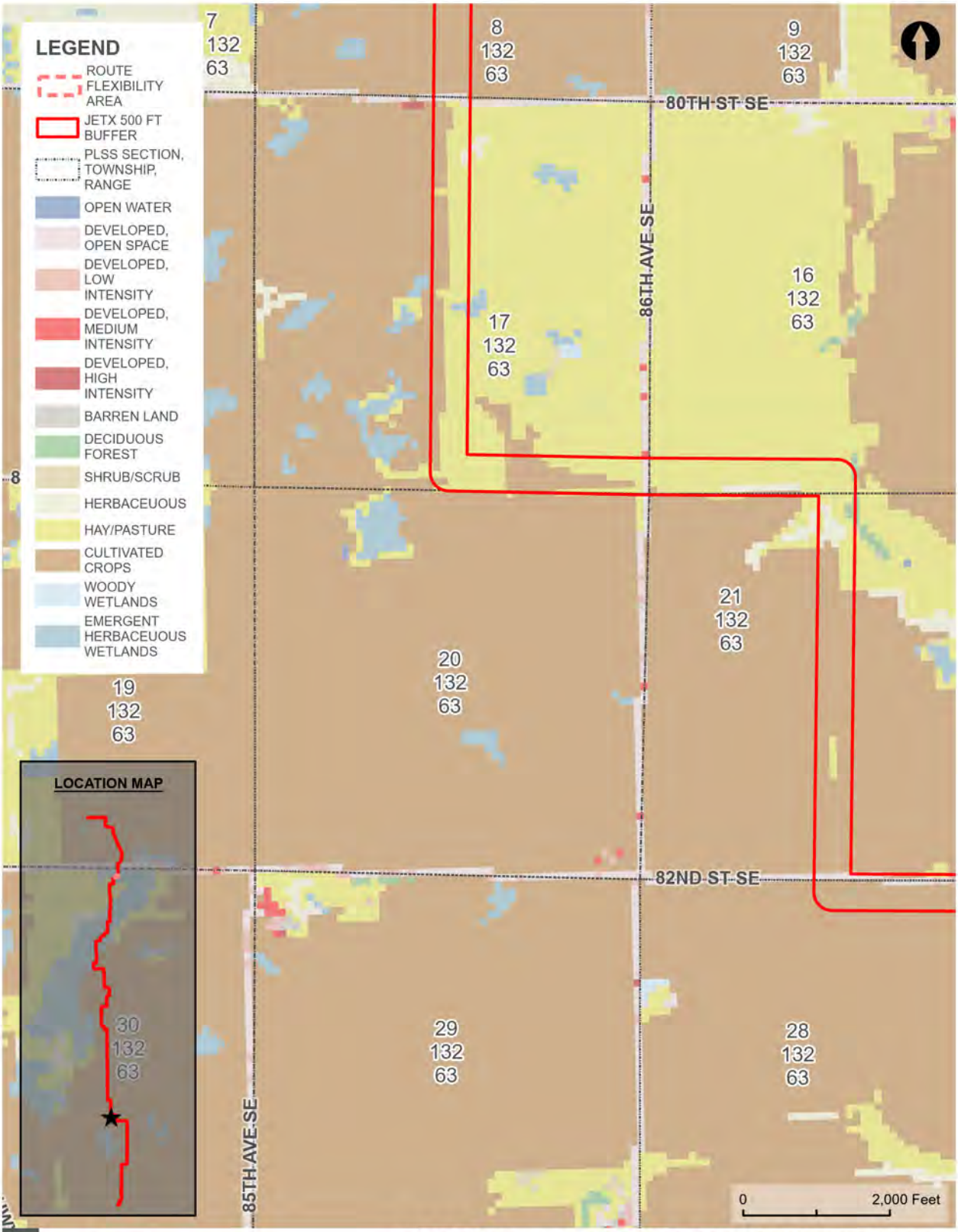

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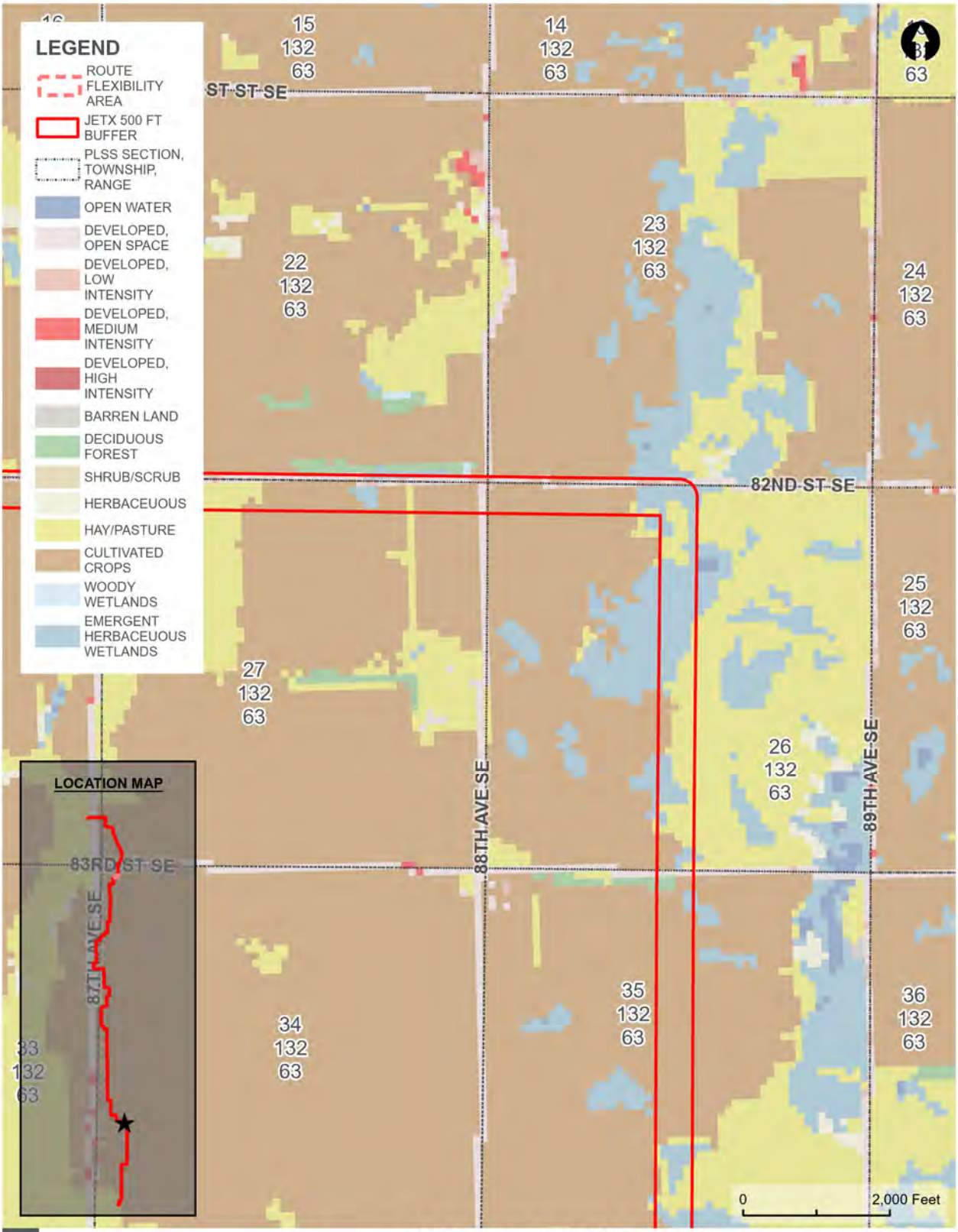

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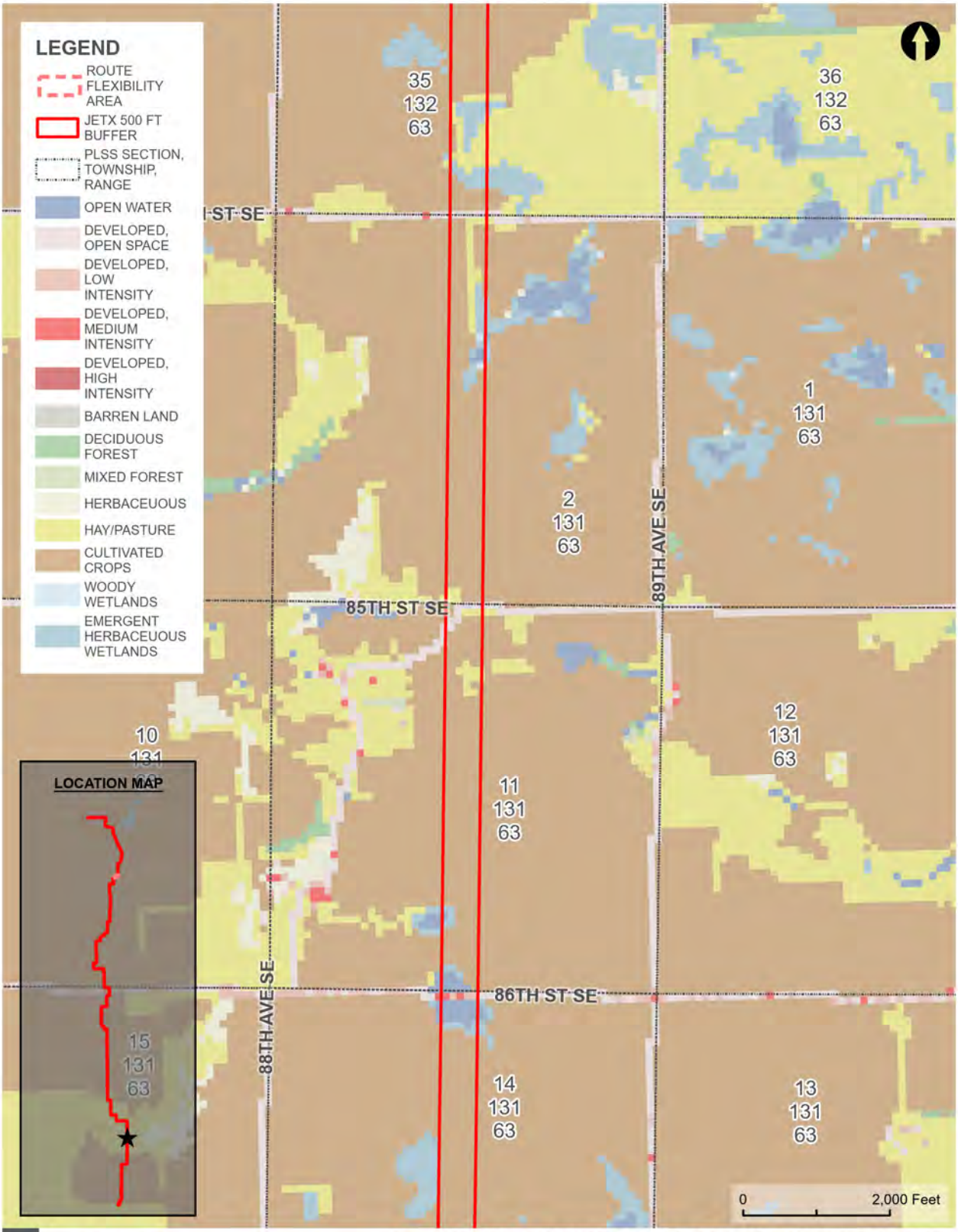

JETx Jamestown to Ellendale

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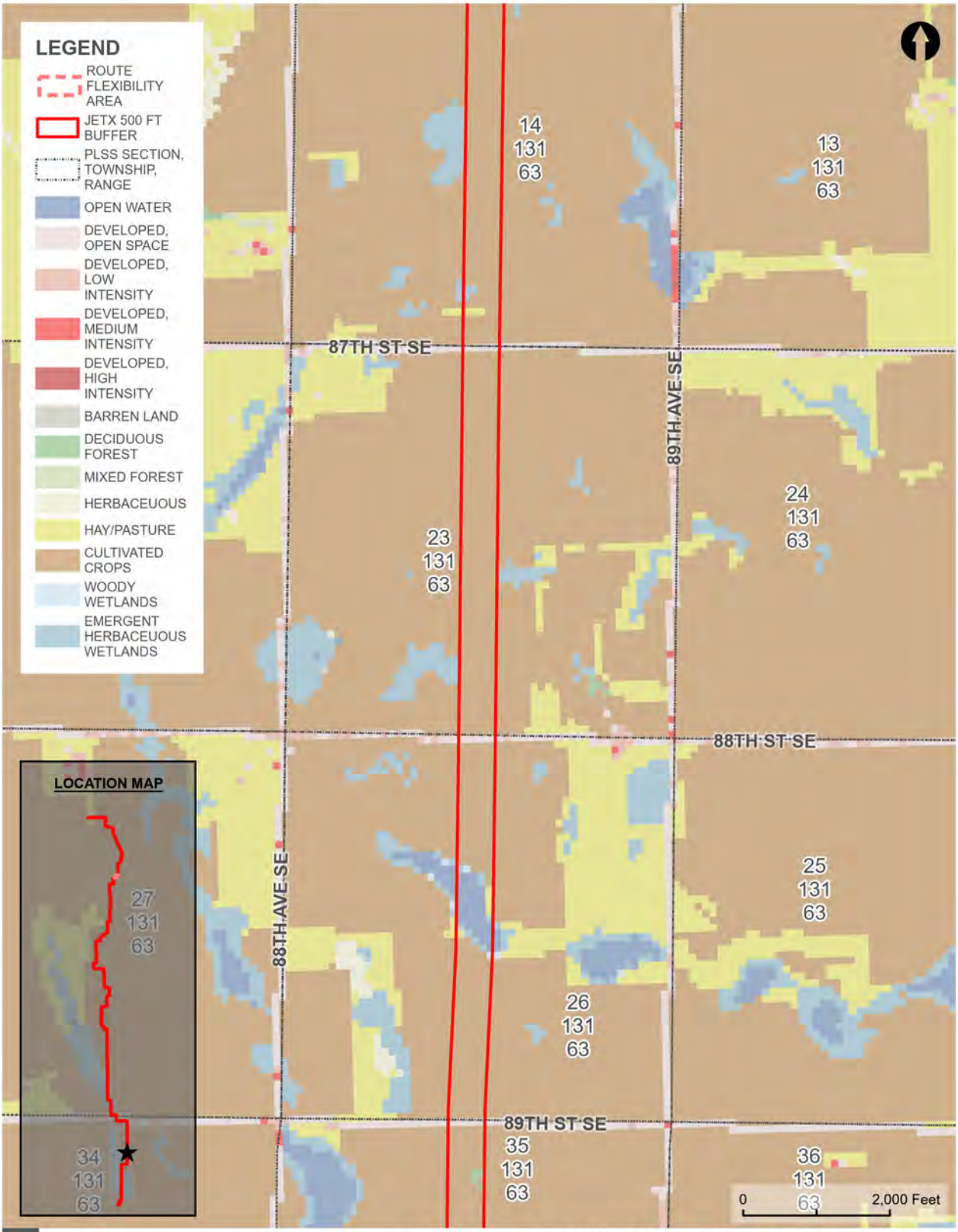

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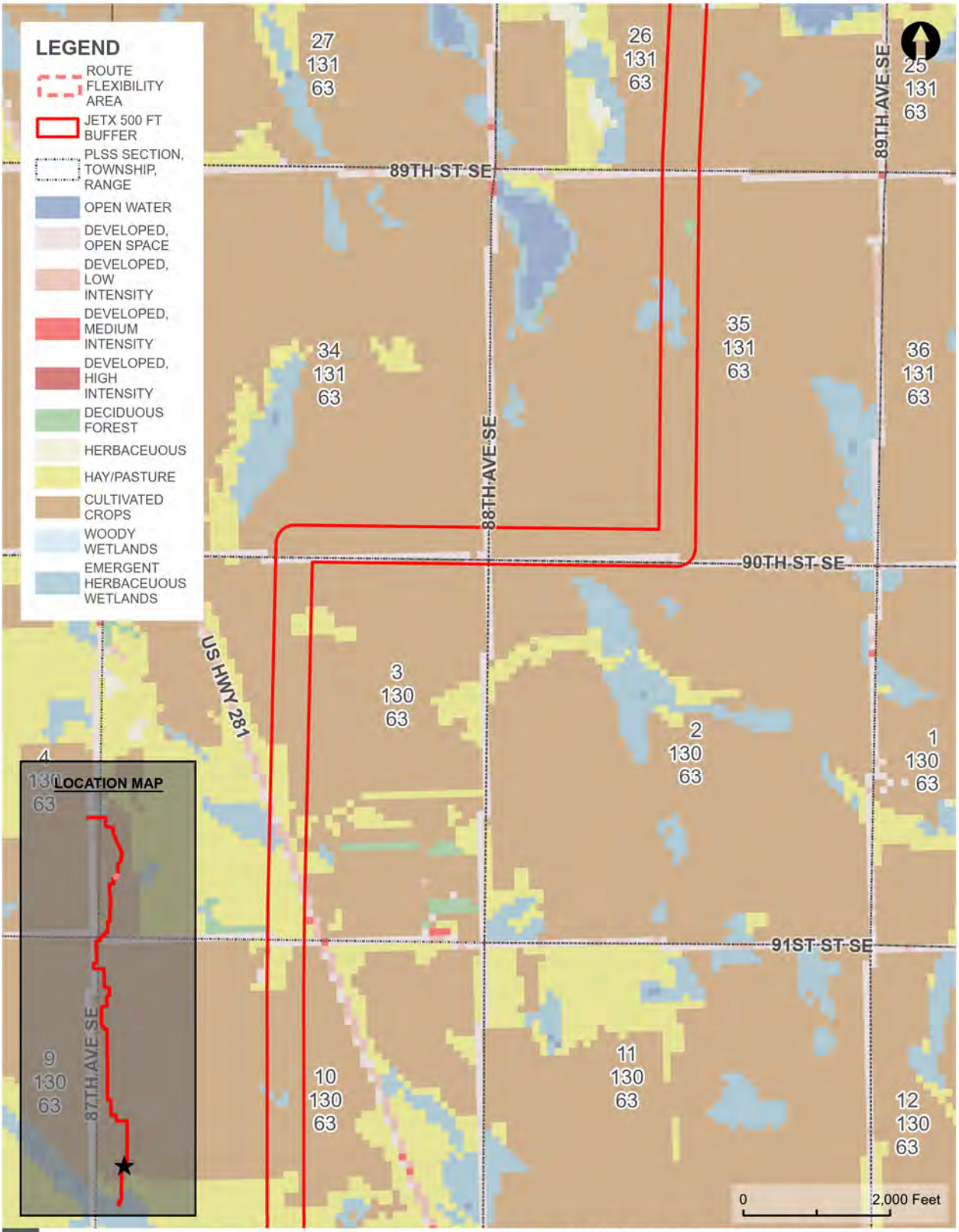

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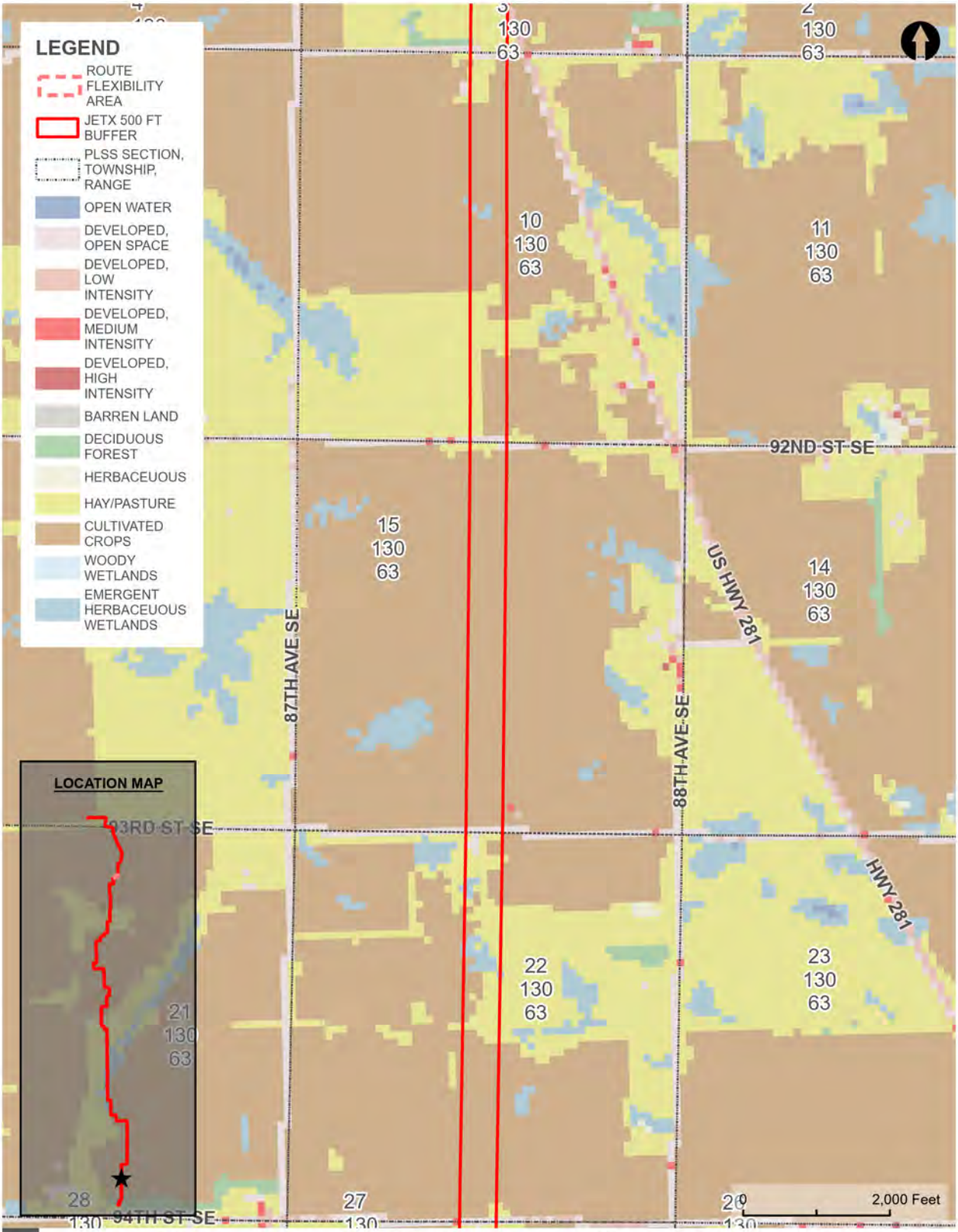

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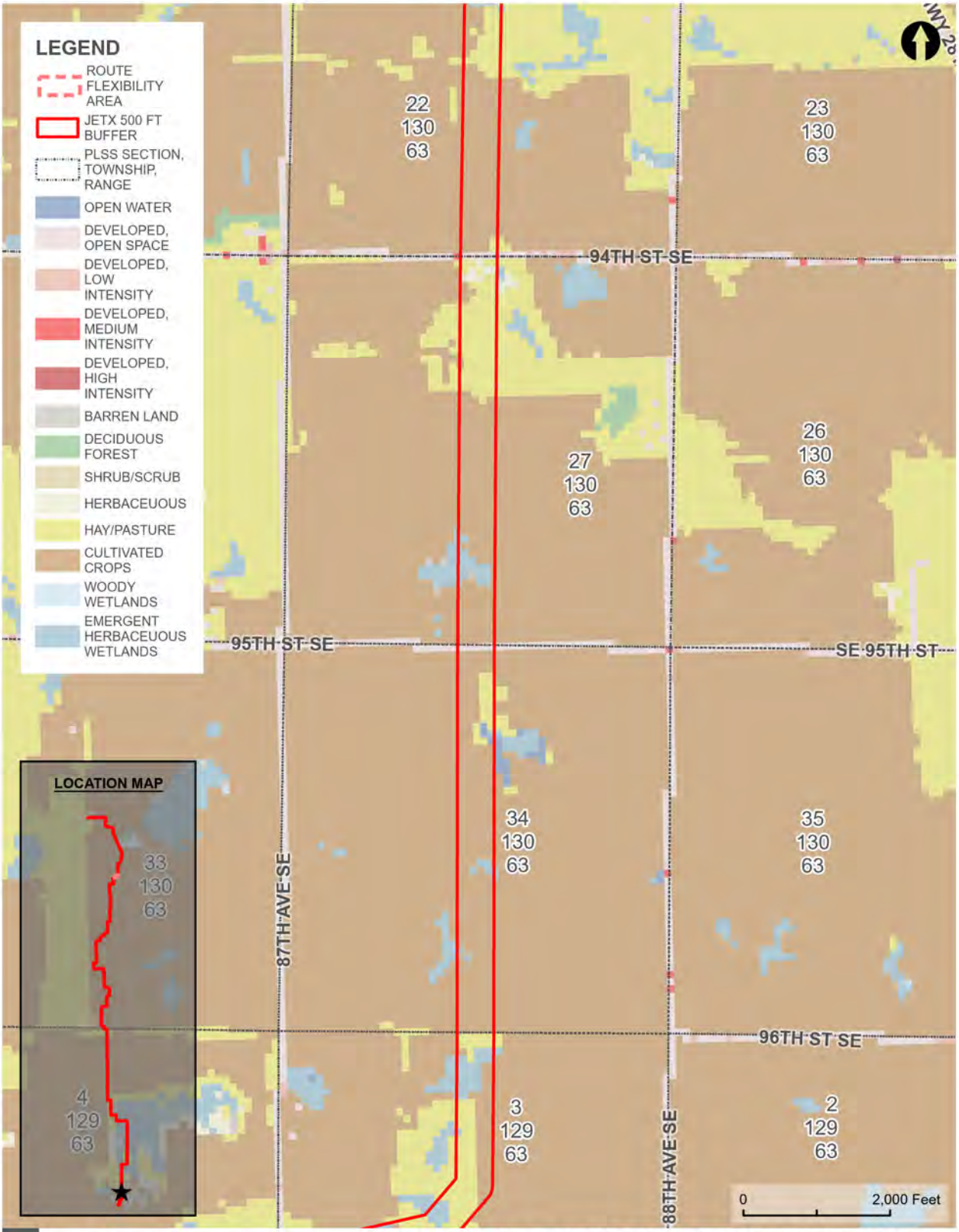

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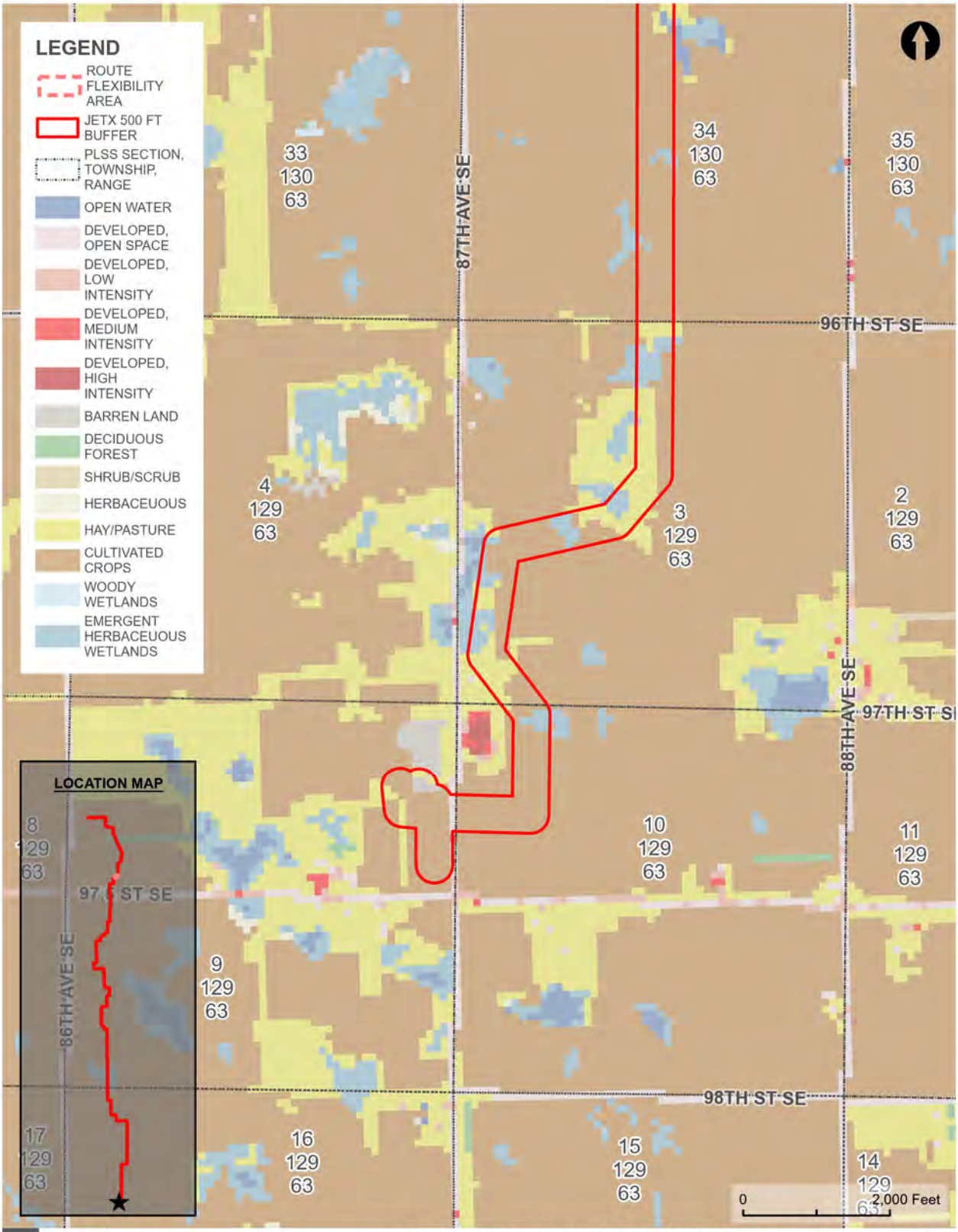

NATIONAL LANDCOVER DATASET (NLCD) MAP

Appendix B. Locations of suitable NLEB habitat within the JETx Survey Area in Stutsman, LaMoure, and Dickey counties, North Dakota.

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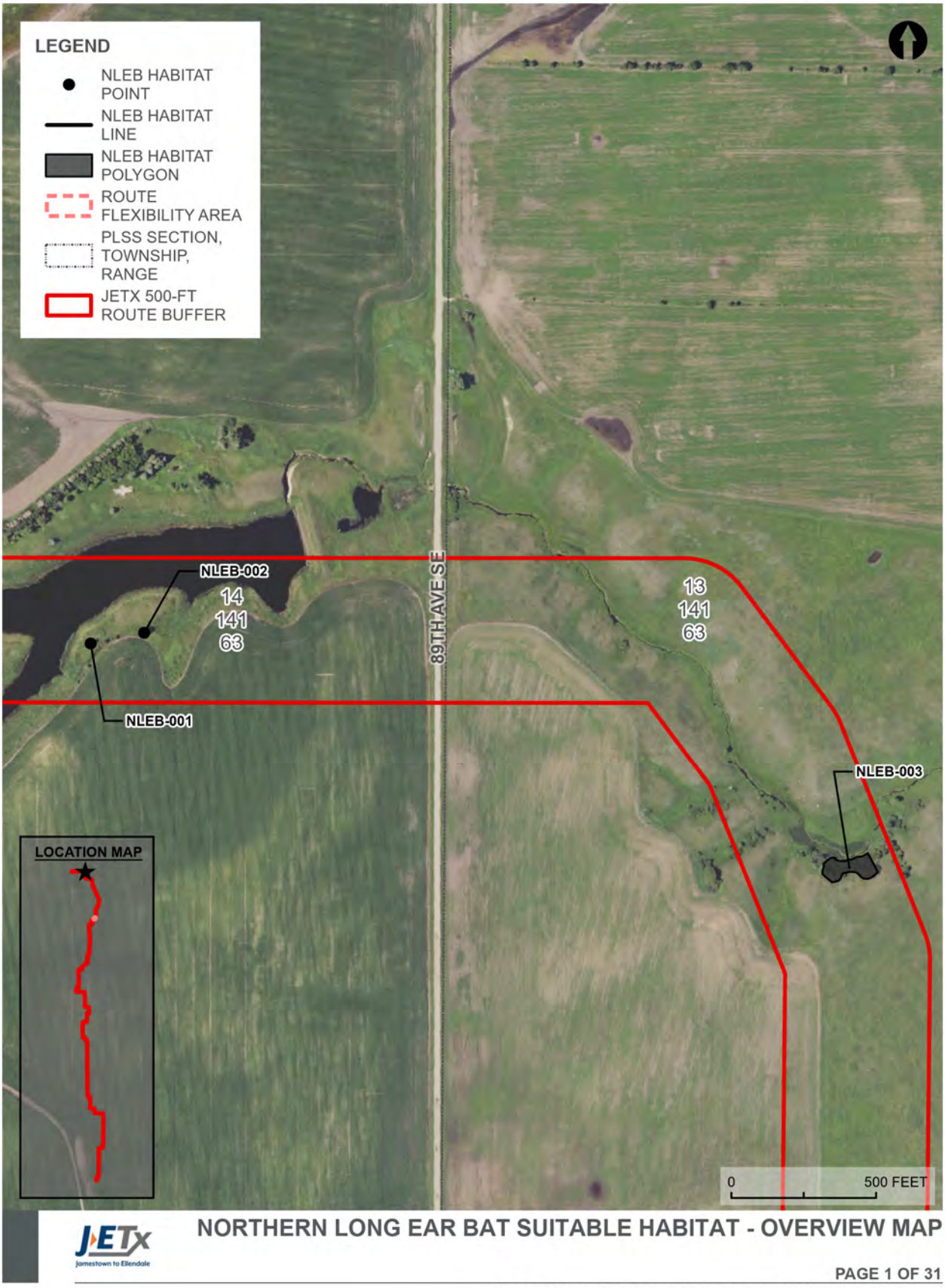

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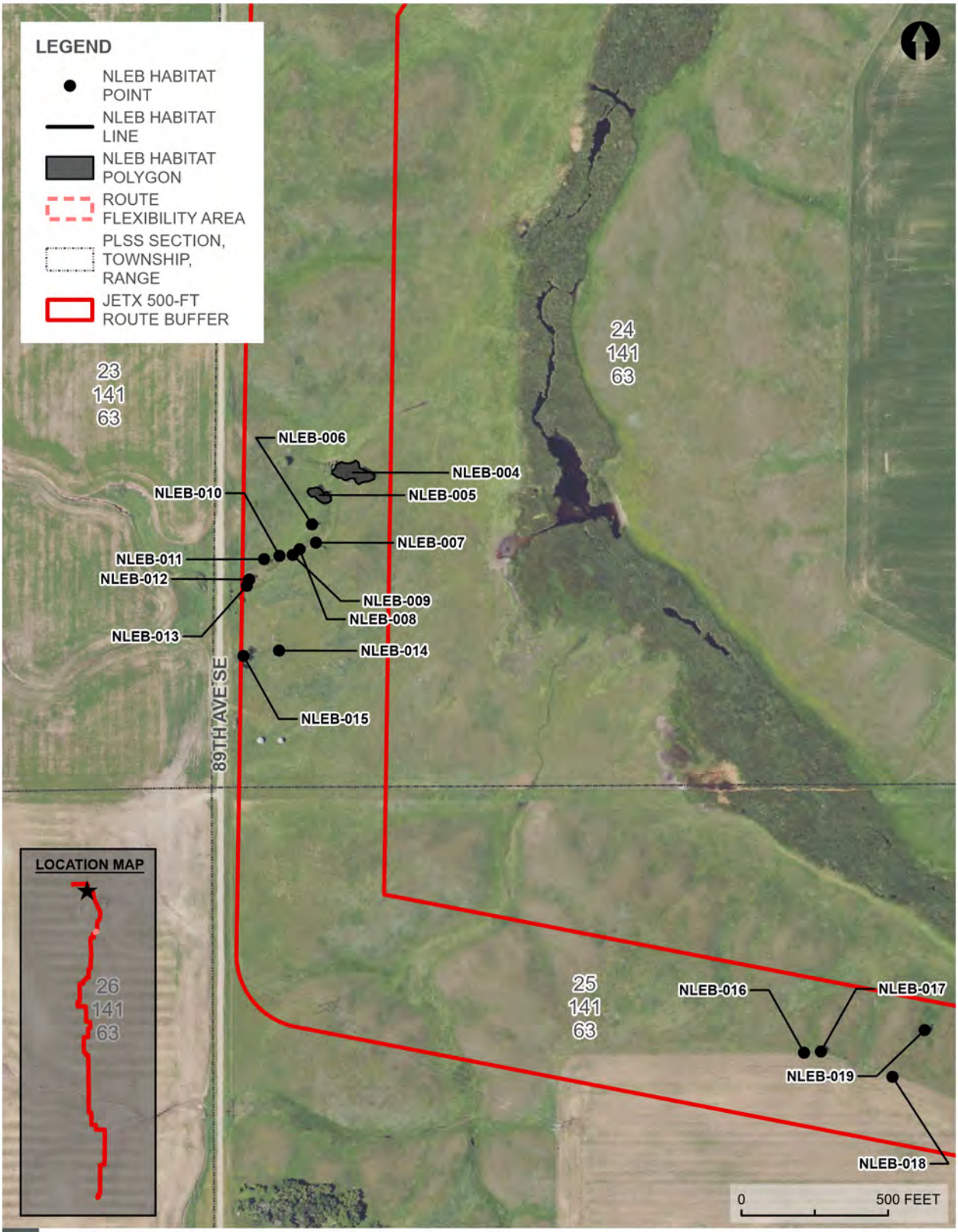

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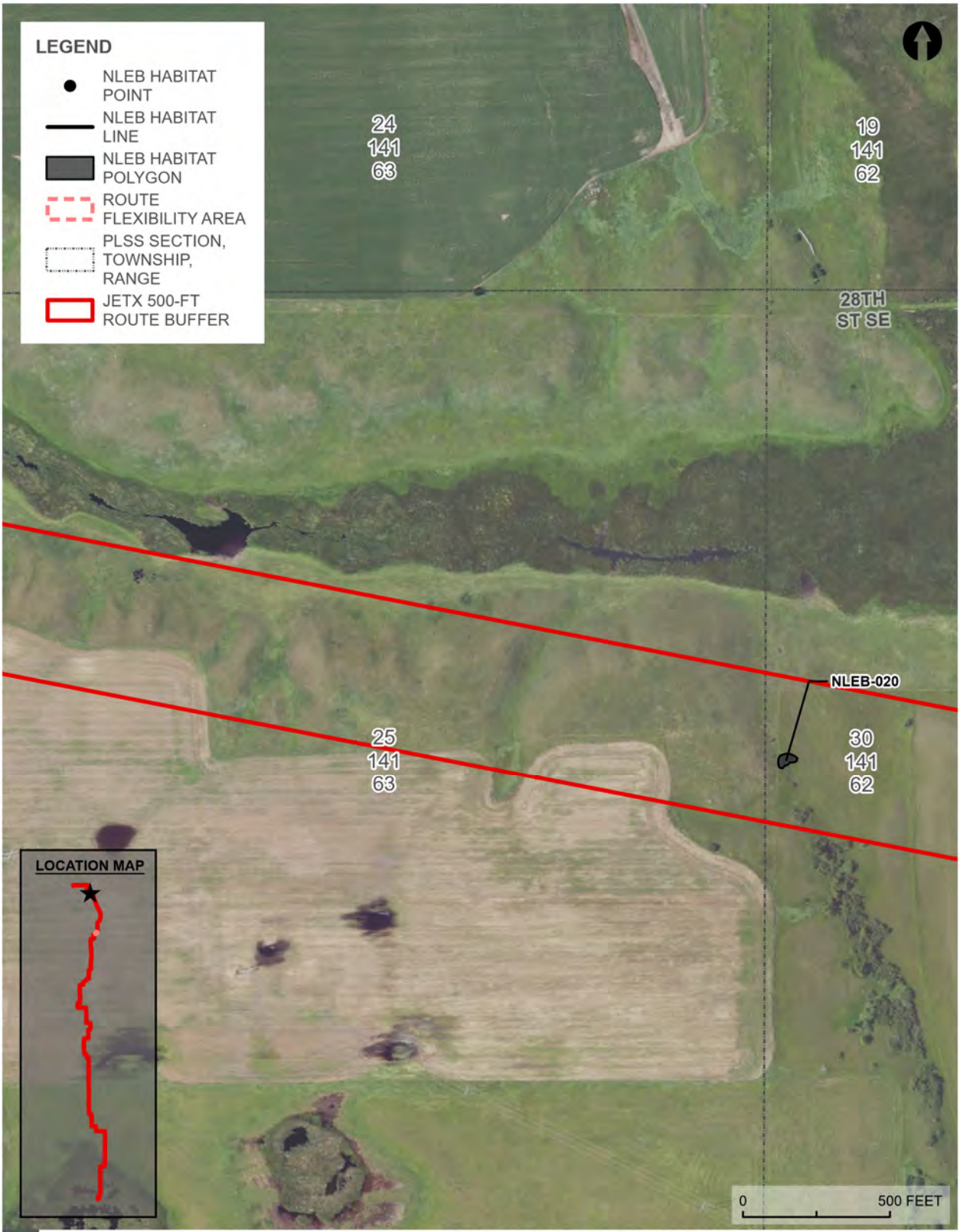

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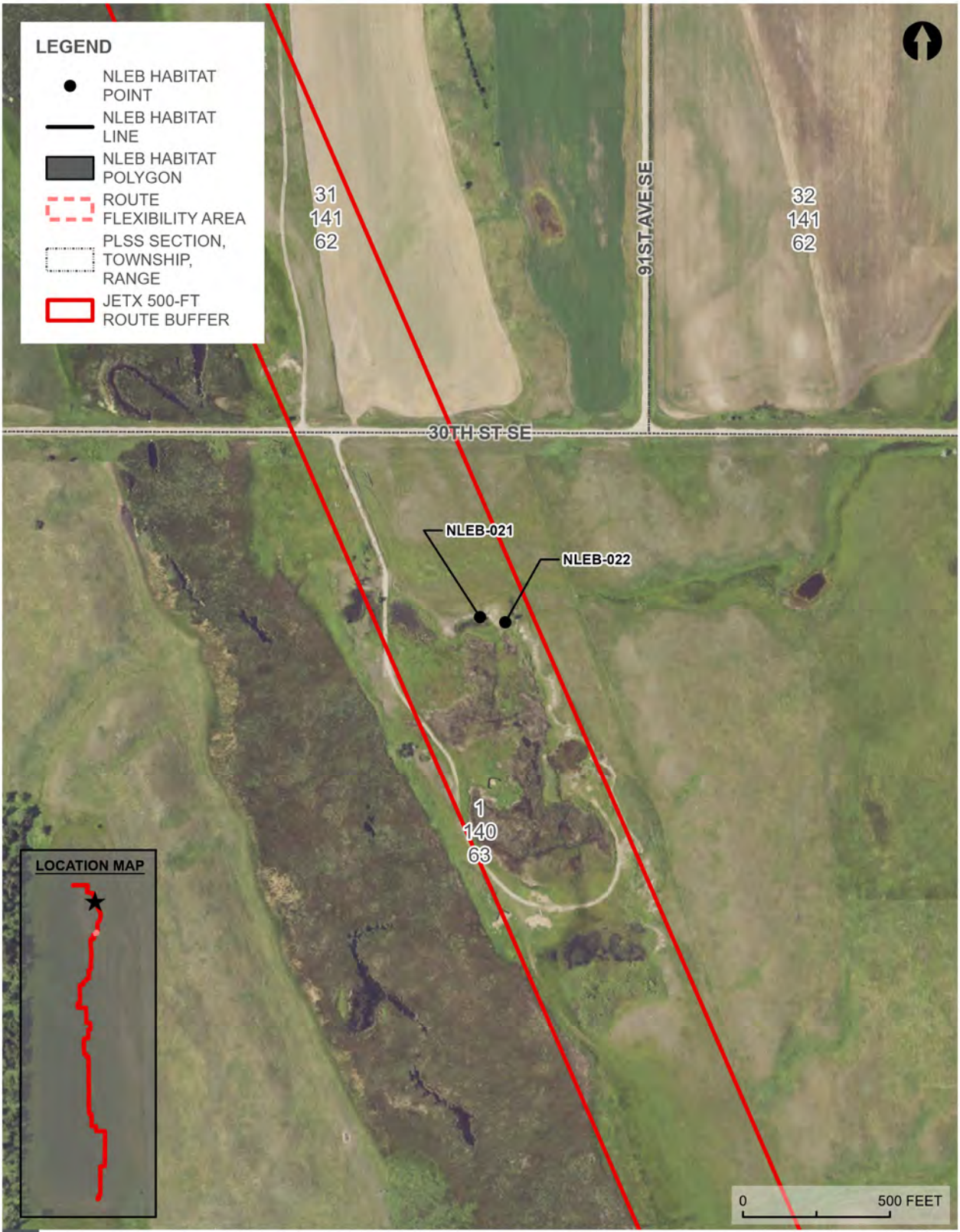

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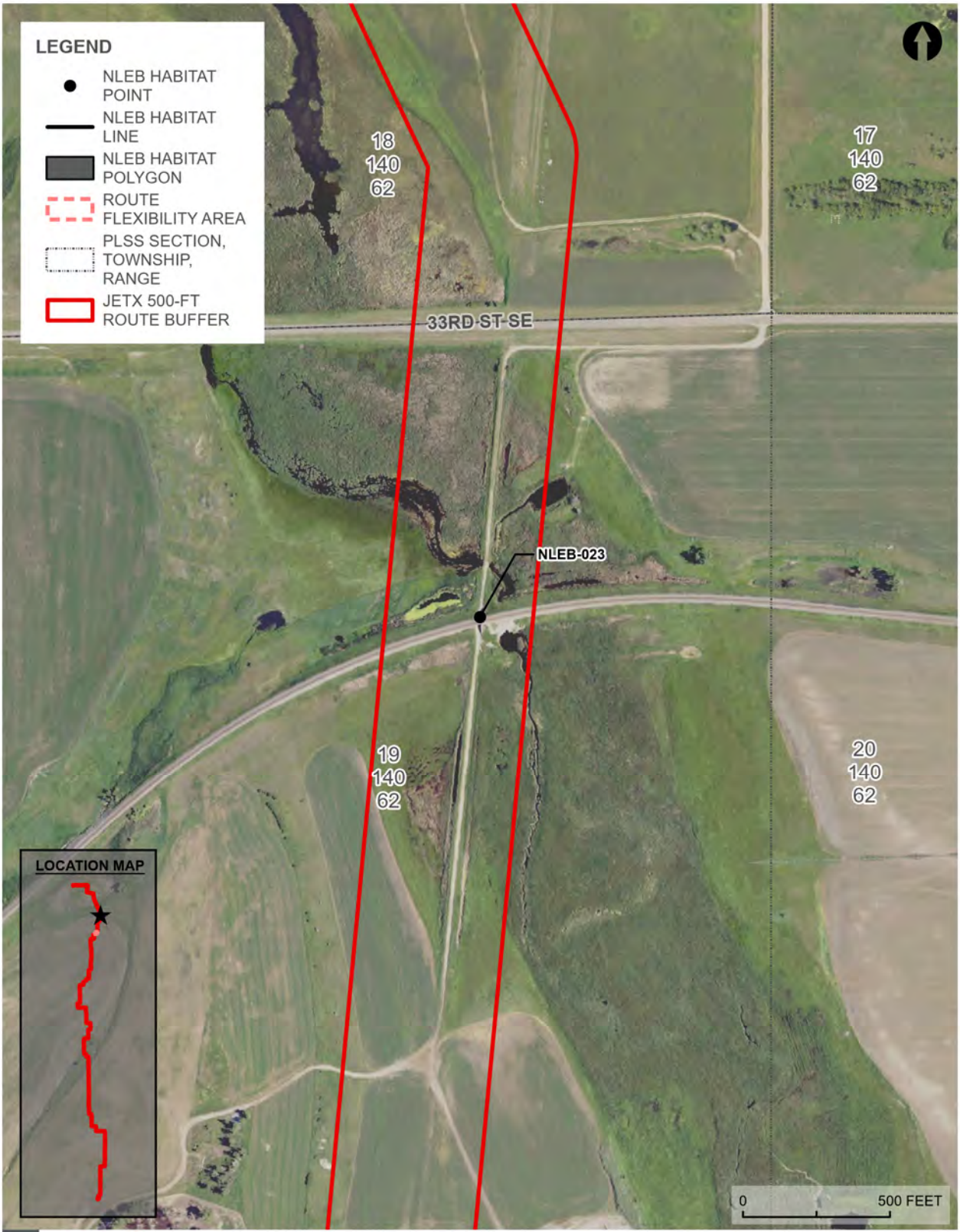

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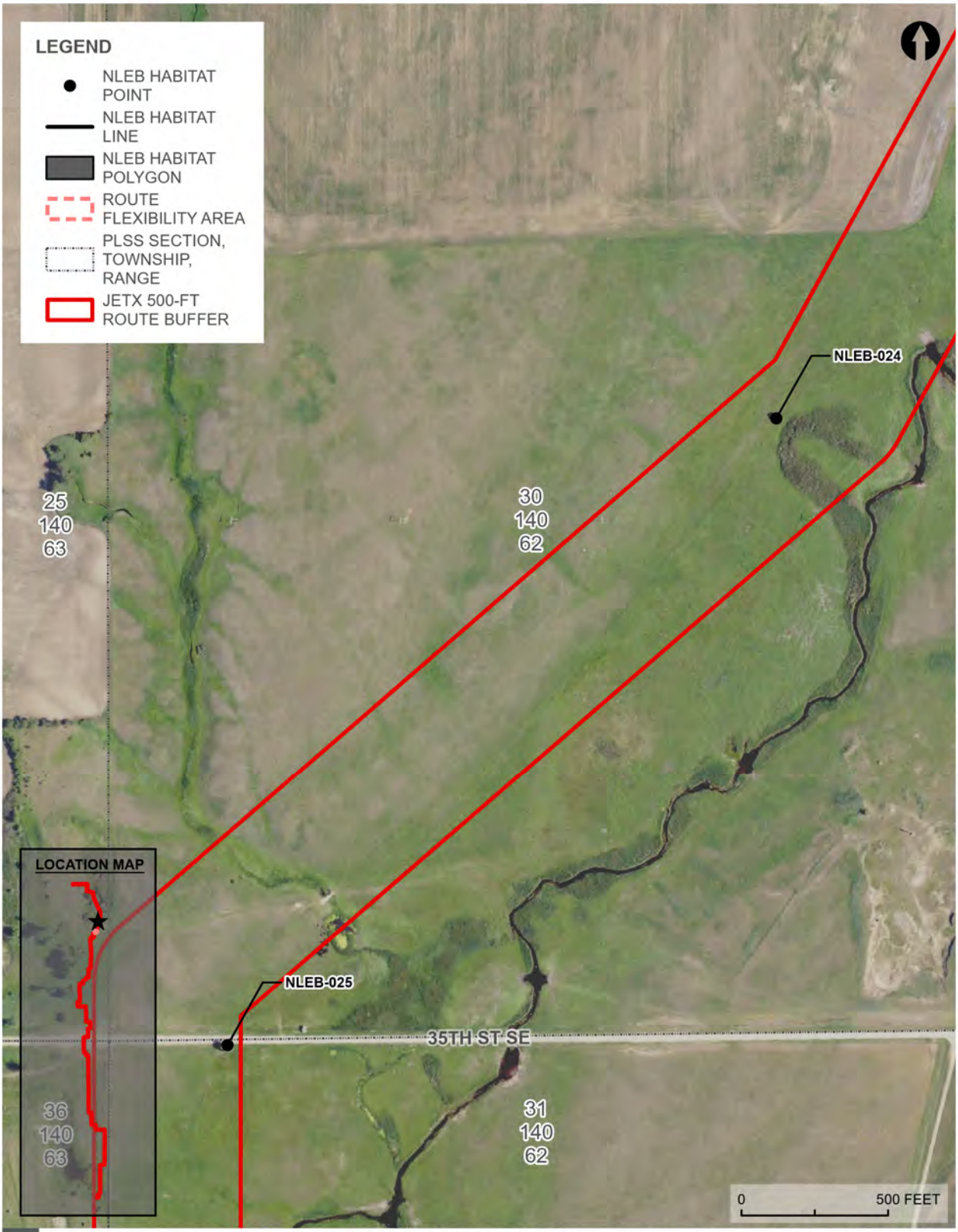

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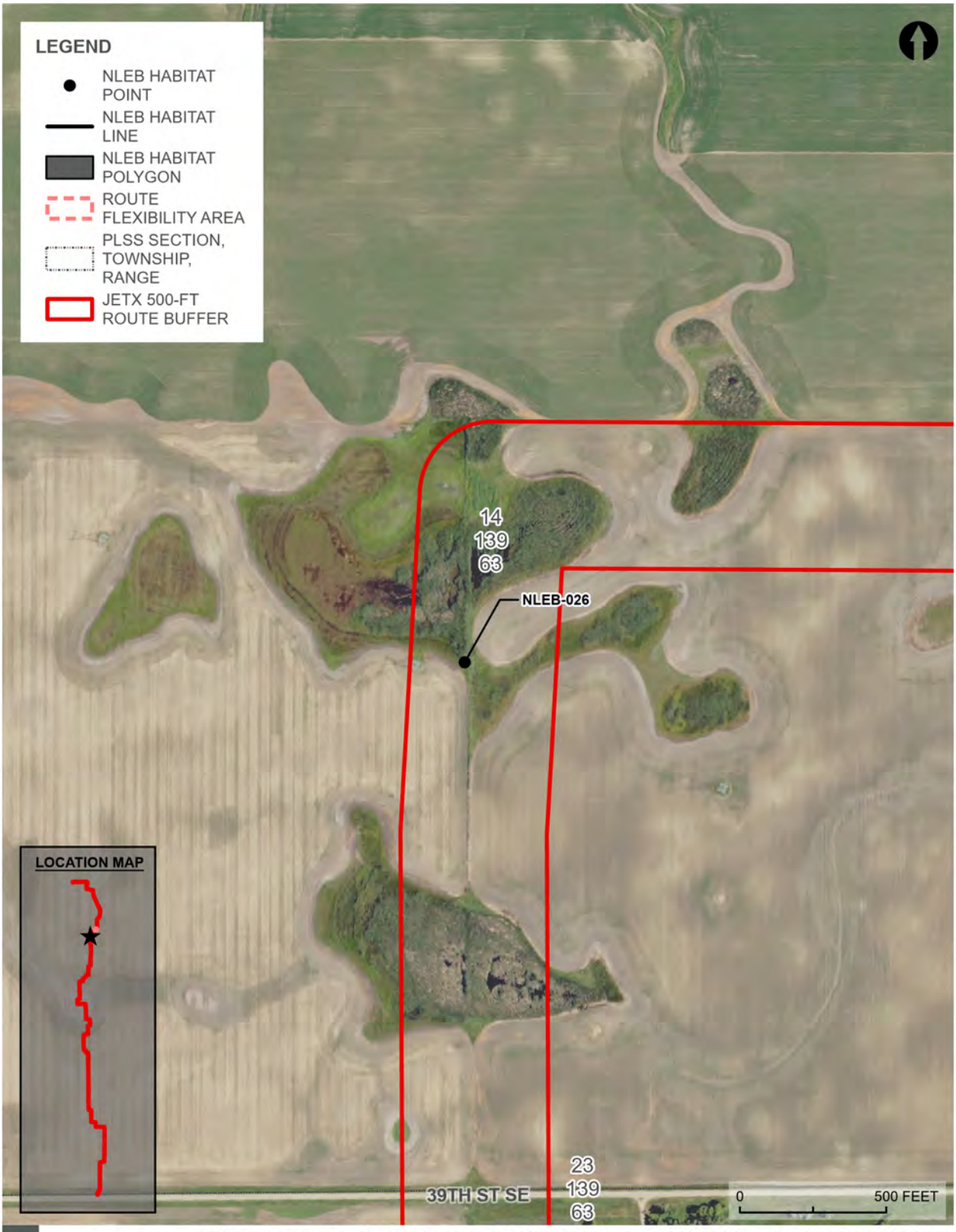
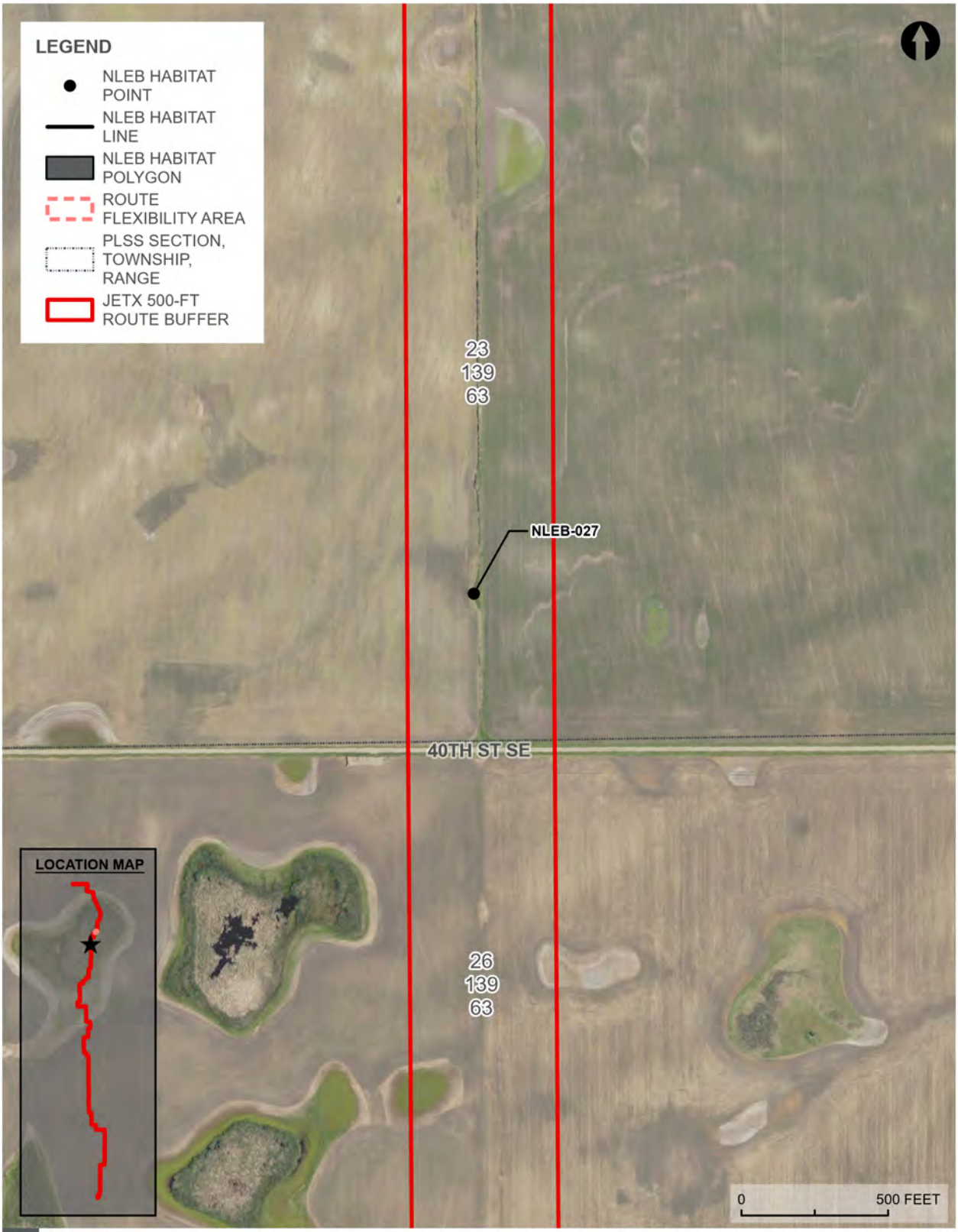
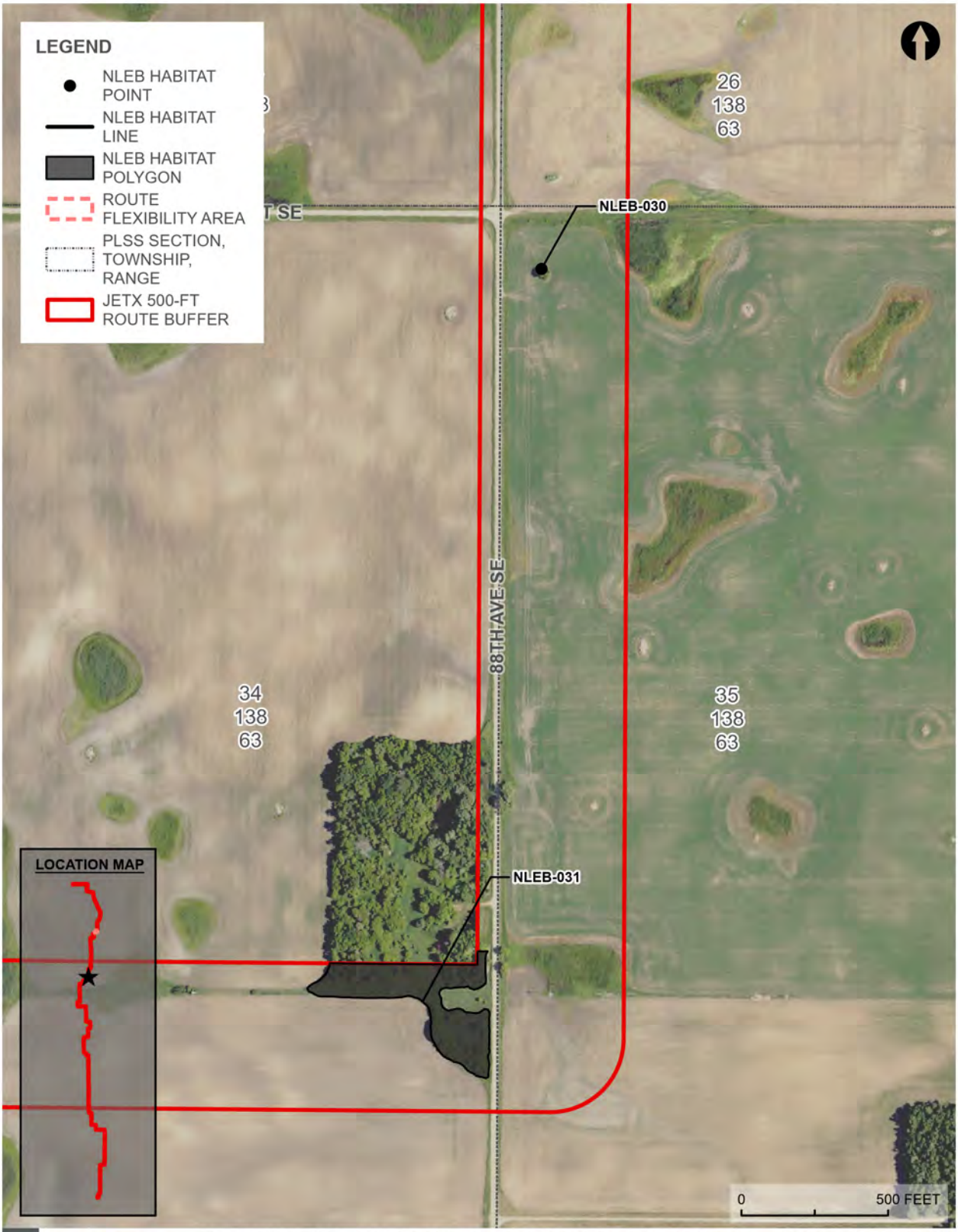


NORTHERN LONG EAR BAT SUITABLE HABITAT - OVERVIEW MAP

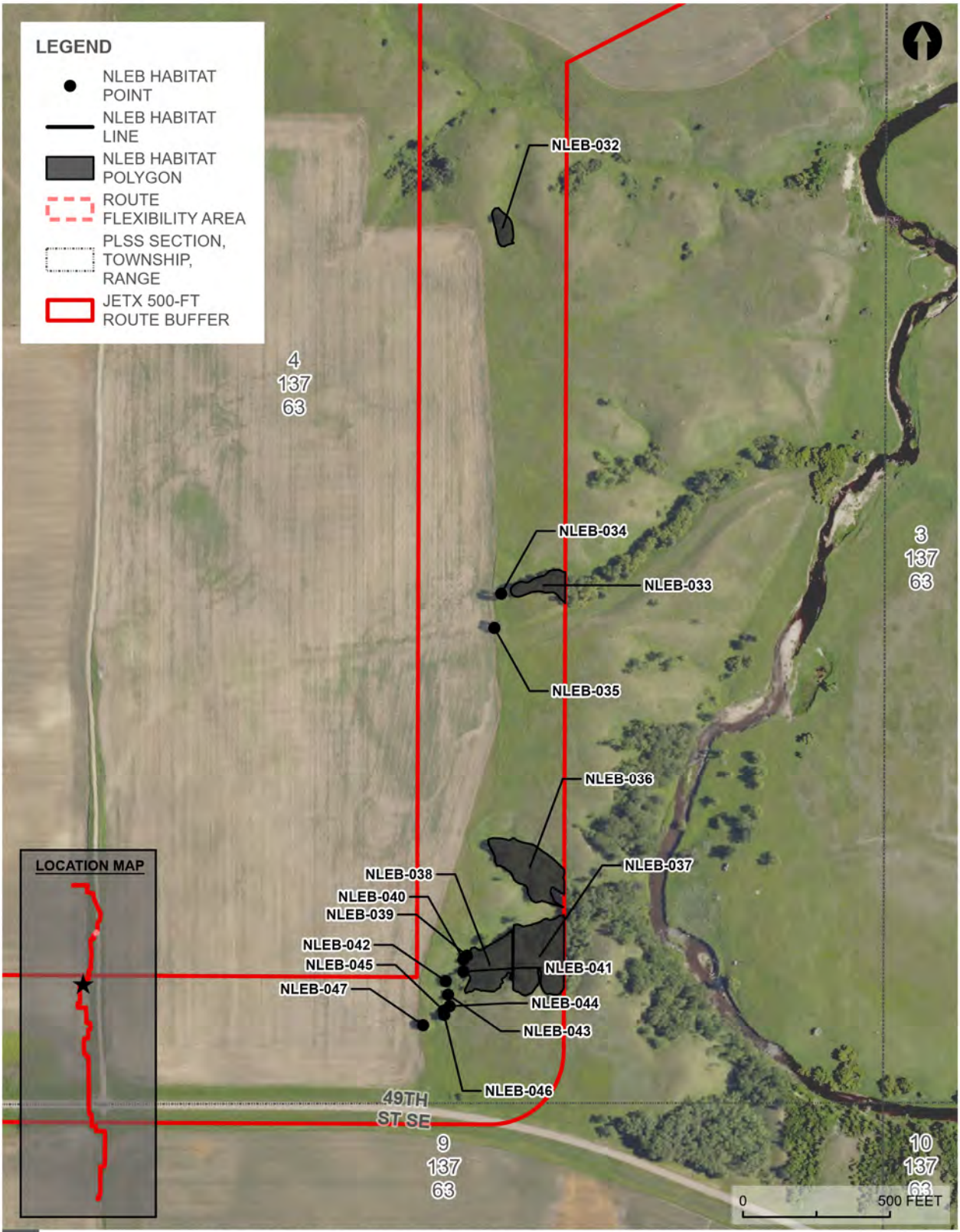


NORTHERN LONG EAR BAT SUITABLE HABITAT - OVERVIEW MAP

NORTHERN LONG EAR BAT SUITABLE HABITAT - OVERVIEW MAP



NORTHERN LONG EAR BAT SUITABLE HABITAT - OVERVIEW MAP



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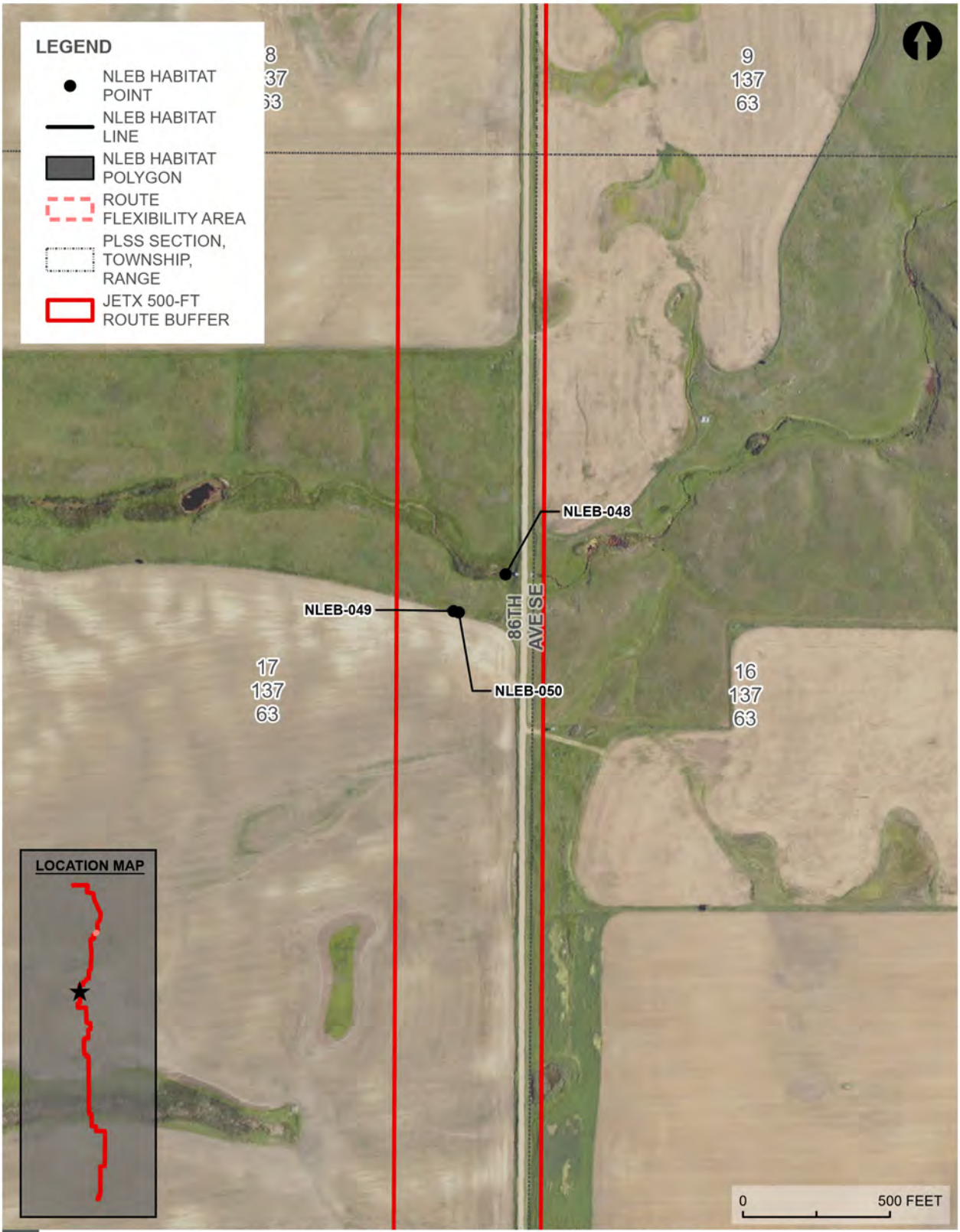
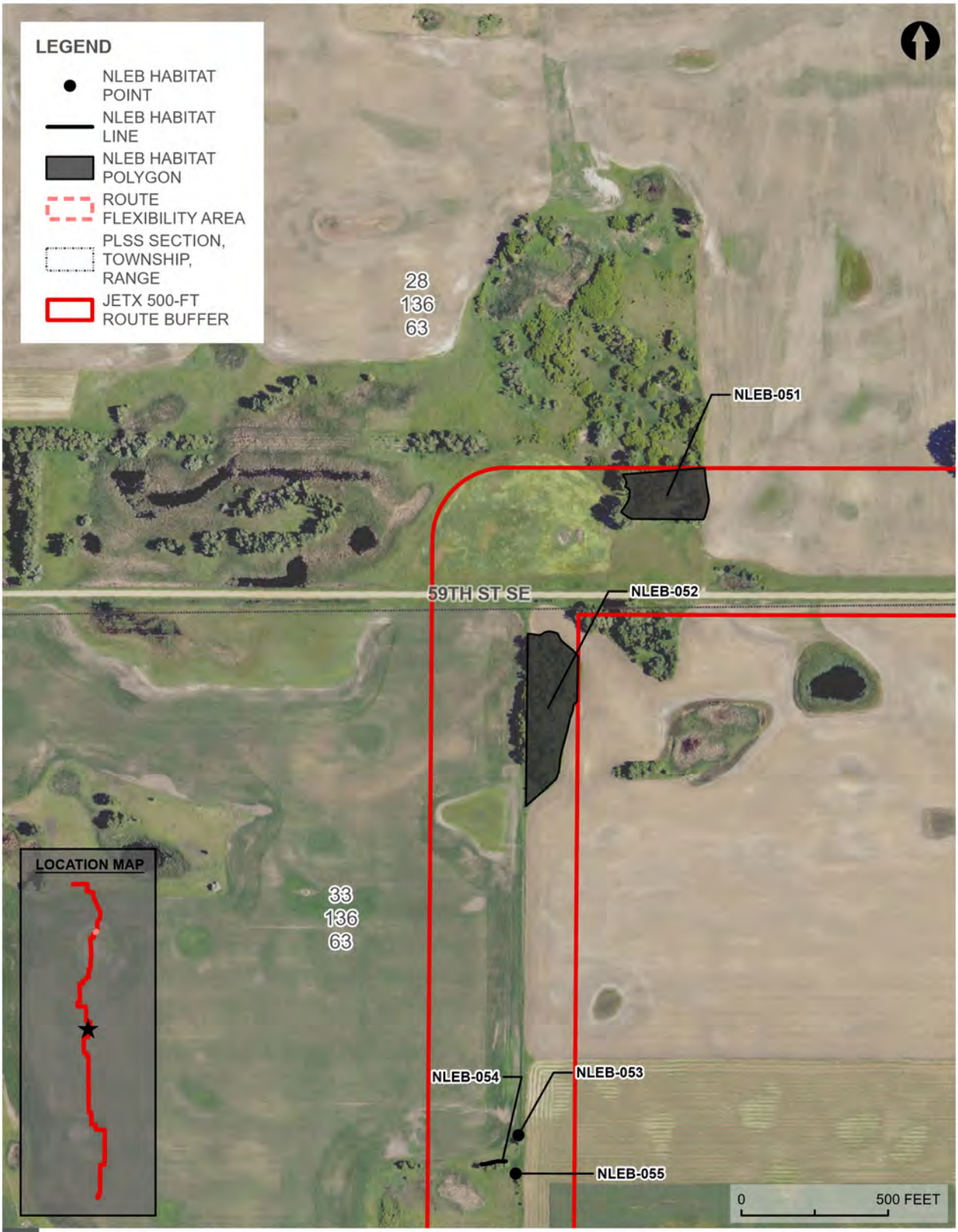
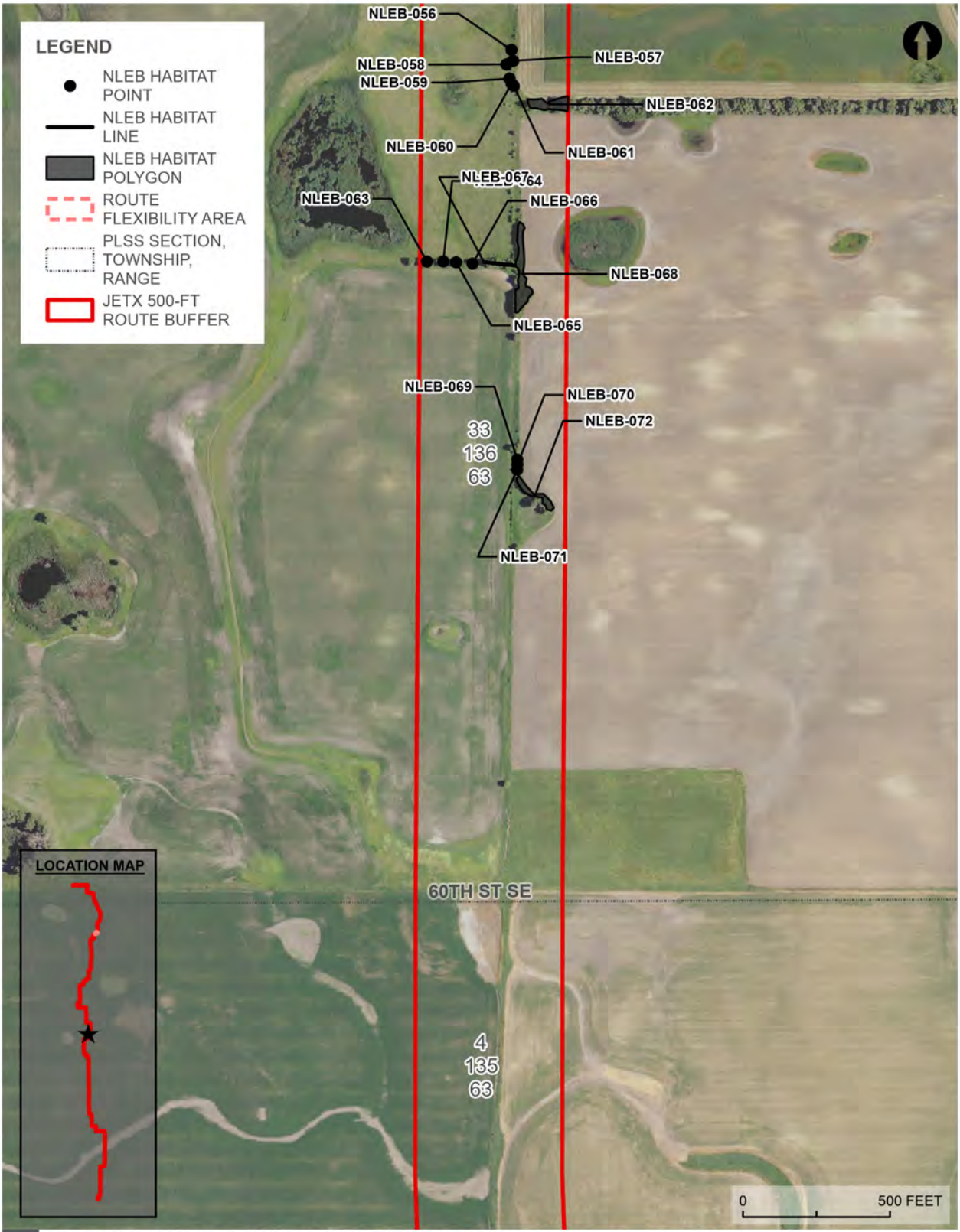


NORTHERN LONG EAR BAT SUITABLE HABITAT - OVERVIEW MAP



NORTHERN LONG EAR BAT SUITABLE HABITAT - OVERVIEW MAP



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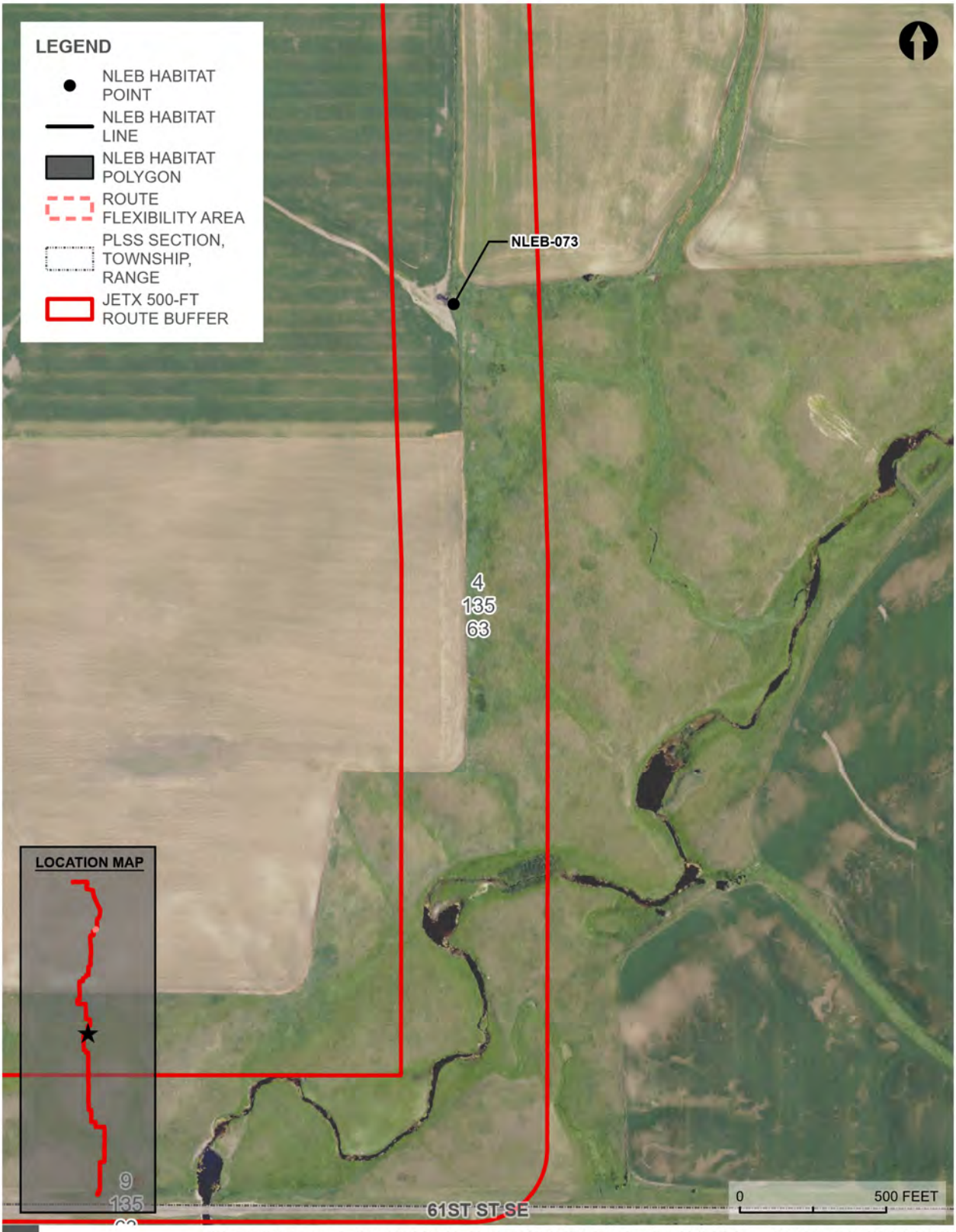
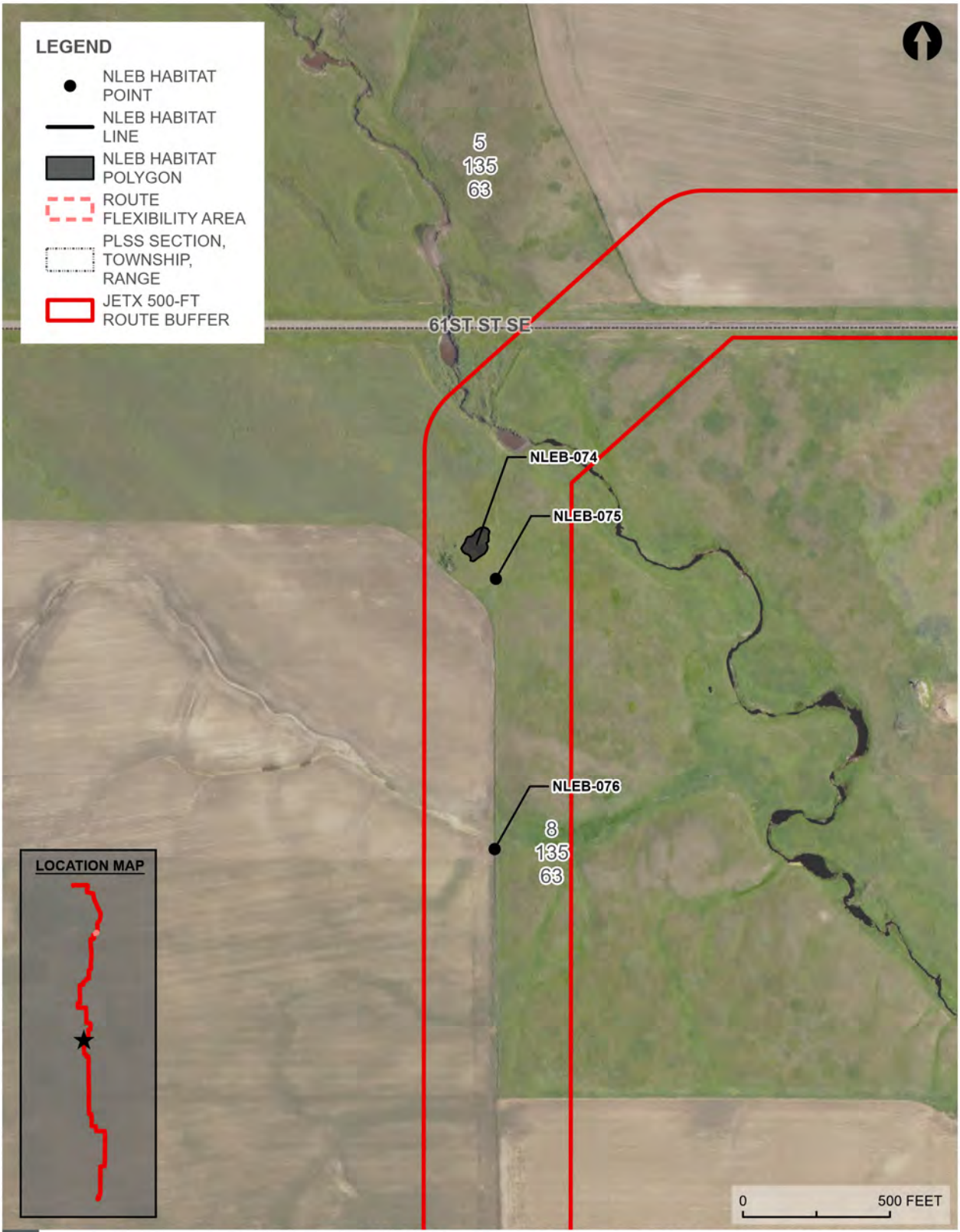


NORTHERN LONG EAR BAT SUITABLE HABITAT - OVERVIEW MAP



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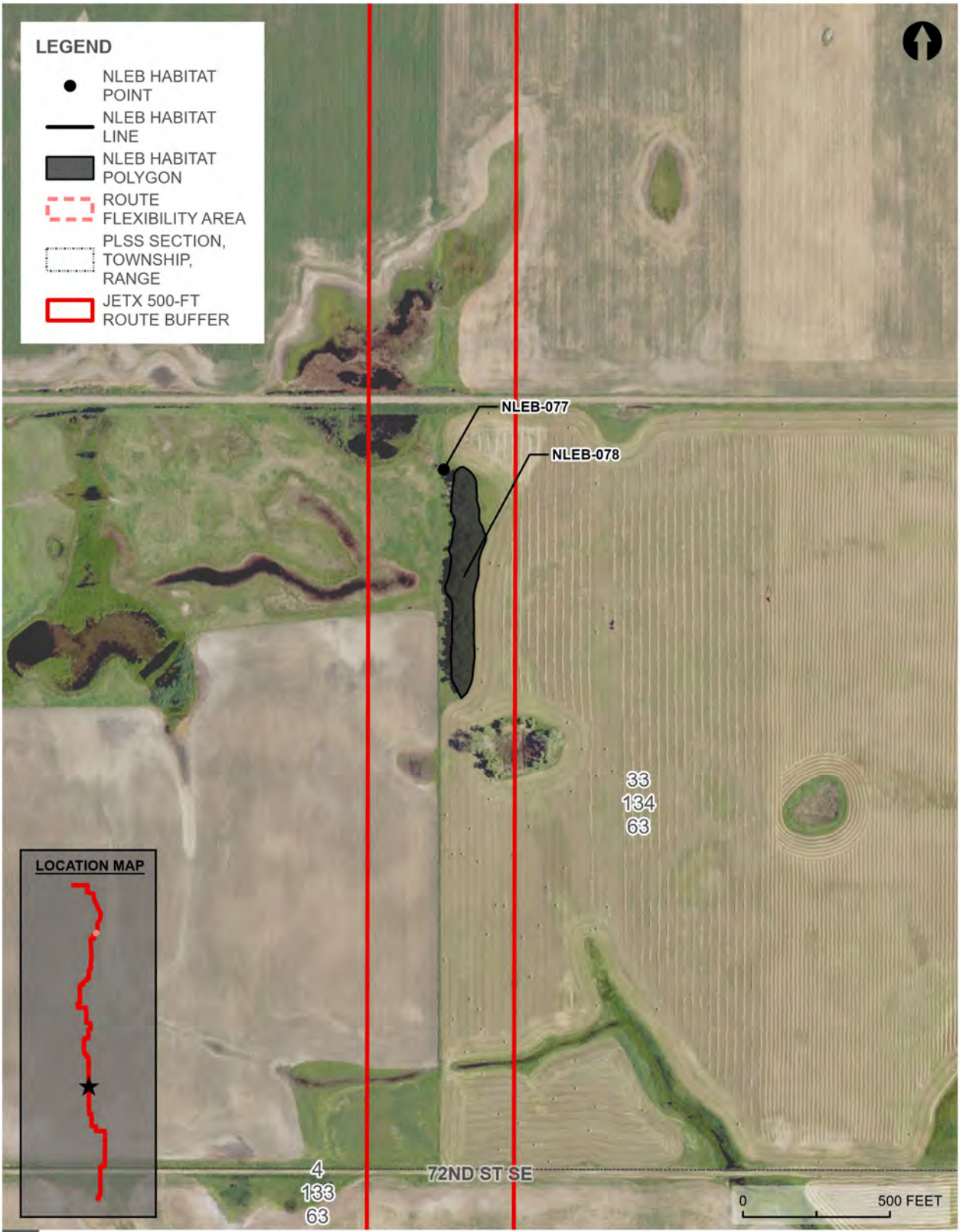
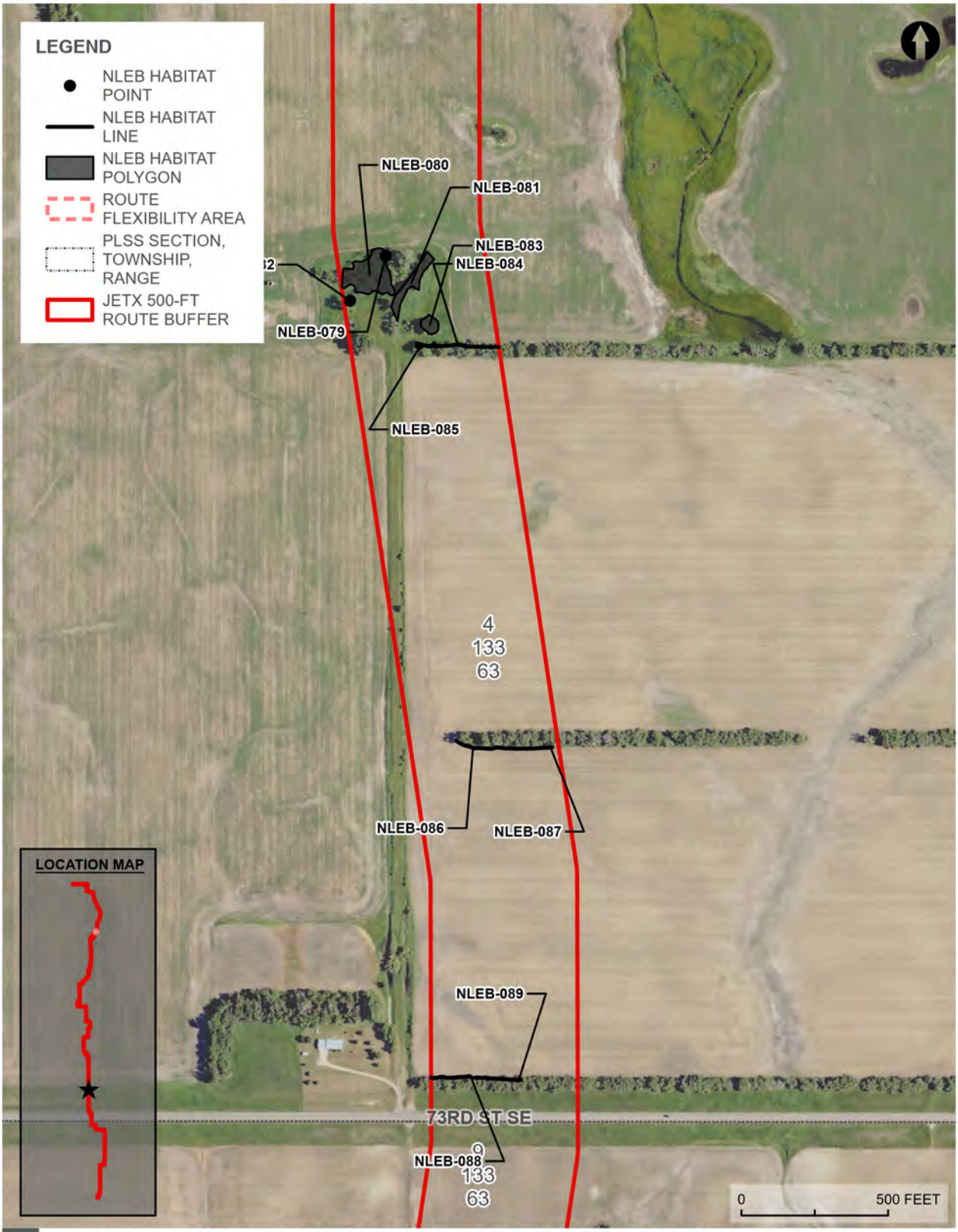
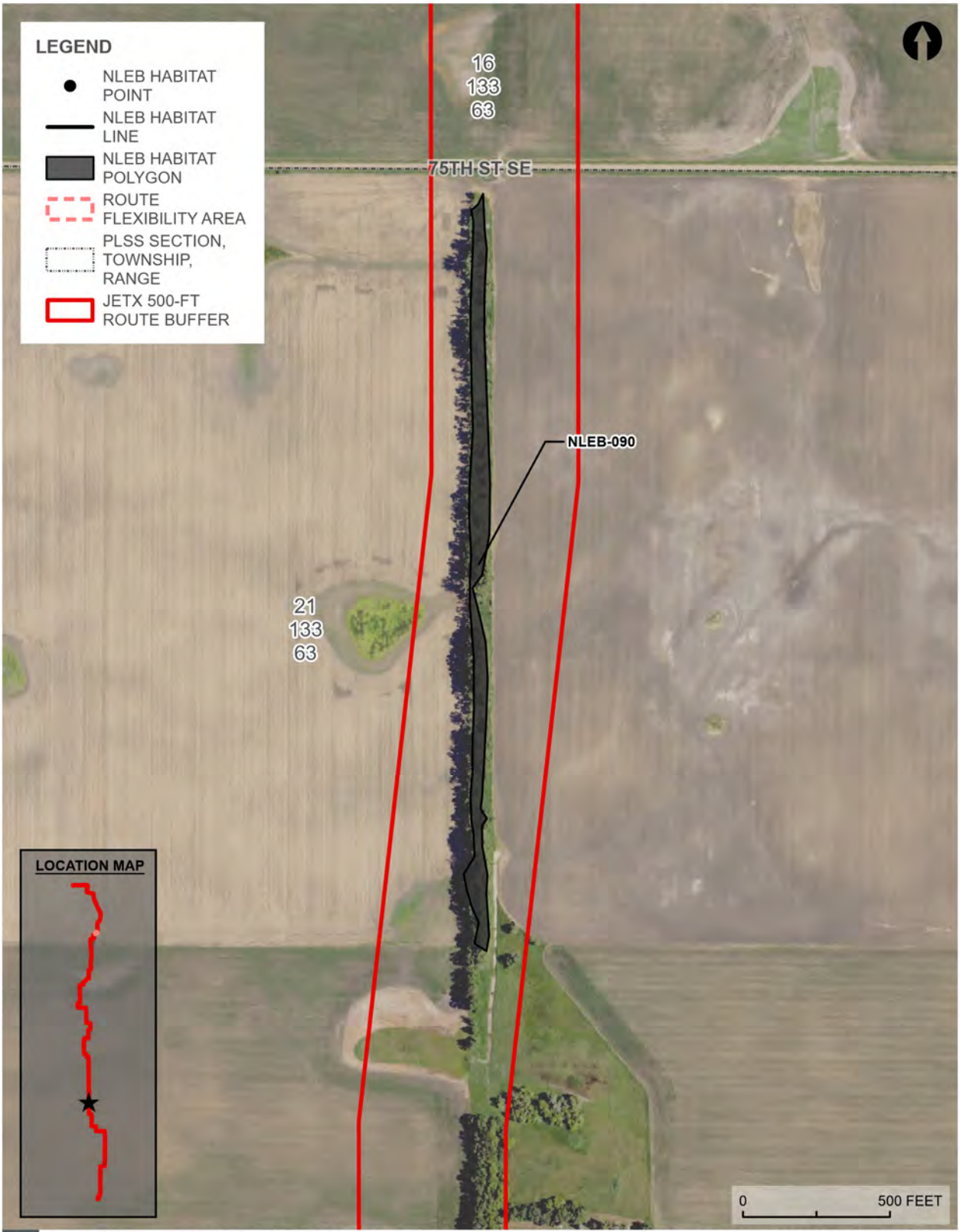


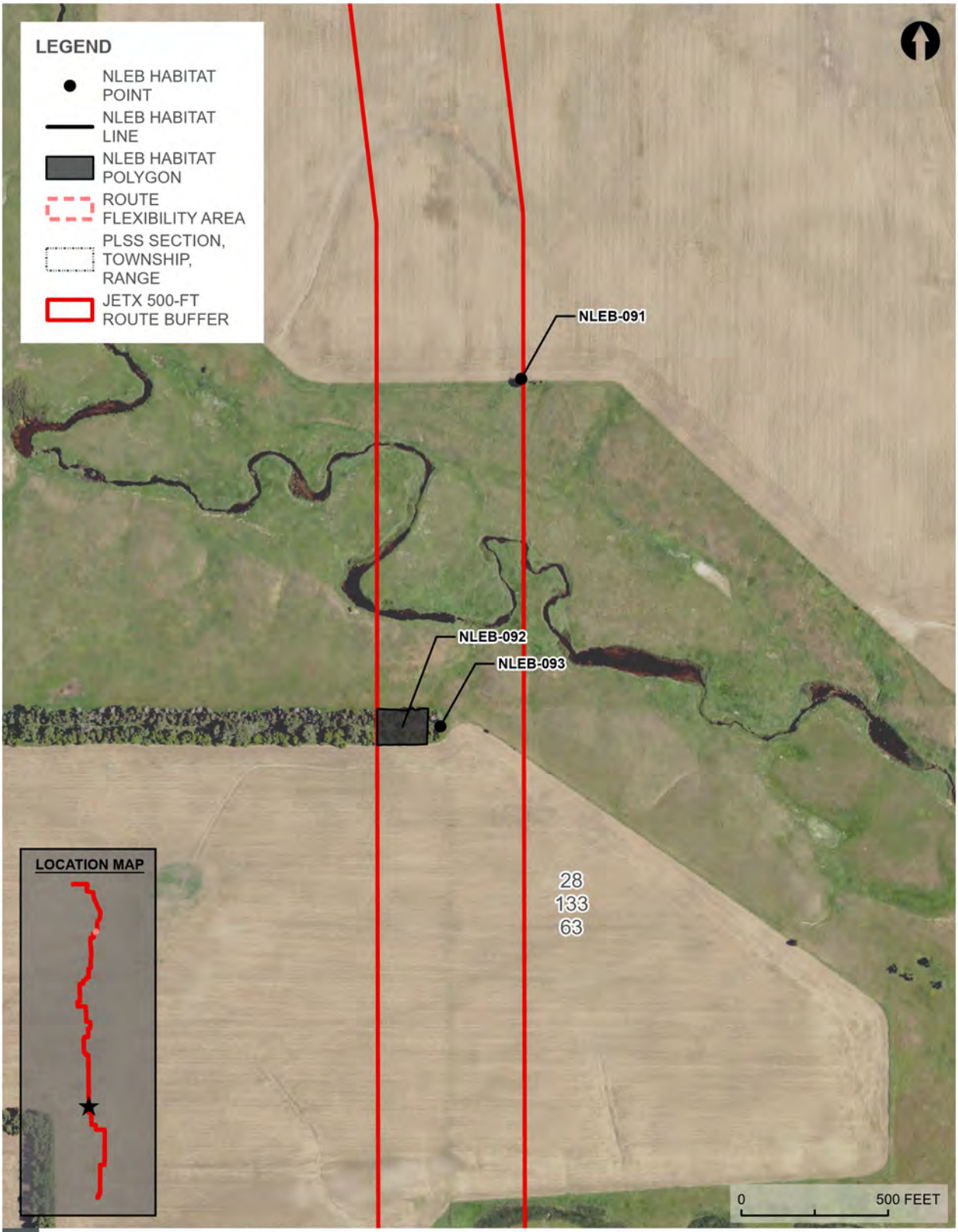
NORTHERN LONG EAR BAT SUITABLE HABITAT - OVERVIEW MAP



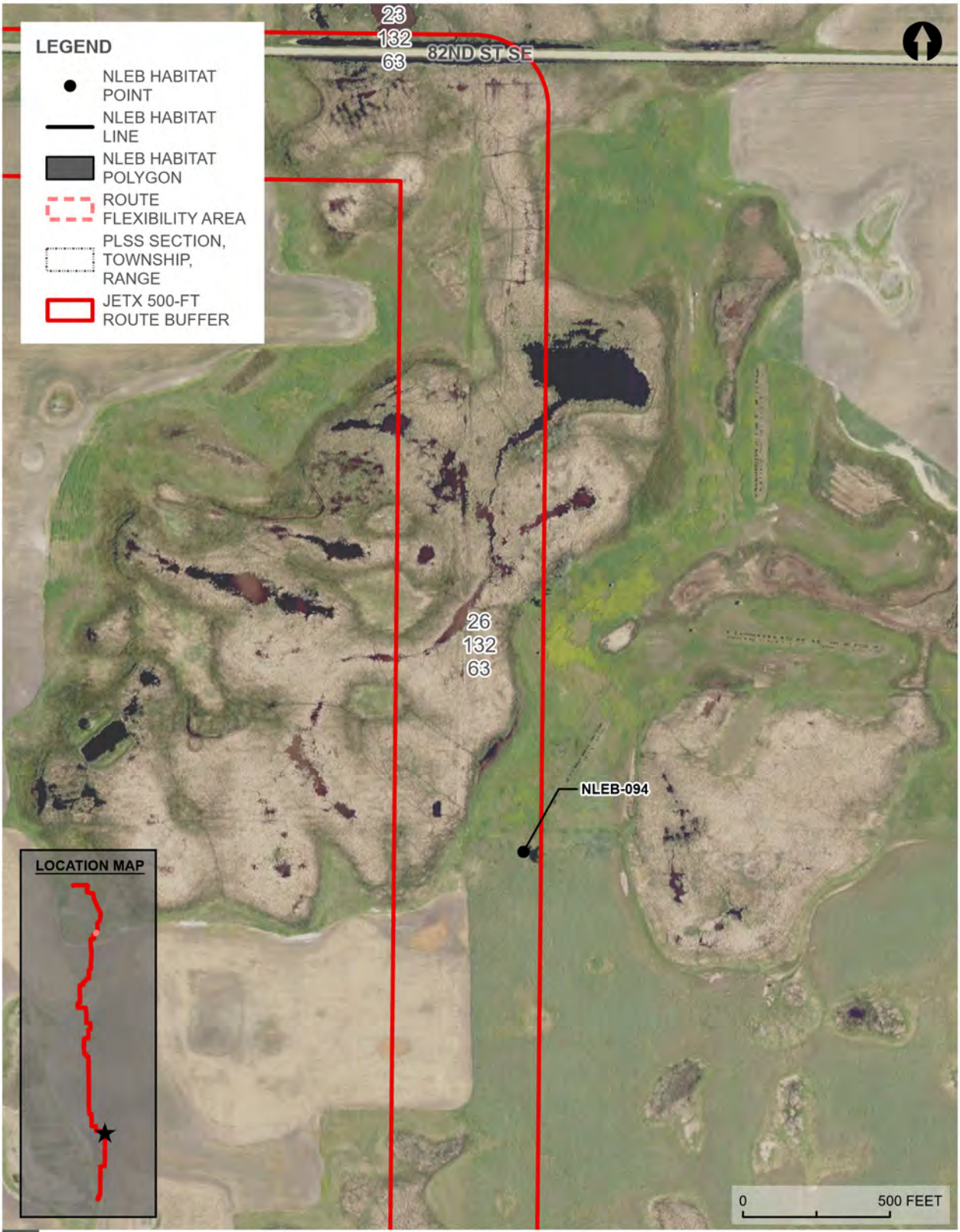
NORTHERN LONG EAR BAT SUITABLE HABITAT - OVERVIEW MAP



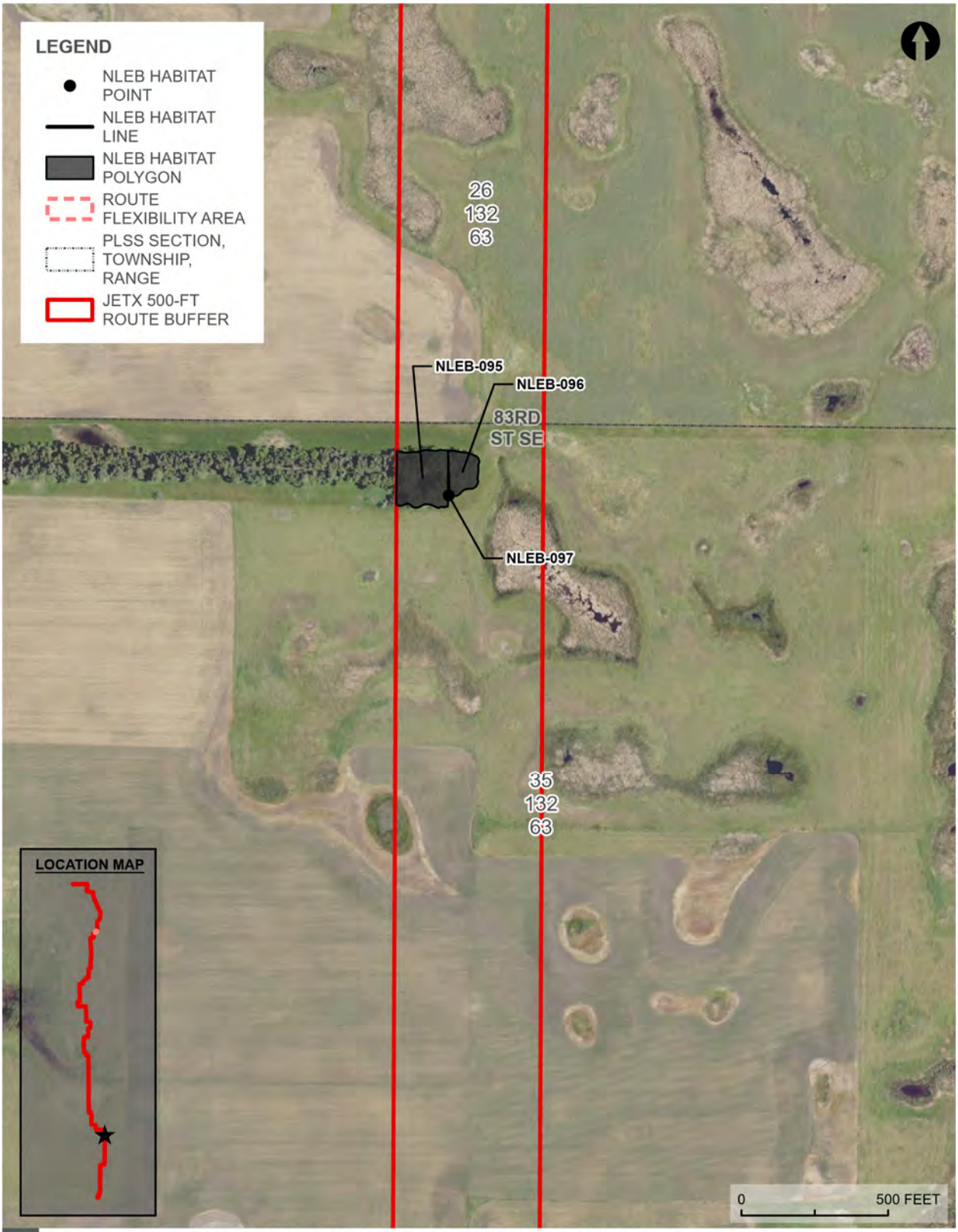
NORTHERN LONG EAR BAT SUITABLE HABITAT - OVERVIEW MAP



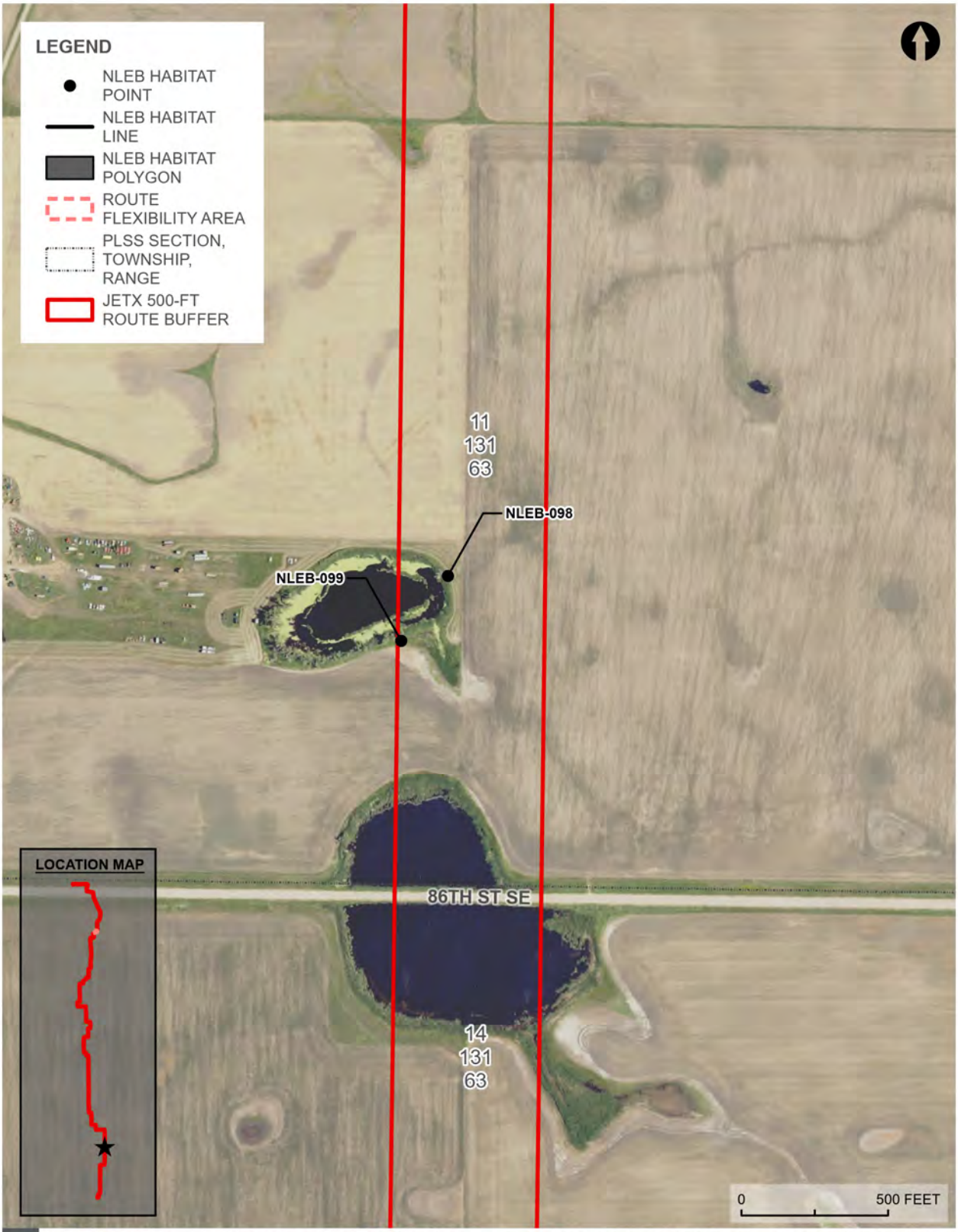
NORTHERN LONG EAR BAT SUITABLE HABITAT - OVERVIEW MAP



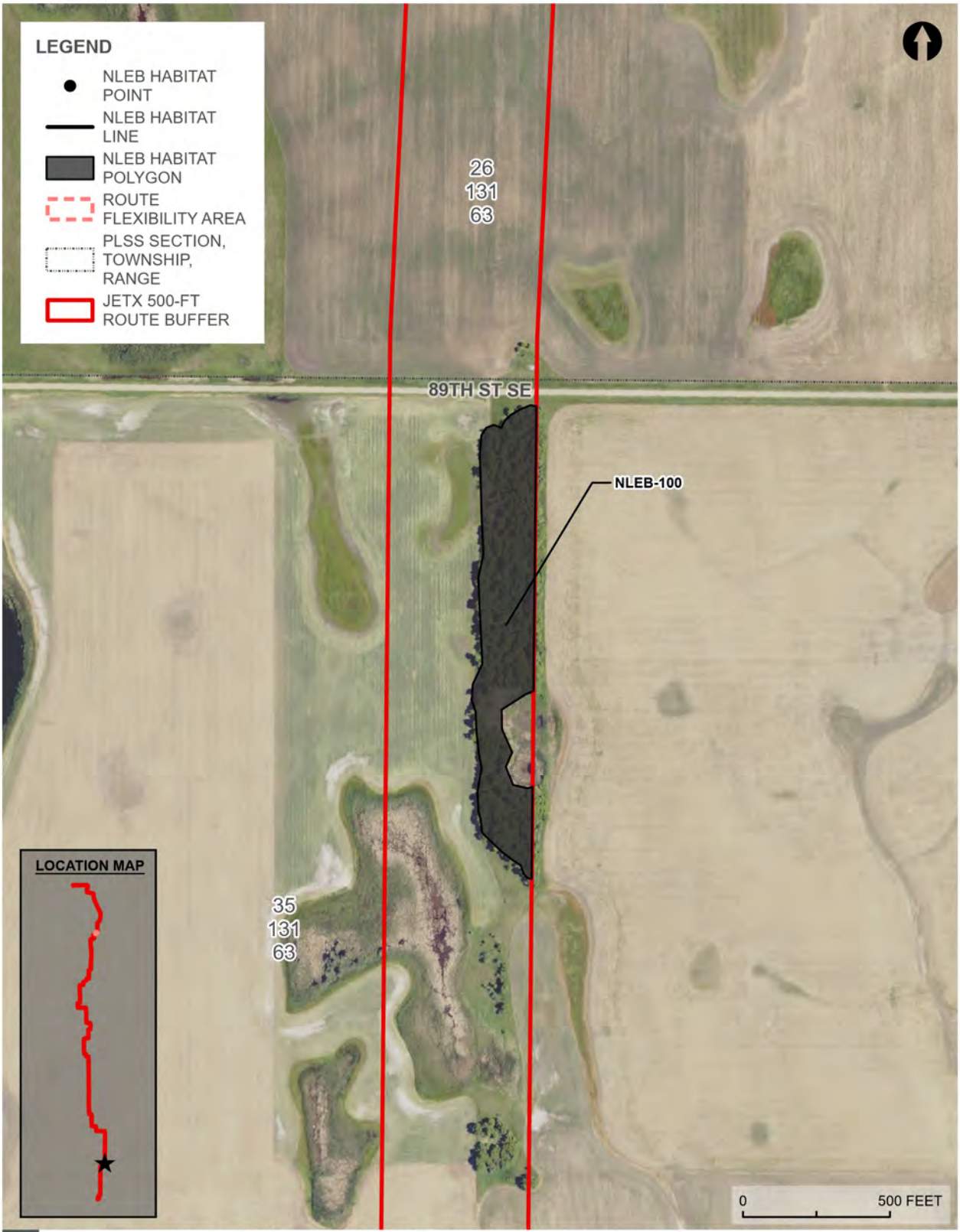
NORTHERN LONG EAR BAT SUITABLE HABITAT - OVERVIEW MAP



NORTHERN LONG EAR BAT SUITABLE HABITAT - OVERVIEW MAP

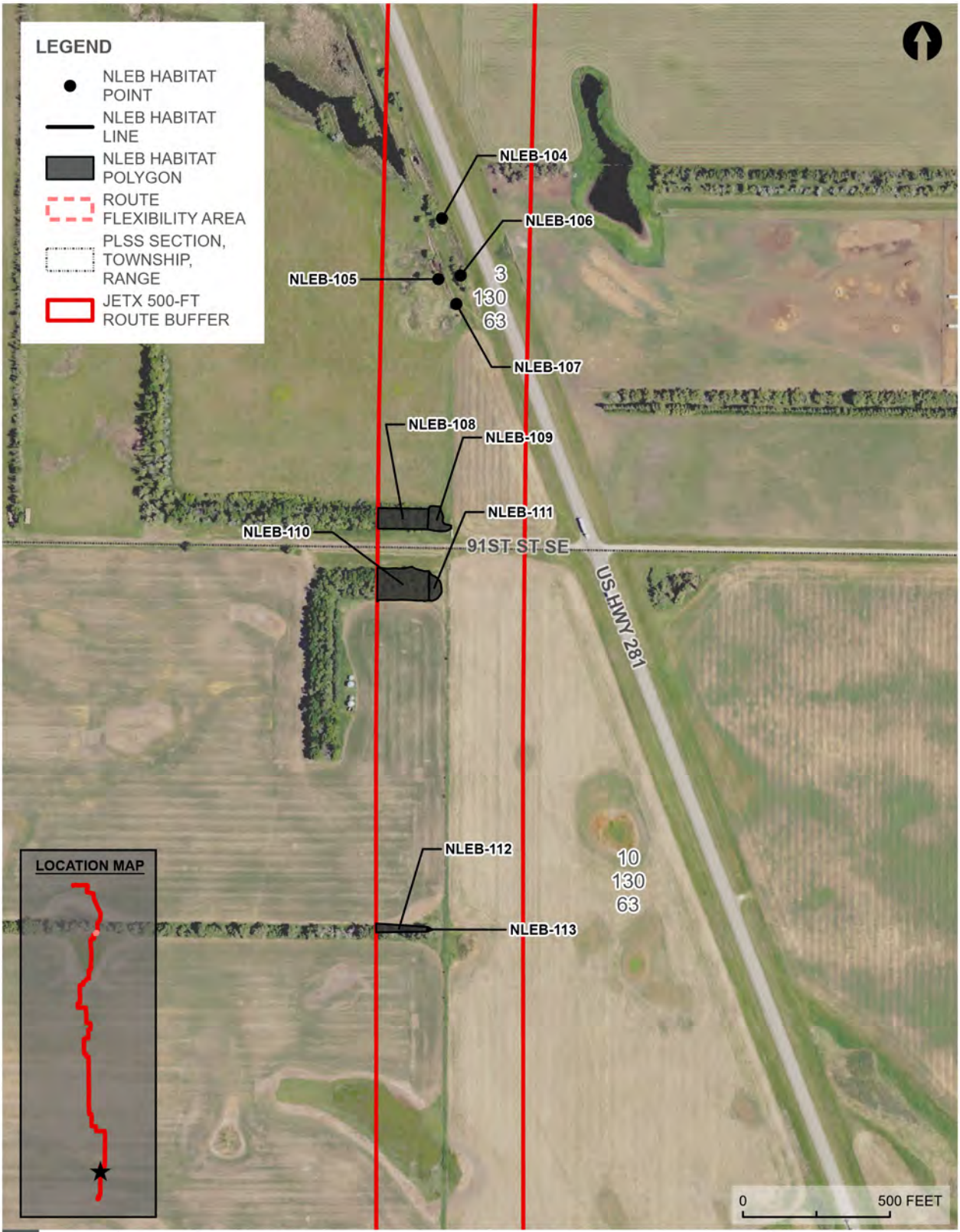


NORTHERN LONG EAR BAT SUITABLE HABITAT - OVERVIEW MAP

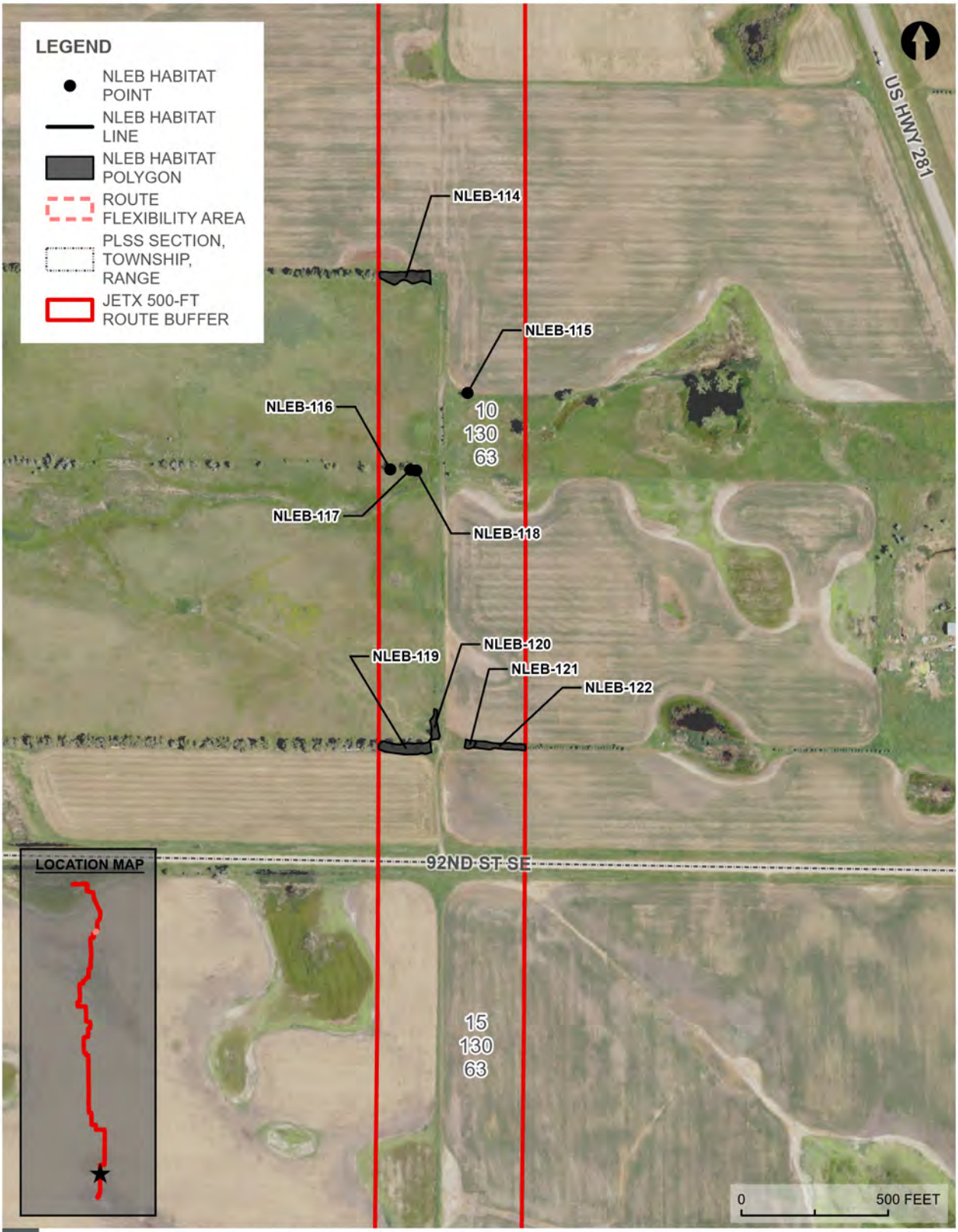


NORTHERN LONG EAR BAT SUITABLE HABITAT - OVERVIEW MAP

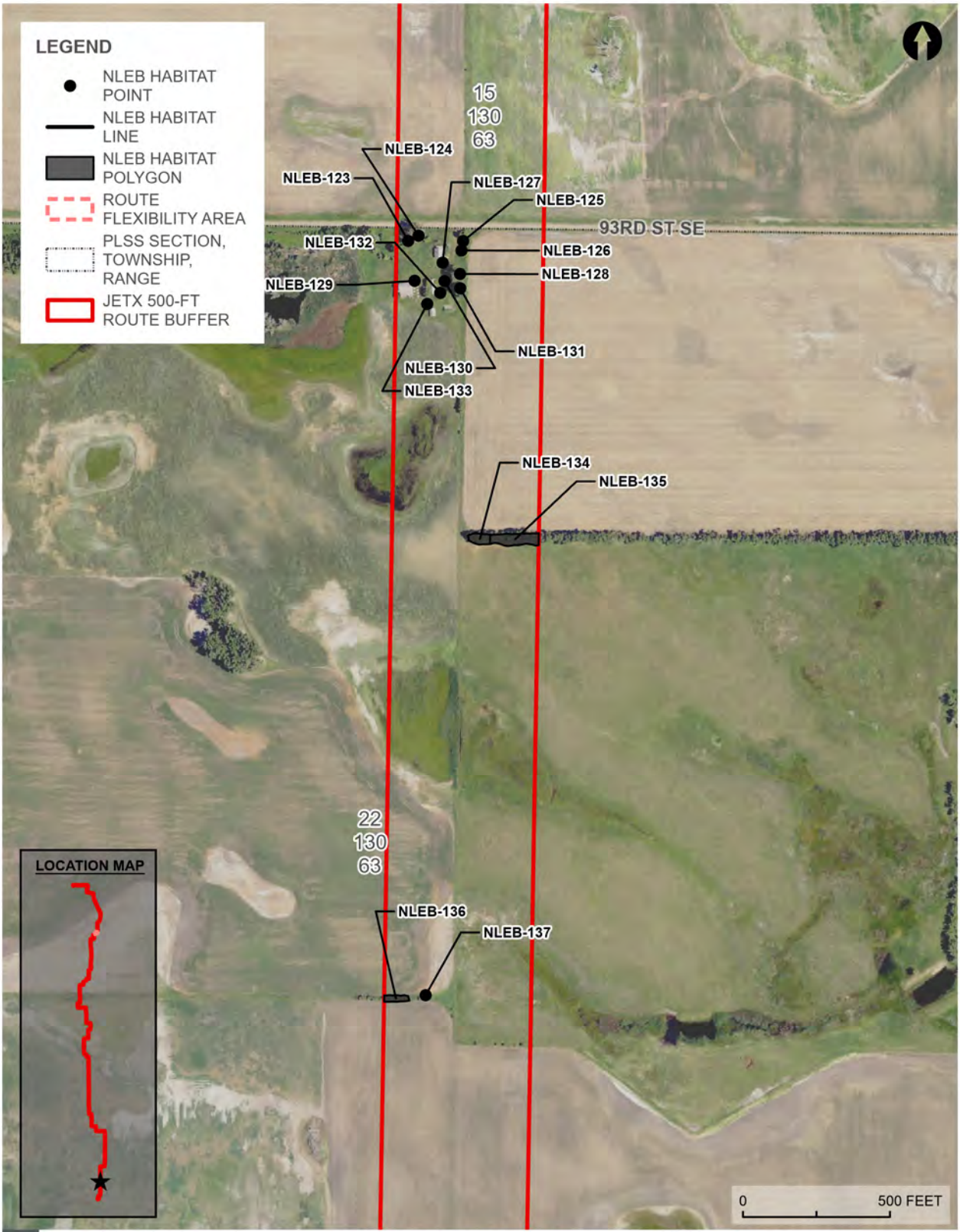
NORTHERN LONG EAR BAT SUITABLE HABITAT - OVERVIEW MAP



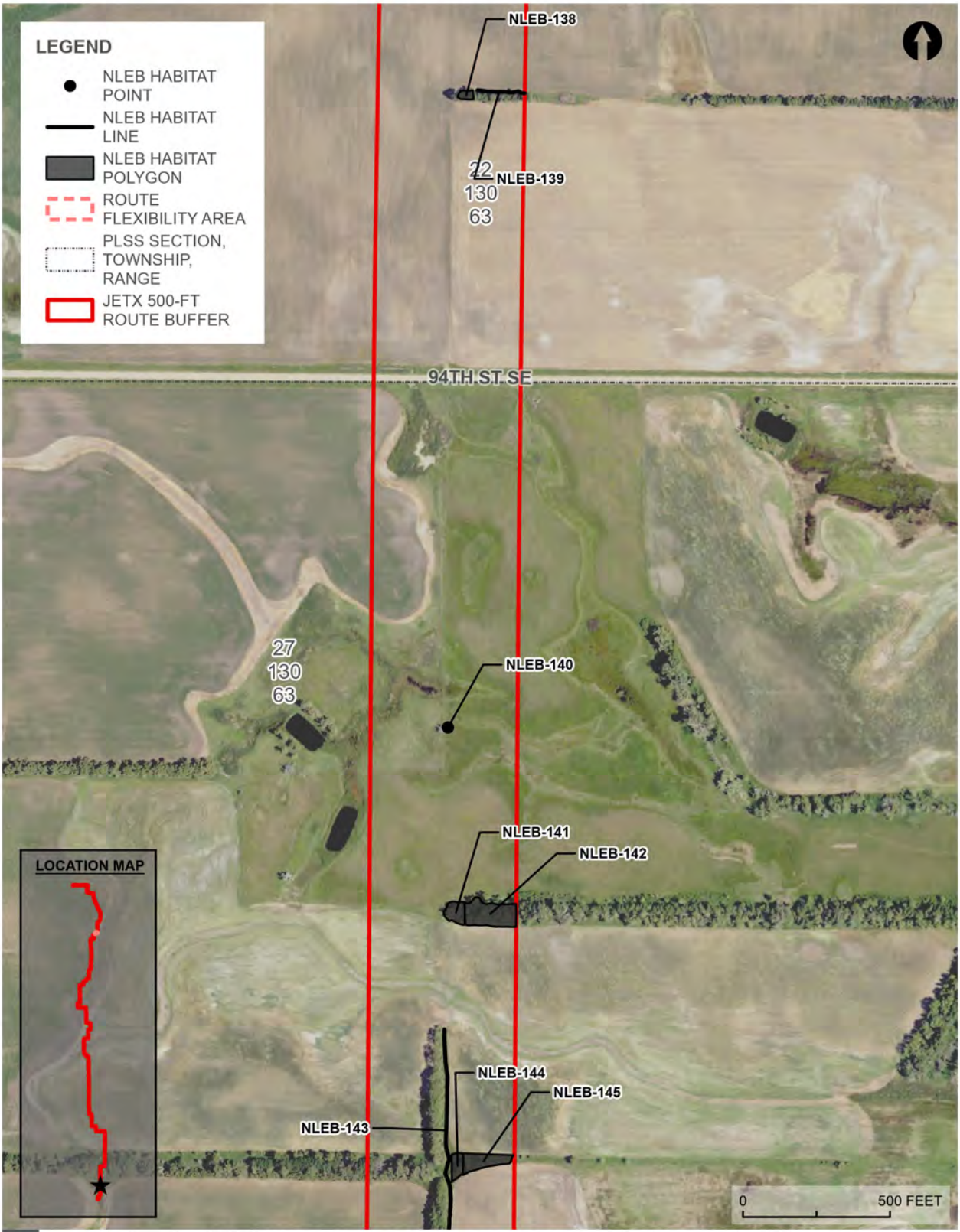
NORTHERN LONG EAR BAT SUITABLE HABITAT - OVERVIEW MAP



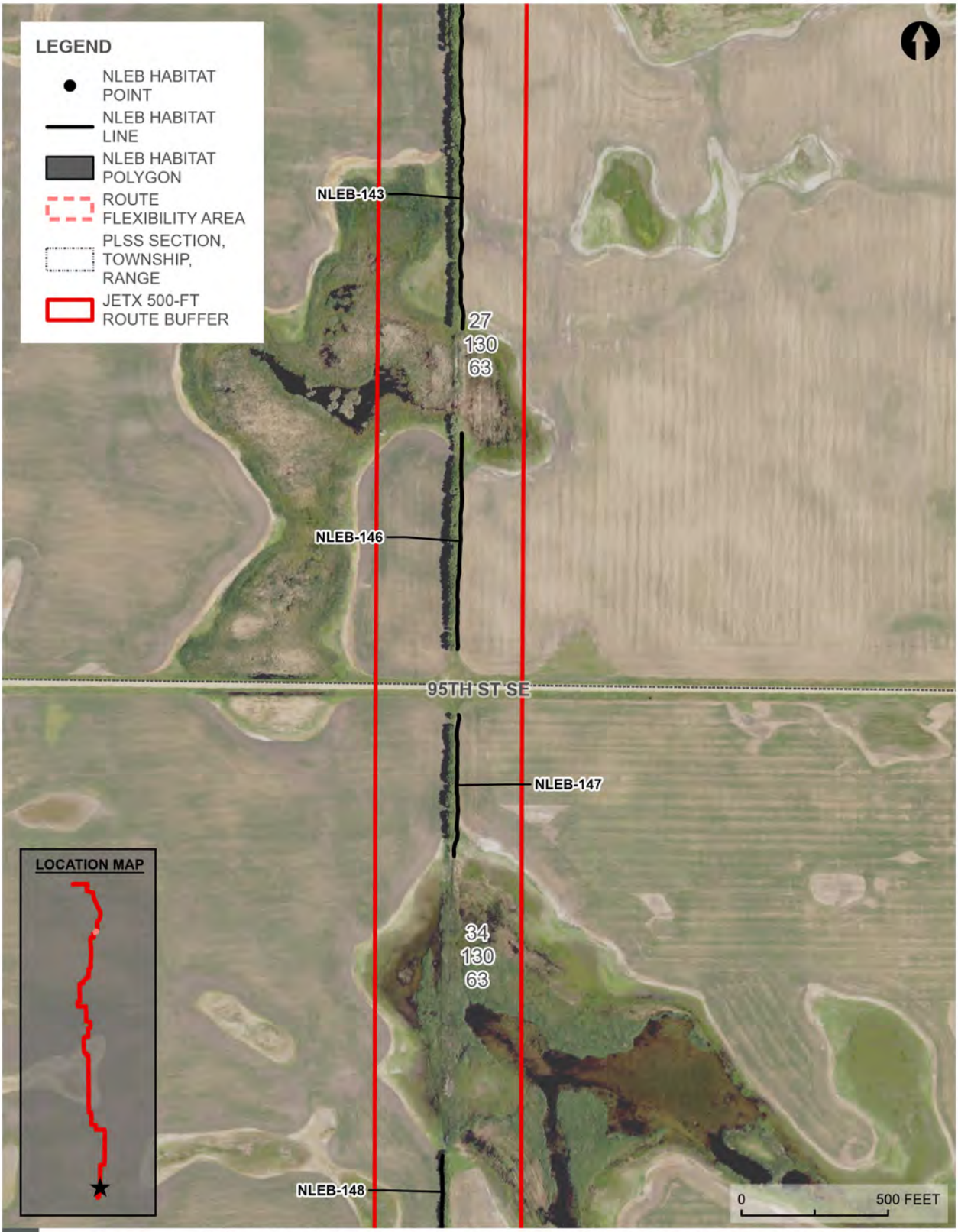
NORTHERN LONG EAR BAT SUITABLE HABITAT - OVERVIEW MAP



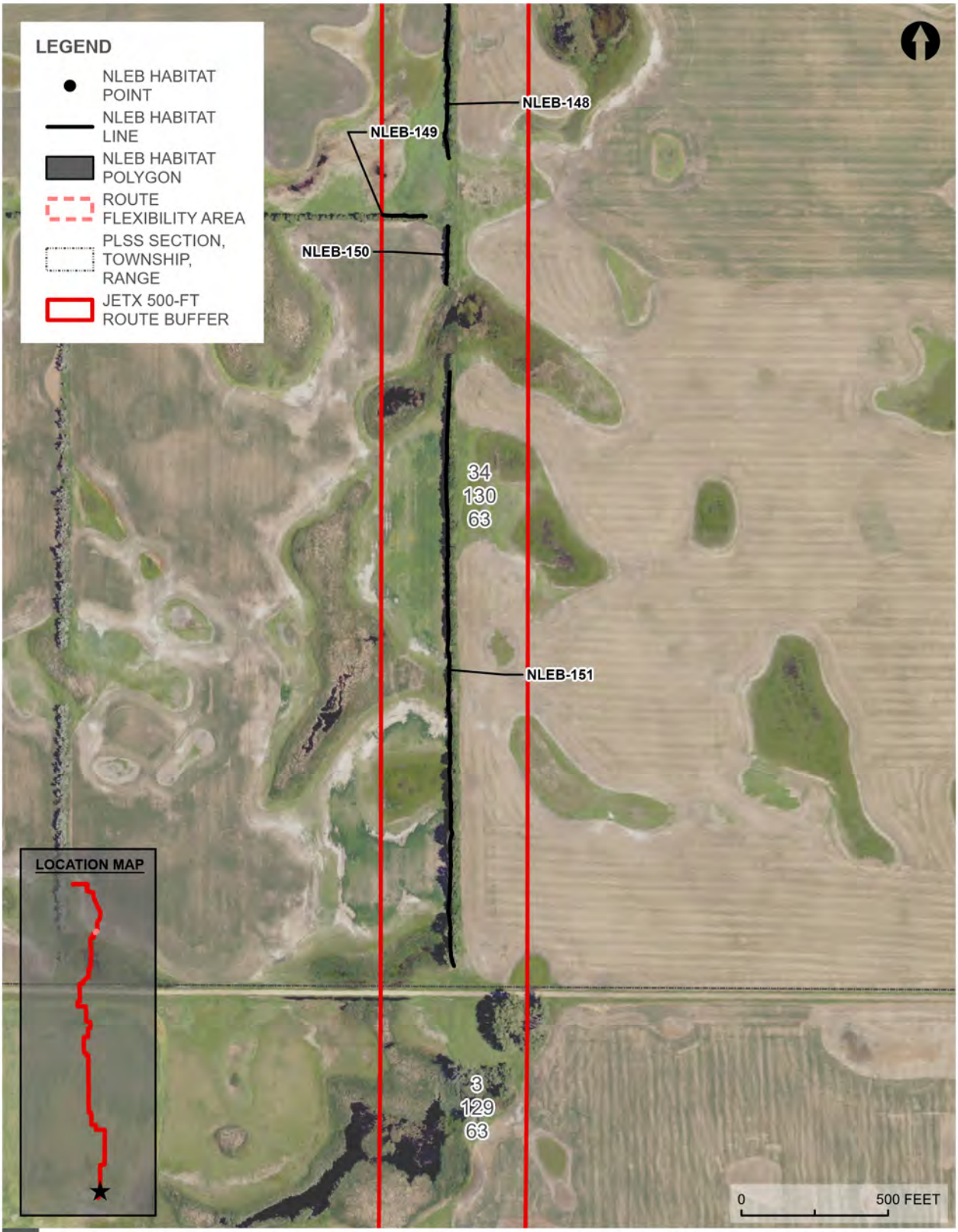
NORTHERN LONG EAR BAT SUITABLE HABITAT - OVERVIEW MAP



NORTHERN LONG EAR BAT SUITABLE HABITAT - OVERVIEW MAP



NORTHERN LONG EAR BAT SUITABLE HABITAT - OVERVIEW MAP



NORTHERN LONG EAR BAT SUITABLE HABITAT - OVERVIEW MAP

Appendix C. Results of the NLEB habitat evaluation within the JETx Survey Area in Stutsman, LaMoure, and Dickey counties, North Dakota.

Habitat ID	Latitude	Longitude	Area (acres)
NLEB-001	47.030108	-98.620256	0.09
NLEB-002	47.030211	-98.619515	0.09
NLEB-003	47.027991	-98.609735	0.26
NLEB-004	47.011508	-98.613652	0.15
NLEB-005	47.011297	-98.614098	0.06
NLEB-006	47.011024	-98.614204	0.09
NLEB-007	47.010854	-98.614150	0.09
NLEB-008	47.010791	-98.614373	0.09
NLEB-009	47.010738	-98.614467	0.09
NLEB-010	47.010729	-98.614648	0.09
NLEB-011	47.010698	-98.614857	0.09
NLEB-012	47.010508	-98.615062	0.09
NLEB-013	47.010450	-98.615092	0.09
NLEB-014	47.009845	-98.614650	0.09
NLEB-015	47.009794	-98.615137	0.09
NLEB-016	47.006095	-98.607466	0.09
NLEB-017	47.006106	-98.607236	0.09
NLEB-018	47.005871	-98.606257	0.09
NLEB-019	47.006308	-98.605819	0.09
NLEB-020	47.004273	-98.594129	0.05
NLEB-021	46.977813	-98.575393	0.09
NLEB-022	46.977765	-98.575048	0.09
NLEB-023	46.933022	-98.549218	0.09
NLEB-024	46.912355	-98.556700	0.09
NLEB-025	46.906491	-98.564171	0.09
NLEB-026	46.853503	-98.597383	0.09
NLEB-027	46.835423	-98.597181	0.09
NLEB-028	46.824098	-98.595911	0.09
NLEB-029	46.820514	-98.594470	0.69
NLEB-030	46.731917	-98.606969	0.09
NLEB-031	46.725134	-98.608595	2.28
NLEB-032	46.711516	-98.633729	0.15
NLEB-033	46.708181	-98.633089	0.25
NLEB-034	46.708105	-98.633741	0.09
NLEB-035	46.707786	-98.633833	0.09
NLEB-036	46.705541	-98.633346	0.75
NLEB-037	46.704720	-98.633111	0.94
NLEB-038	46.704633	-98.633881	0.53
NLEB-039	46.704723	-98.634193	0.09
NLEB-040	46.704687	-98.634242	0.09
NLEB-041	46.704575	-98.634240	0.09
NLEB-042	46.704485	-98.634481	0.09
NLEB-043	46.704359	-98.634449	0.09
NLEB-044	46.704251	-98.634427	0.09

Habitat ID	Latitude	Longitude	Area (acres)
NLEB-045	46.704210	-98.634507	0.09
NLEB-046	46.704170	-98.634501	0.09
NLEB-047	46.704073	-98.634787	0.09
NLEB-048	46.684755	-98.649885	0.09
NLEB-049	46.684411	-98.650587	0.09
NLEB-050	46.684399	-98.650516	0.09
NLEB-051	46.559361	-98.608422	1.03
NLEB-052	46.557371	-98.610035	1.76
NLEB-053	46.553376	-98.610422	0.09
NLEB-054	46.553123	-98.610757	1.53
NLEB-055	46.553018	-98.610459	0.09
NLEB-056	46.551770	-98.610444	0.09
NLEB-057	46.551669	-98.610422	0.09
NLEB-058	46.551636	-98.610511	0.09
NLEB-059	46.551504	-98.610470	0.09
NLEB-060	46.551457	-98.610442	0.09
NLEB-061	46.551435	-98.610413	0.09
NLEB-062	46.551265	-98.609923	0.11
NLEB-063	46.549796	-98.611582	0.09
NLEB-064	46.549797	-98.611359	0.09
NLEB-065	46.549790	-98.611187	0.09
NLEB-066	46.549778	-98.610964	0.09
NLEB-067	46.549774	-98.610602	3.96
NLEB-068	46.549685	-98.610304	0.18
NLEB-069	46.547952	-98.610354	0.09
NLEB-070	46.547905	-98.610353	0.09
NLEB-071	46.547858	-98.610355	0.09
NLEB-072	46.547627	-98.610111	0.07
NLEB-073	46.537795	-98.610705	0.09
NLEB-074	46.527255	-98.631736	0.15
NLEB-075	46.526932	-98.631477	0.09
NLEB-076	46.524405	-98.631485	0.09
NLEB-077	46.376485	-98.609783	0.09
NLEB-078	46.375494	-98.609505	1.48
NLEB-079	46.363431	-98.610044	0.09
NLEB-080	46.363253	-98.610257	0.41
NLEB-081	46.363177	-98.609695	0.16
NLEB-082	46.363012	-98.610525	0.09
NLEB-083	46.362788	-98.609444	0.06
NLEB-084	46.362604	-98.609070	0.09
NLEB-085	46.362597	-98.609506	0.90
NLEB-086	46.358836	-98.608684	1.89
NLEB-087	46.358836	-98.608031	0.09
NLEB-088	46.355754	-98.609129	0.09

Habitat ID	Latitude	Longitude	Area (acres)
NLEB-089	46.355744	-98.608501	1.62
NLEB-090	46.322595	-98.609830	2.73
NLEB-091	46.307595	-98.608440	0.09
NLEB-092	46.304339	-98.610055	0.47
NLEB-093	46.304350	-98.609521	0.09
NLEB-094	46.219945	-98.533890	0.09
NLEB-095	46.212413	-98.535377	0.75
NLEB-096	46.212474	-98.534834	0.30
NLEB-097	46.212256	-98.535017	0.09
NLEB-098	46.172366	-98.535505	0.09
NLEB-099	46.171759	-98.536133	0.09
NLEB-100	46.123763	-98.535593	5.72
NLEB-101	46.111633	-98.555942	0.09
NLEB-102	46.108043	-98.557116	0.06
NLEB-103	46.104534	-98.556560	0.13
NLEB-104	46.100356	-98.557518	0.09
NLEB-105	46.099791	-98.557565	0.09
NLEB-106	46.099825	-98.557268	0.09
NLEB-107	46.099559	-98.557324	0.09
NLEB-108	46.097557	-98.558037	0.27
NLEB-109	46.097544	-98.557582	0.10
NLEB-110	46.096944	-98.558044	0.43
NLEB-111	46.096913	-98.557614	0.07
NLEB-112	46.093729	-98.558095	0.09
NLEB-113	46.093721	-98.557678	0.003
NLEB-114	46.088219	-98.558003	0.14
NLEB-115	46.087136	-98.557175	0.09
NLEB-116	46.086421	-98.558211	0.09
NLEB-117	46.086418	-98.557941	0.09
NLEB-118	46.086412	-98.557863	0.09
NLEB-119	46.083820	-98.557999	0.14
NLEB-120	46.084018	-98.557609	0.05
NLEB-121	46.083857	-98.557132	0.02
NLEB-122	46.083842	-98.556732	0.08
NLEB-123	46.068031	-98.558407	0.09
NLEB-124	46.068080	-98.558267	0.09
NLEB-125	46.068031	-98.557669	0.09
NLEB-126	46.067942	-98.557691	0.09
NLEB-127	46.067828	-98.557944	0.09
NLEB-128	46.067724	-98.557710	0.09
NLEB-129	46.067660	-98.558319	0.09
NLEB-130	46.067656	-98.557918	0.09
NLEB-131	46.067591	-98.557708	0.09
NLEB-132	46.067547	-98.557975	0.09

Habitat ID	Latitude	Longitude	Area (acres)
NLEB-133	46.067444	-98.558150	0.09
NLEB-134	46.065255	-98.557440	0.05
NLEB-135	46.065251	-98.556954	0.14
NLEB-136	46.060961	-98.558562	0.04
NLEB-137	46.060992	-98.558157	0.09
NLEB-138	46.056286	-98.557632	0.03
NLEB-139	46.056318	-98.557162	0.09
NLEB-140	46.050391	-98.557863	0.09
NLEB-141	46.048657	-98.557754	0.10
NLEB-142	46.048642	-98.557296	0.32
NLEB-143	46.044997	-98.557857	0.09
NLEB-144	46.046297	-98.557726	0.08
NLEB-145	46.046339	-98.557380	0.17
NLEB-146	46.040442	-98.557849	24.66
NLEB-147	46.038160	-98.557896	12.15
NLEB-148	46.033521	-98.558101	28.08
NLEB-149	46.031808	-98.558689	0.09
NLEB-150	46.031444	-98.558113	3.06
NLEB-151	46.027571	-98.558074	1.44
		Total	**111.77**

Appendix D. Locations of suitable Dakota skipper habitat within the JETx Survey Area in Stutsman, LaMoure, and Dickey counties, North Dakota.

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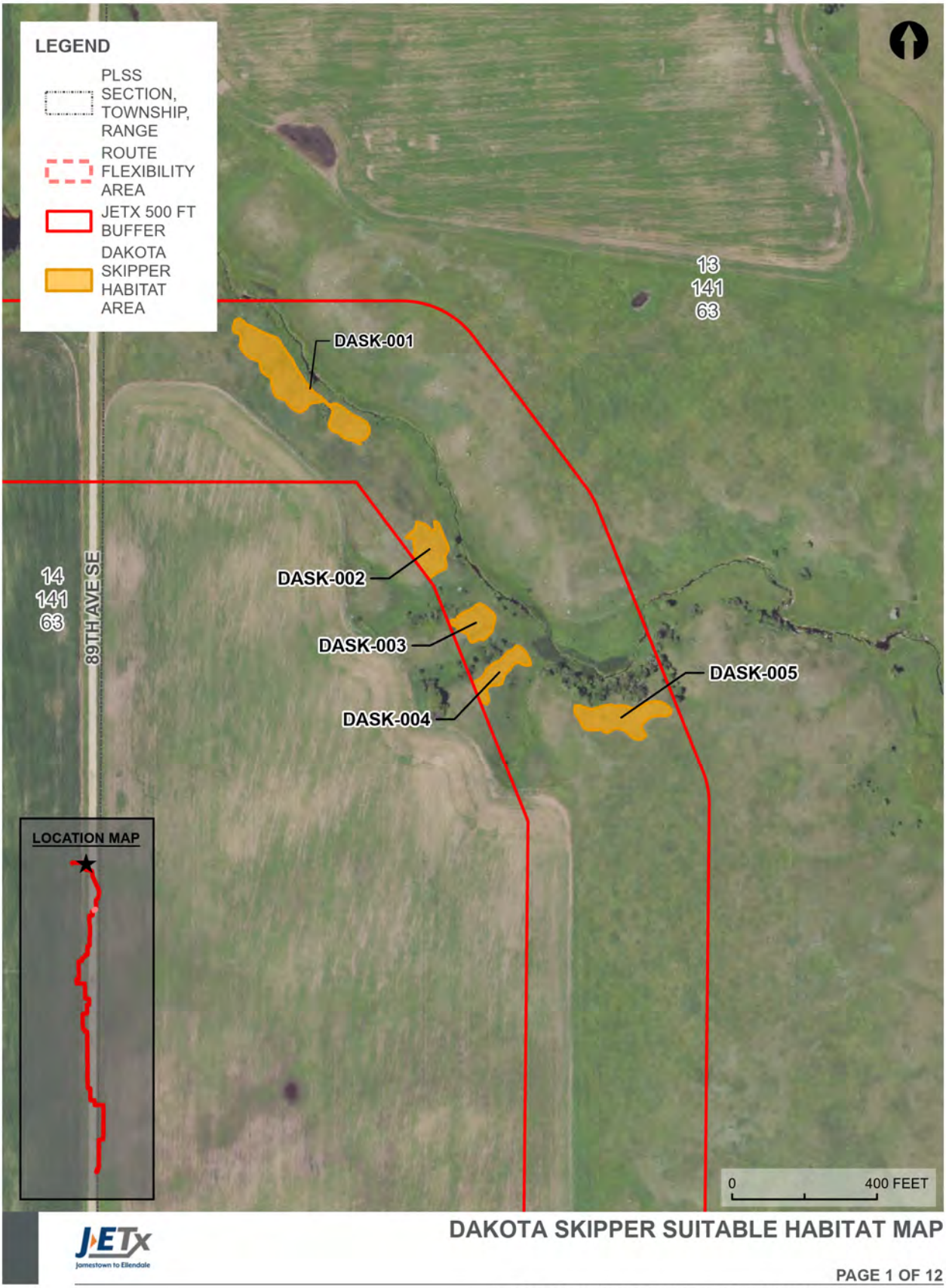
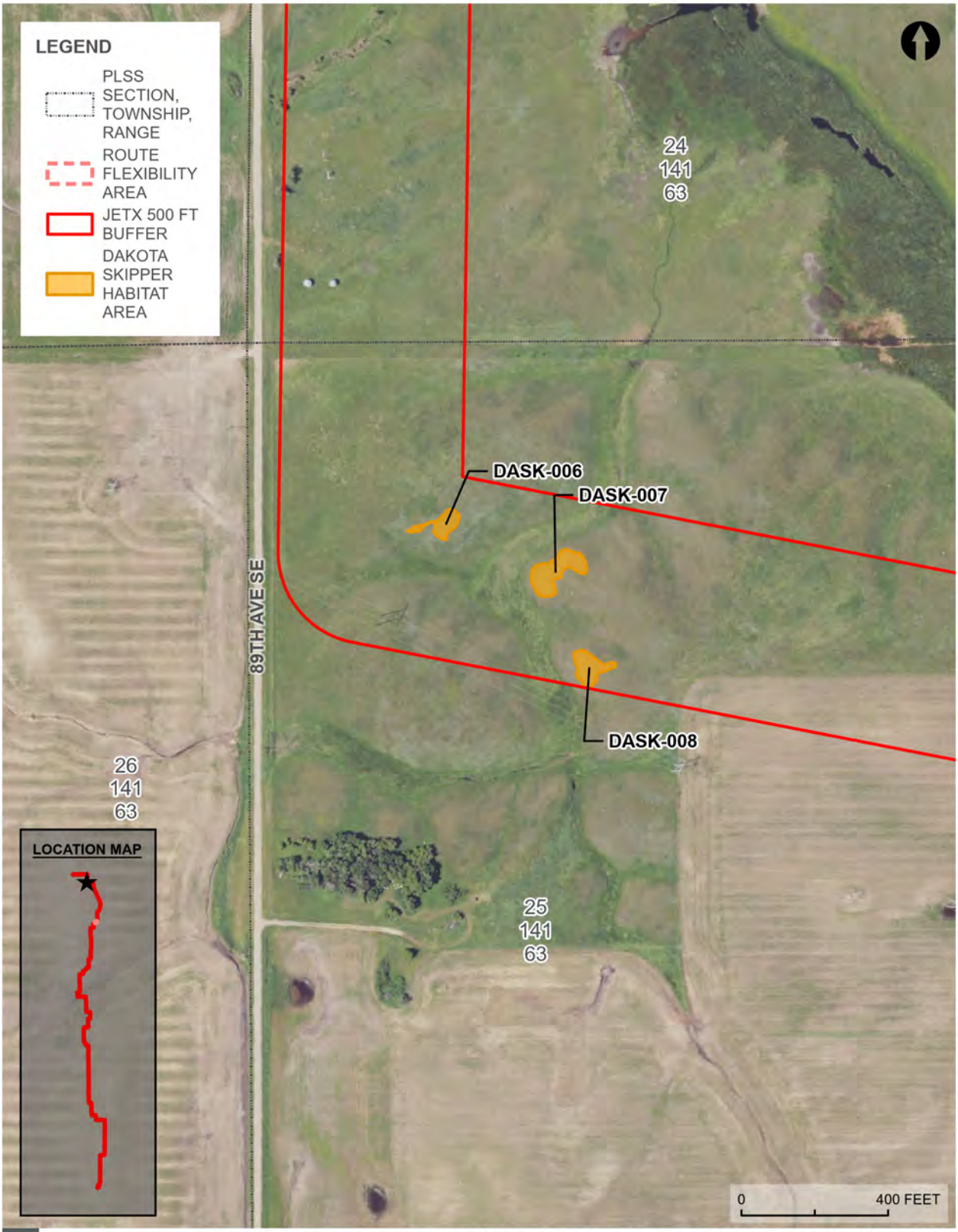
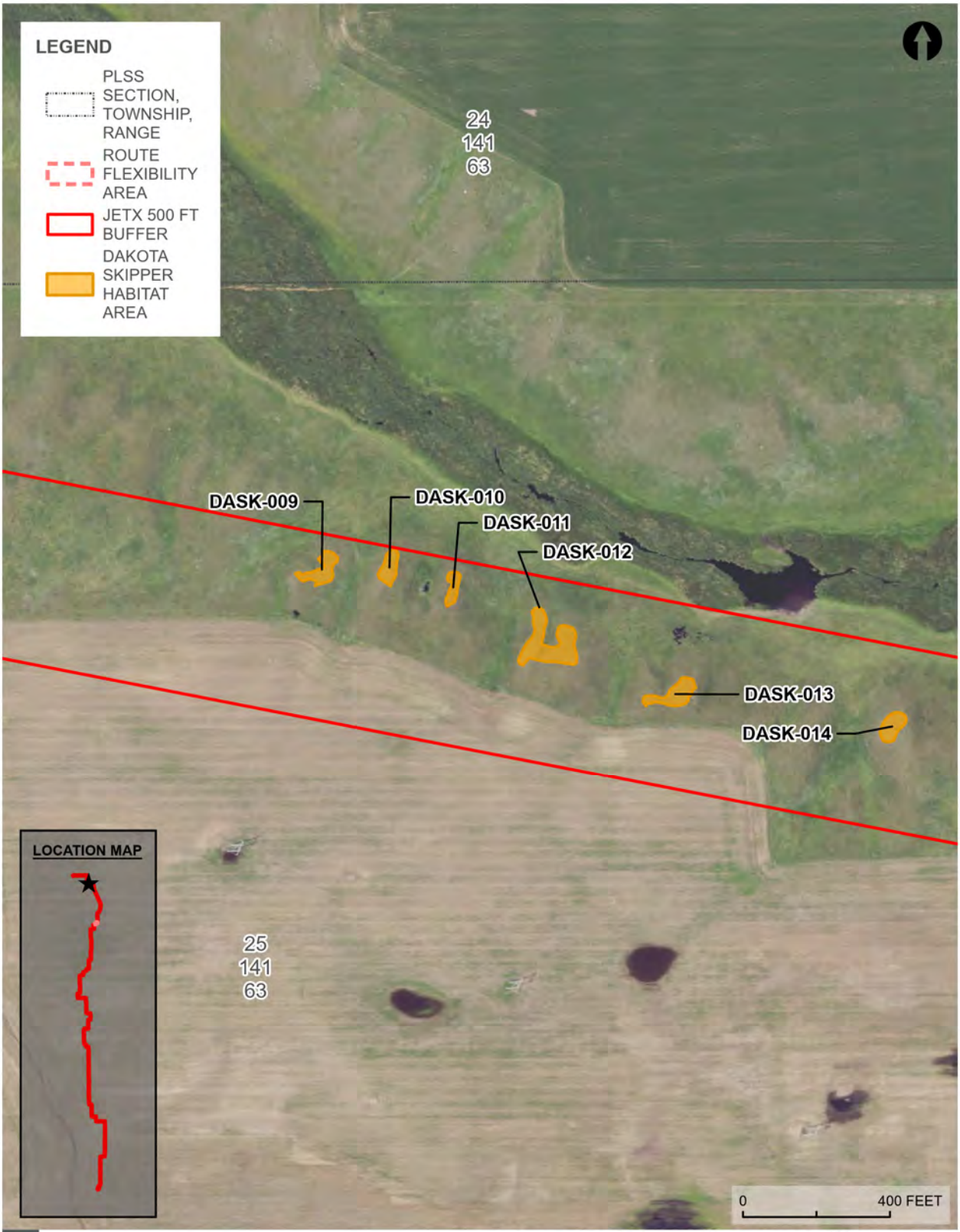


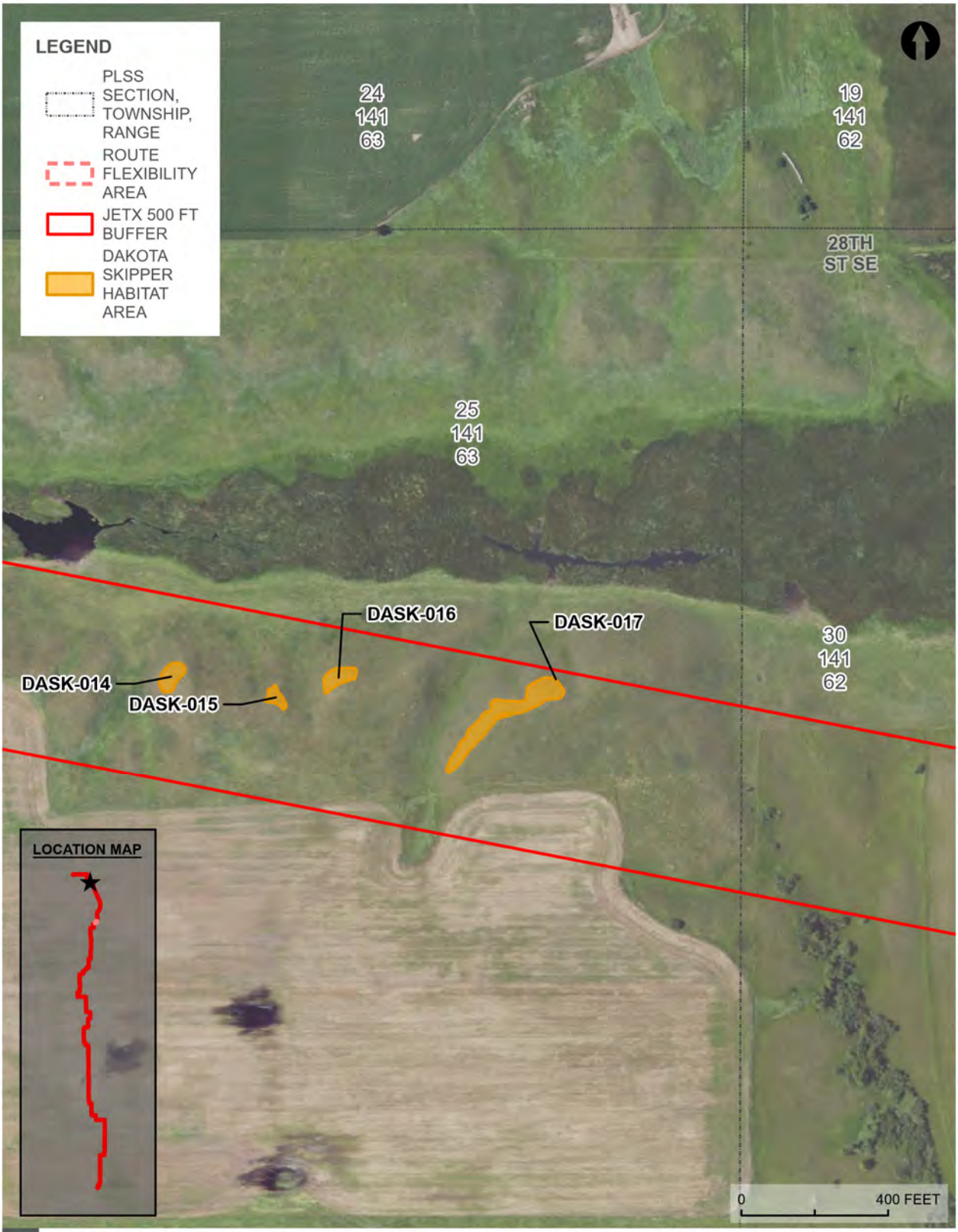
DAKOTA SKIPPER SUITABLE HABITAT MAP



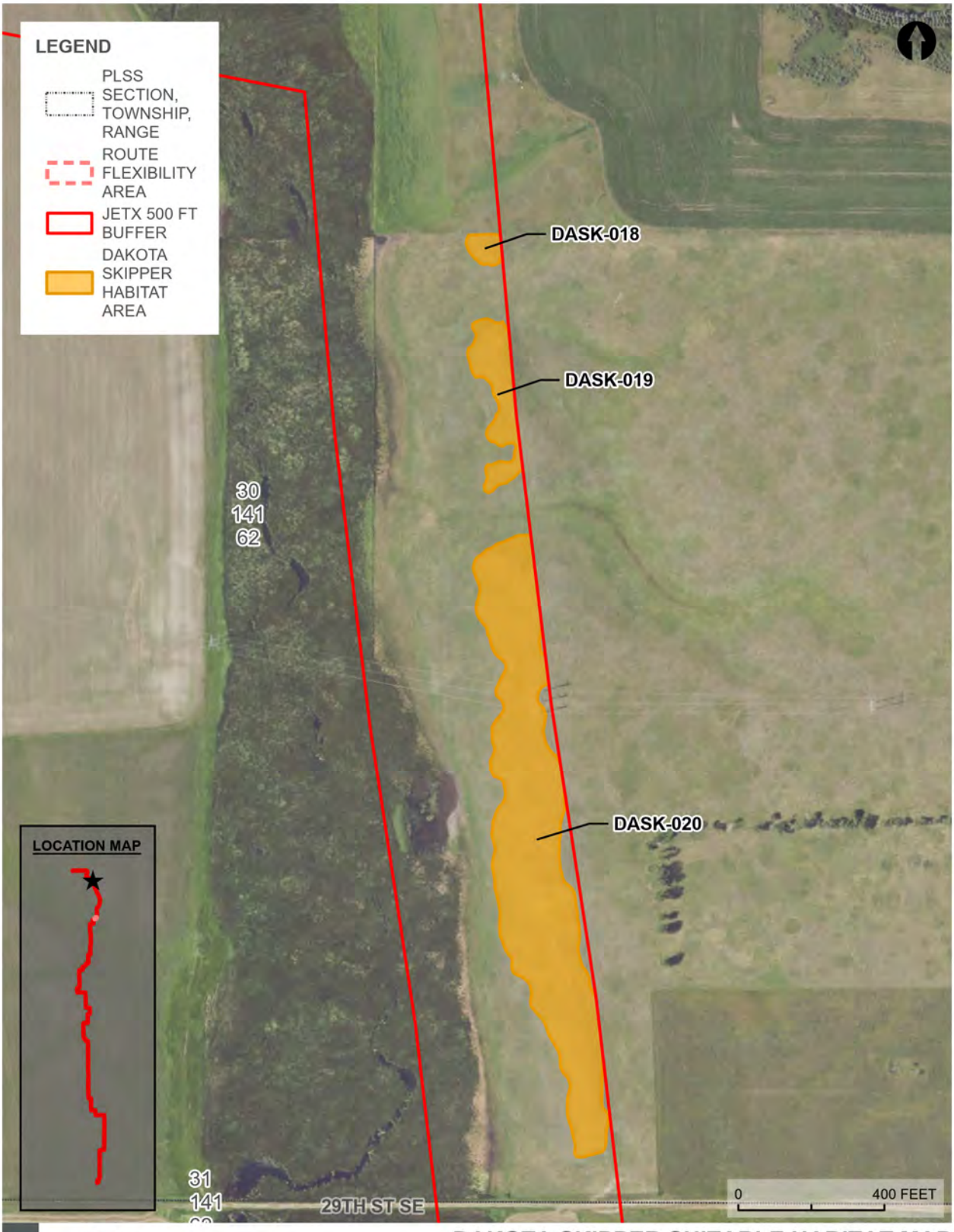
DAKOTA SKIPPER SUITABLE HABITAT MAP



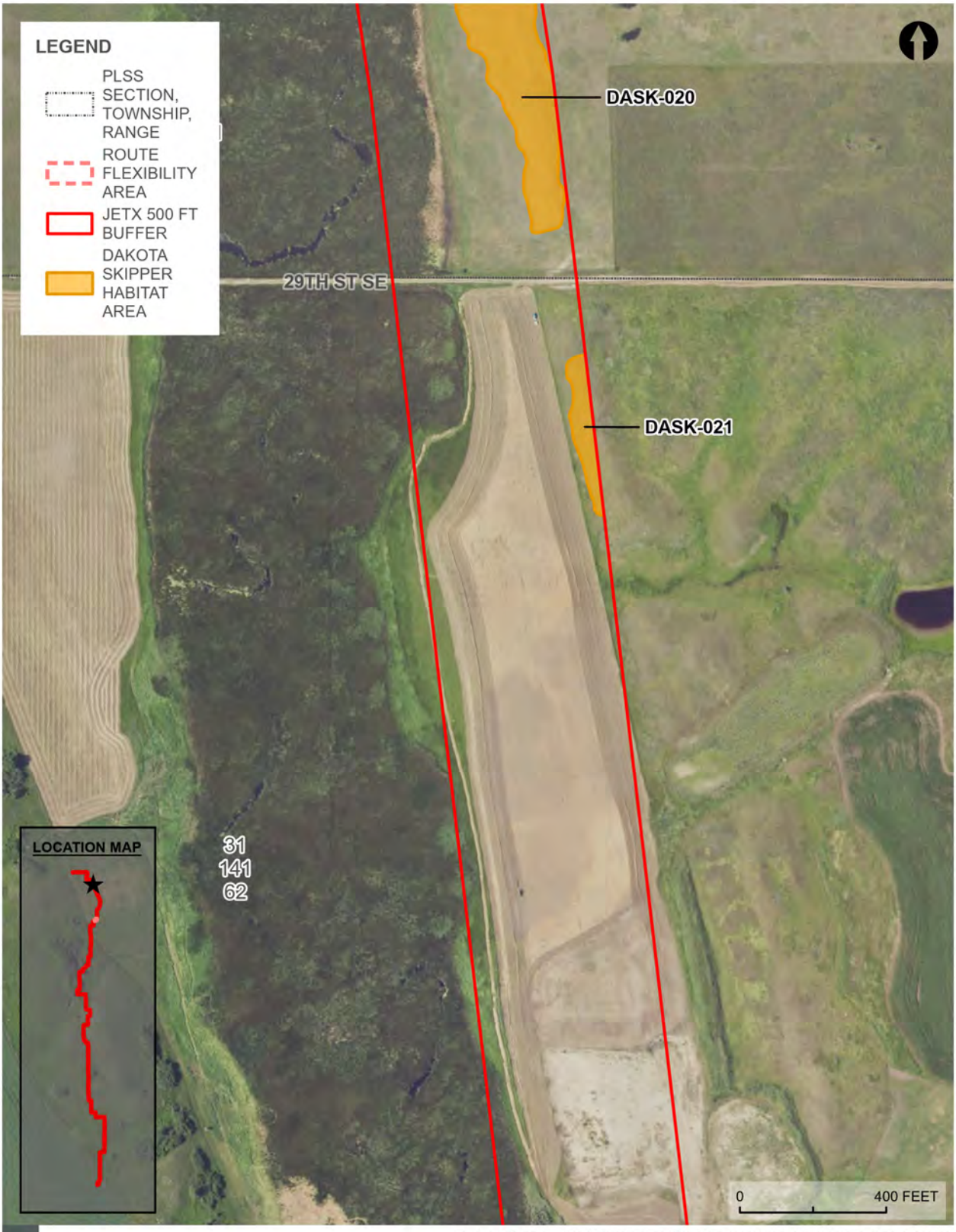
DAKOTA SKIPPER SUITABLE HABITAT MAP



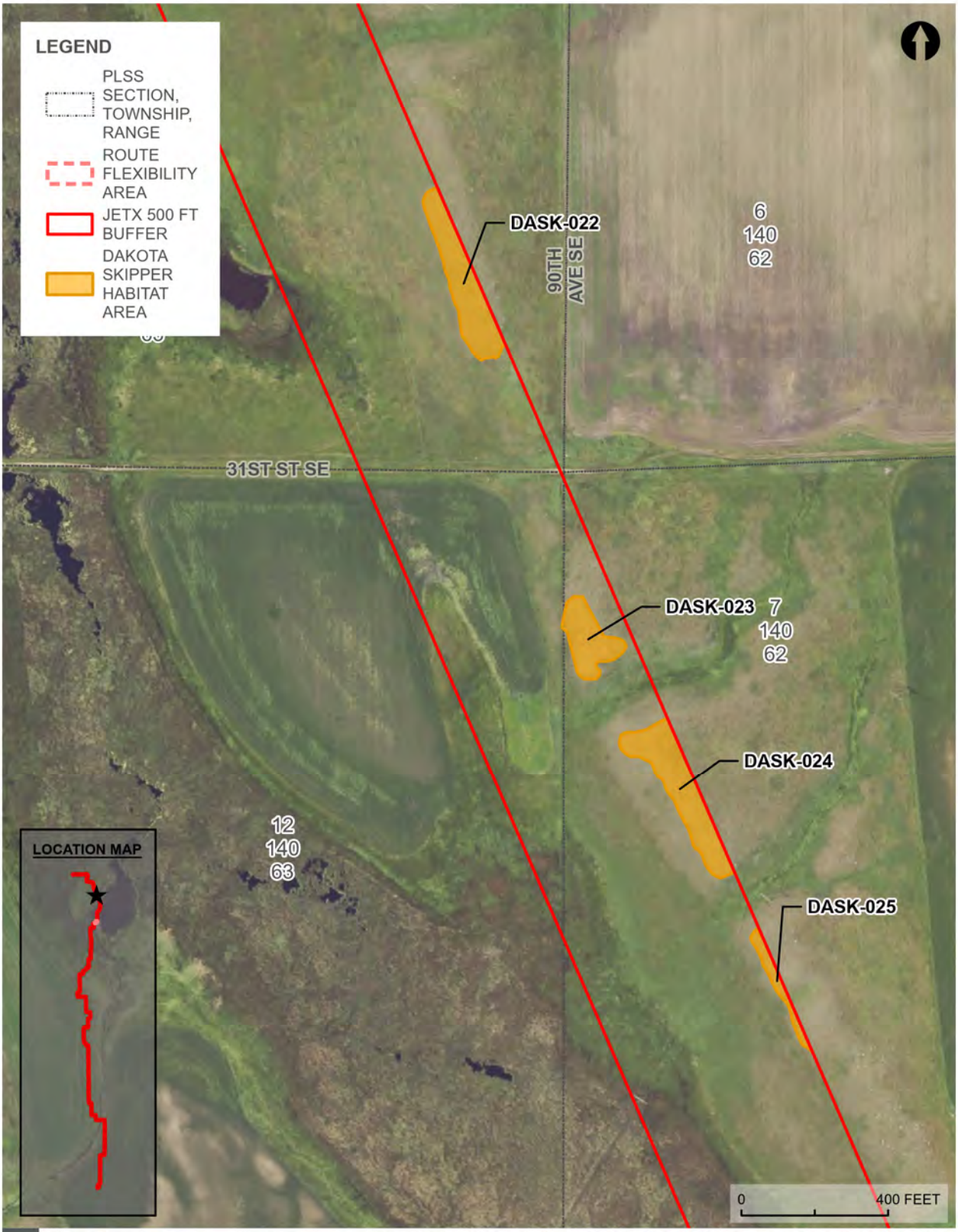
DAKOTA SKIPPER SUITABLE HABITAT MAP



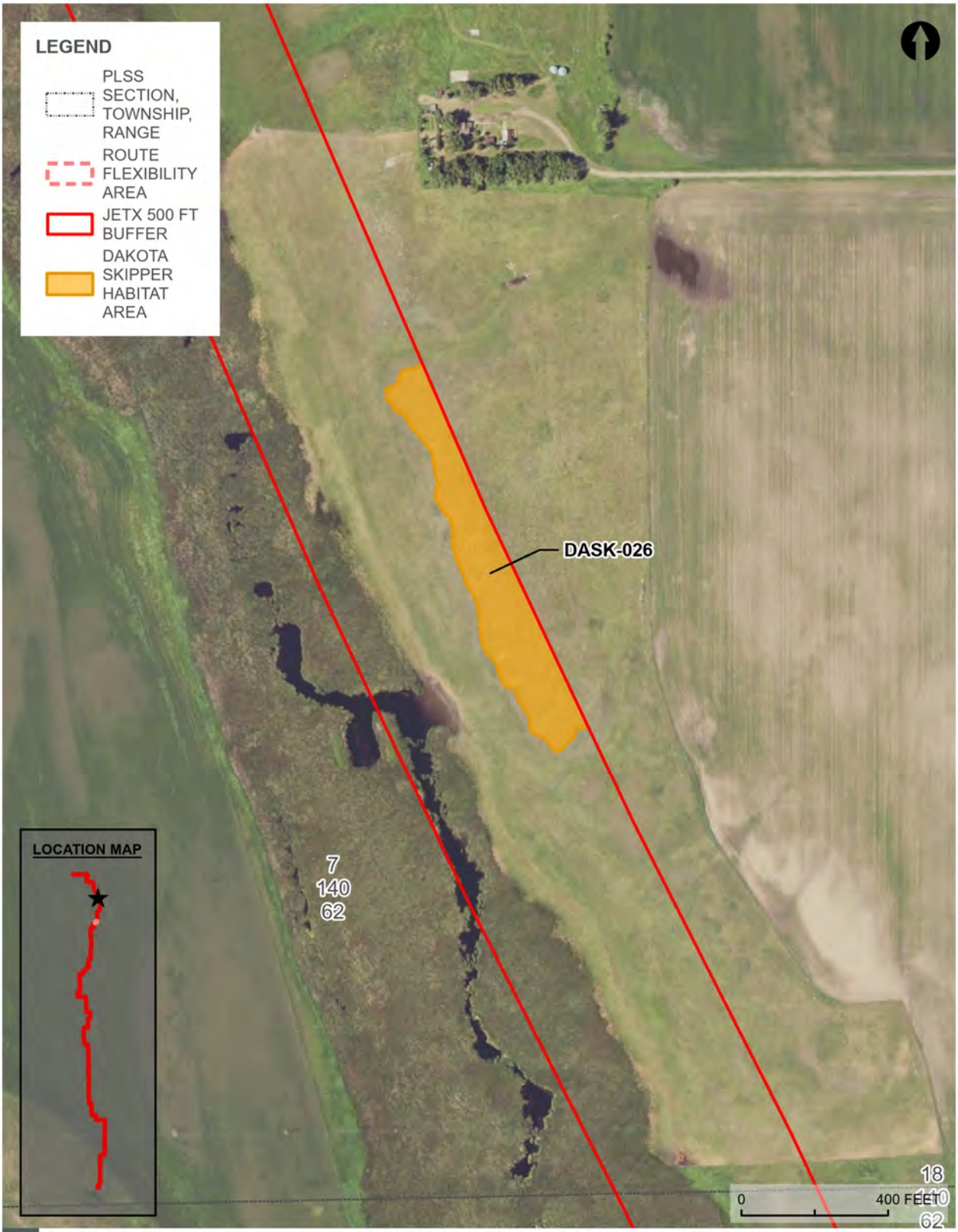
DAKOTA SKIPPER SUITABLE HABITAT MAP



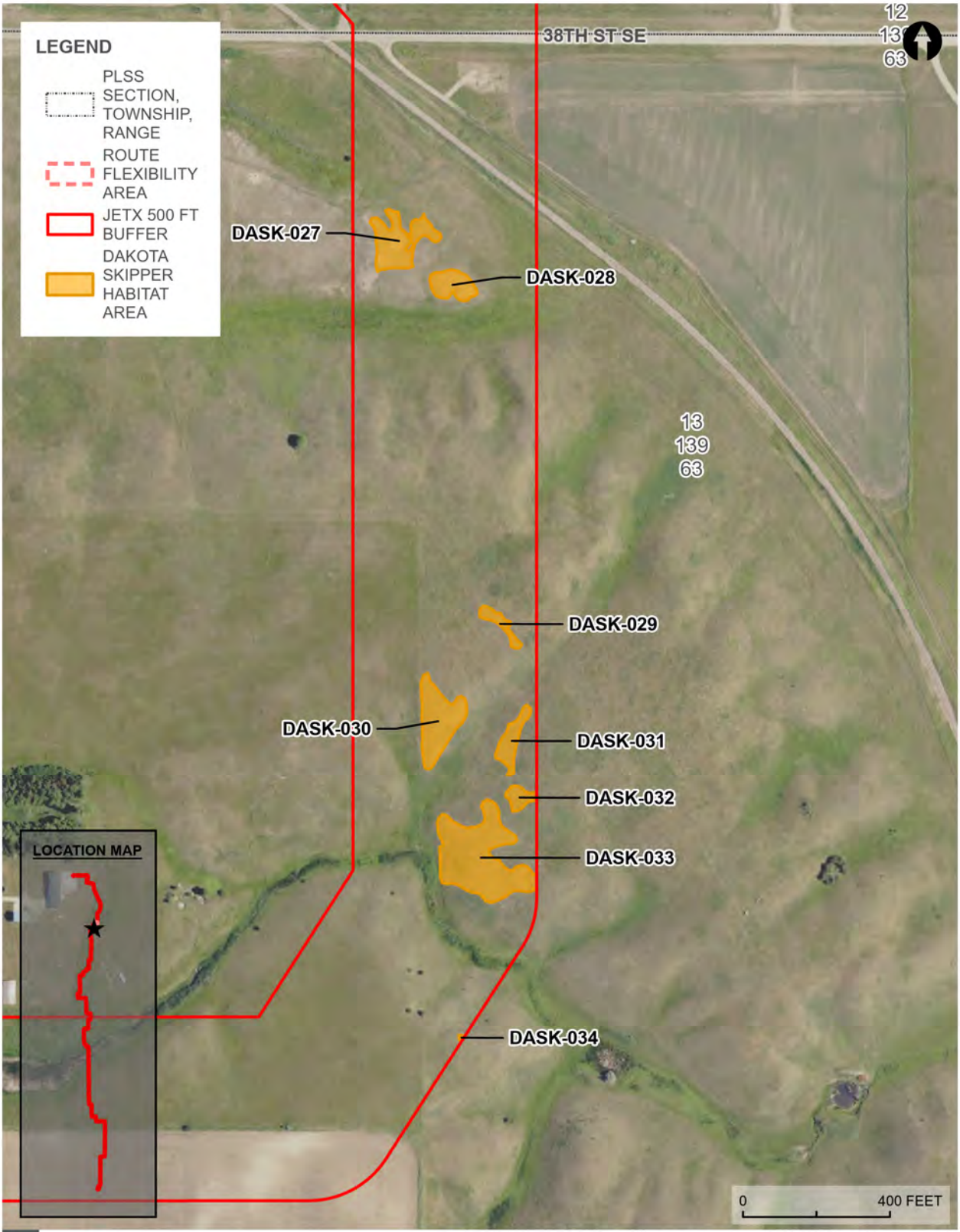
DAKOTA SKIPPER SUITABLE HABITAT MAP



DAKOTA SKIPPER SUITABLE HABITAT MAP

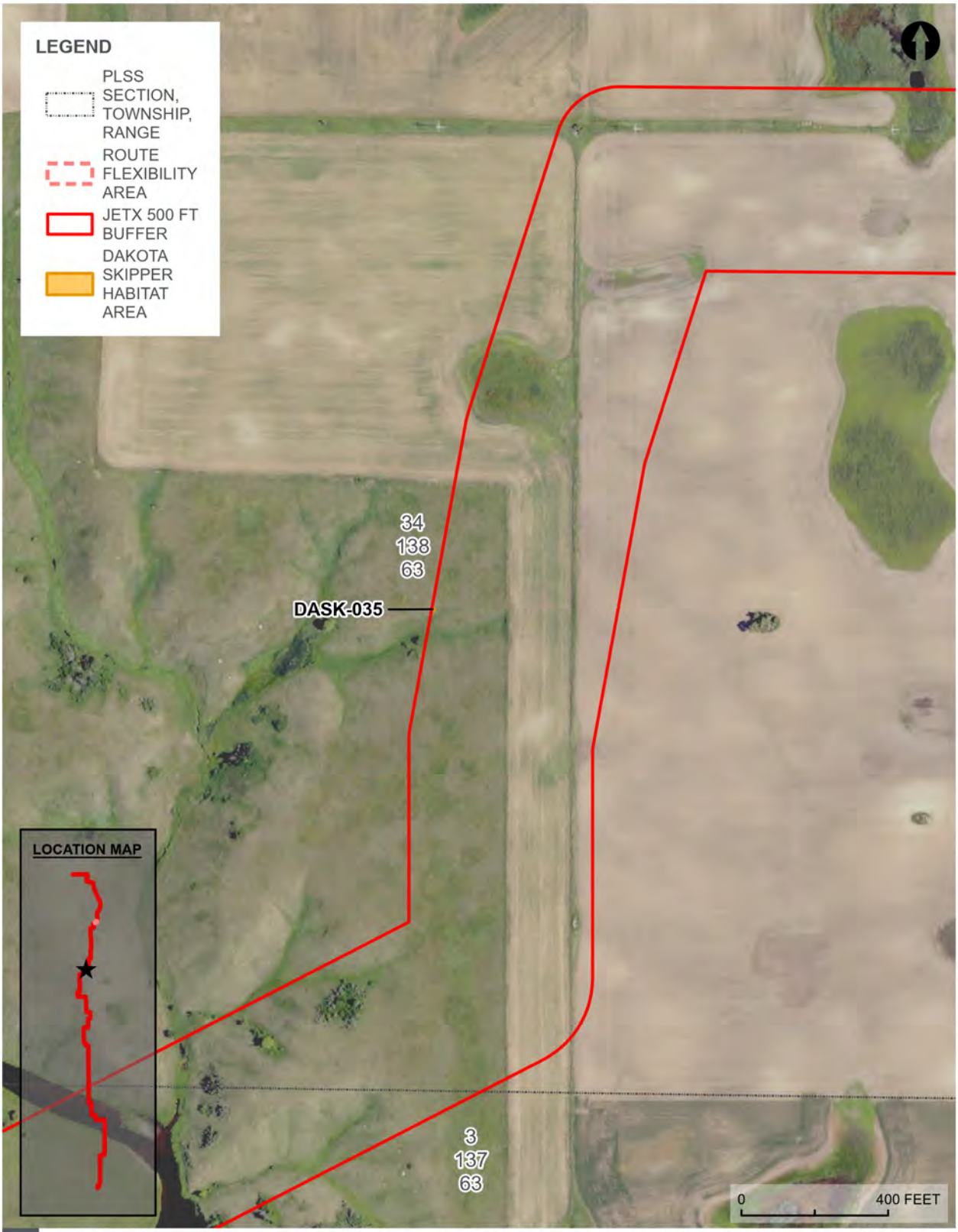


DAKOTA SKIPPER SUITABLE HABITAT MAP

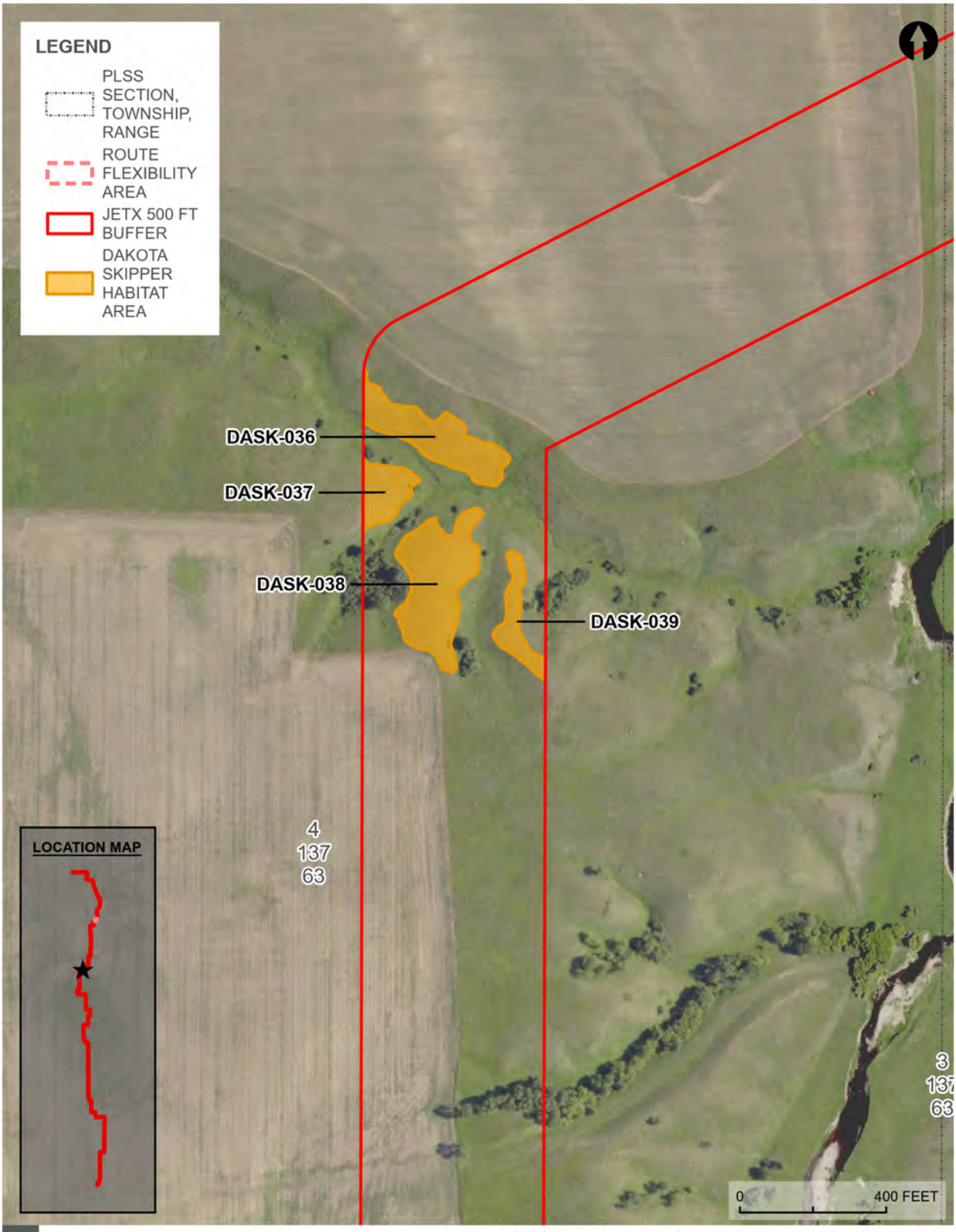


JETx Jamestown to Ellendale

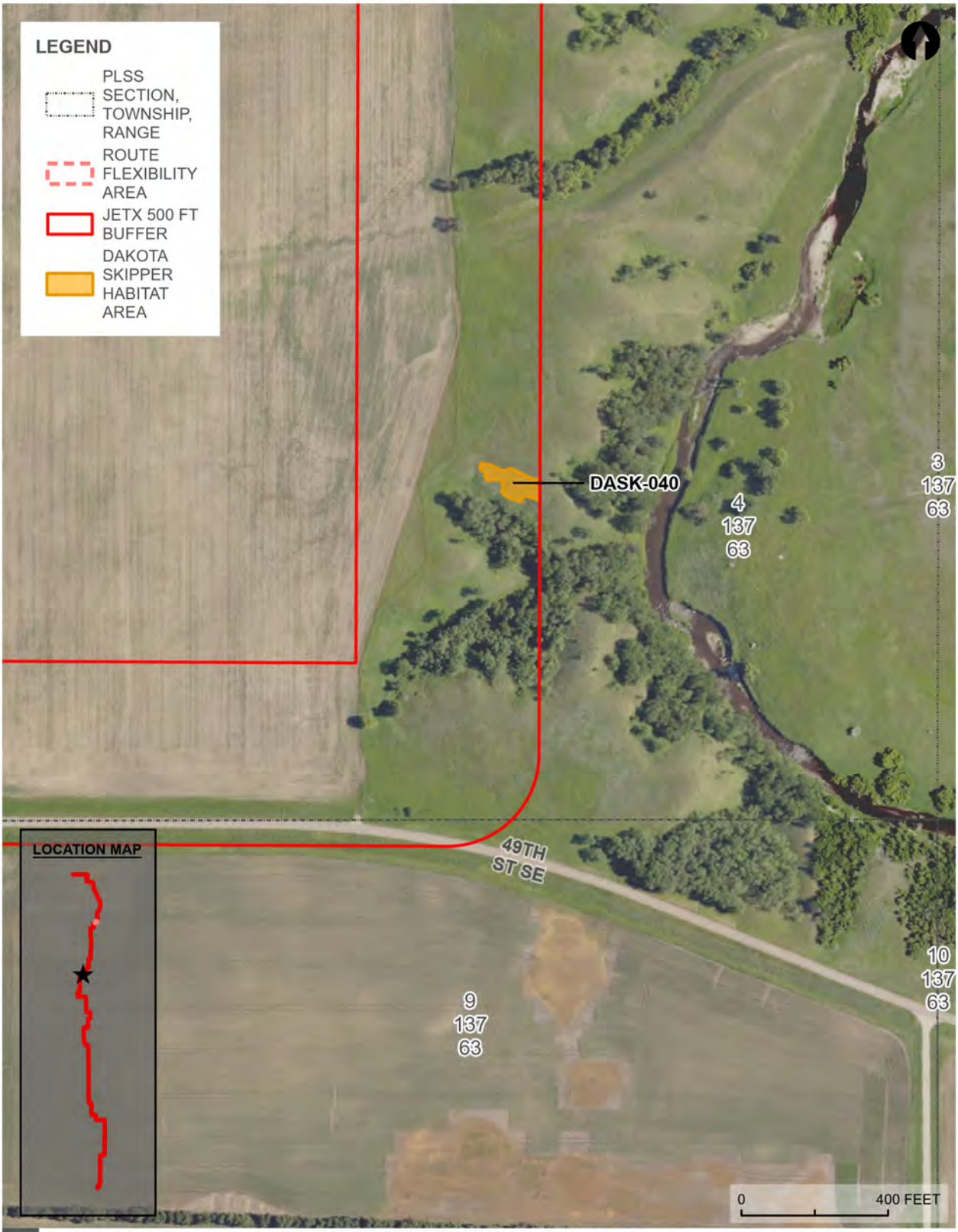
DAKOTA SKIPPER SUITABLE HABITAT MAP



DAKOTA SKIPPER SUITABLE HABITAT MAP



DAKOTA SKIPPER SUITABLE HABITAT MAP



DAKOTA SKIPPER SUITABLE HABITAT MAP

Appendix E. Results of the Dakota skipper habitat evaluation within the JETx Survey Area in Stutsman, LaMoure, and Dickey counties, North Dakota.

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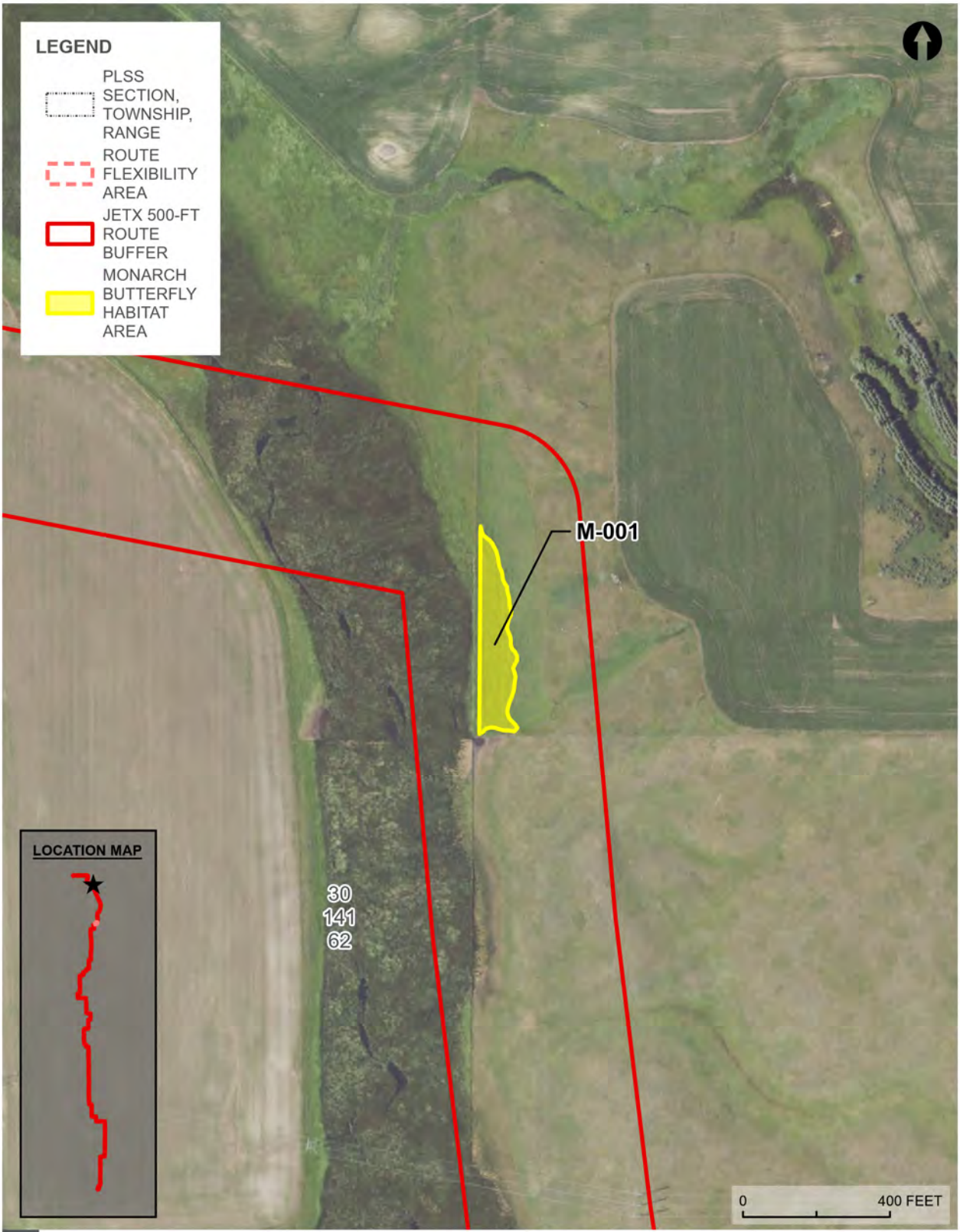
Habitat ID	Species 1	Species 2	Species 3	Species 4	Species 5	Latitude	Longitude	Area (acres)
DASK-001	Purple coneflower	Needle and thread	Little bluestem	Yarrow	Goldenrod	47.030323	-98.613228	0.69
DASK-002	Purple coneflower	Needle and thread	Little bluestem	Yarrow	Goldenrod	47.029026	-98.611740	0.25
DASK-003	Purple coneflower	Needle and thread	Little bluestem	Yarrow	Goldenrod	47.028496	-98.611206	0.18
DASK-004	Purple coneflower	Needle and thread	Little bluestem	Yarrow	Goldenrod	47.028095	-98.611000	0.19
DASK-005	Little bluestem	Green needle grass	Bastard toadflax	Prairie smoke	Blue Grama	47.027779	-98.609596	0.35
DASK-006	Needle and thread	Little bluestem	Prairie smoke	Purple coneflower	Goldenrod	47.007206	-98.613426	0.09
DASK-007	Little bluestem	Green needle grass	Purple coneflower	Prairie smoke	Upright coneflower	47.006855	-98.612190	0.22
DASK-008	Needle and thread	Little bluestem	Prairie smoke	Purple coneflower	Upright coneflower	47.006134	-98.611816	0.13
DASK-009	Green needle grass	Purple coneflower	Bastard toadflax	Little bluestem	Prairie smoke	47.006458	-98.606873	0.10
DASK-010	Green needle grass	Purple coneflower	Bastard toadflax	Little bluestem	Prairie smoke	47.006477	-98.606140	0.07
DASK-011	Green needle grass	Purple coneflower	Bastard toadflax	Little bluestem	Prairie smoke	47.006329	-98.605446	0.05
DASK-012	Green needle grass	Purple coneflower	Bastard toadflax	Little bluestem	Prairie smoke	47.005833	-98.604408	0.28
DASK-013	Needle and thread	Purple coneflower	Prairie smoke	Goldenrod	Upright coneflower	47.005535	-98.603020	0.12
DASK-014	Green needle grass	Purple coneflower	Bastard toadflax	Little bluestem	Prairie smoke	47.005299	-98.600647	0.08
DASK-015	Needle and thread	Purple coneflower	Prairie smoke	Upright coneflower	Stiff sunflower	47.005142	-98.599503	0.04
DASK-016	Green needle grass	Purple coneflower	Bastard toadflax	Little bluestem	Prairie smoke	47.005295	-98.598824	0.08

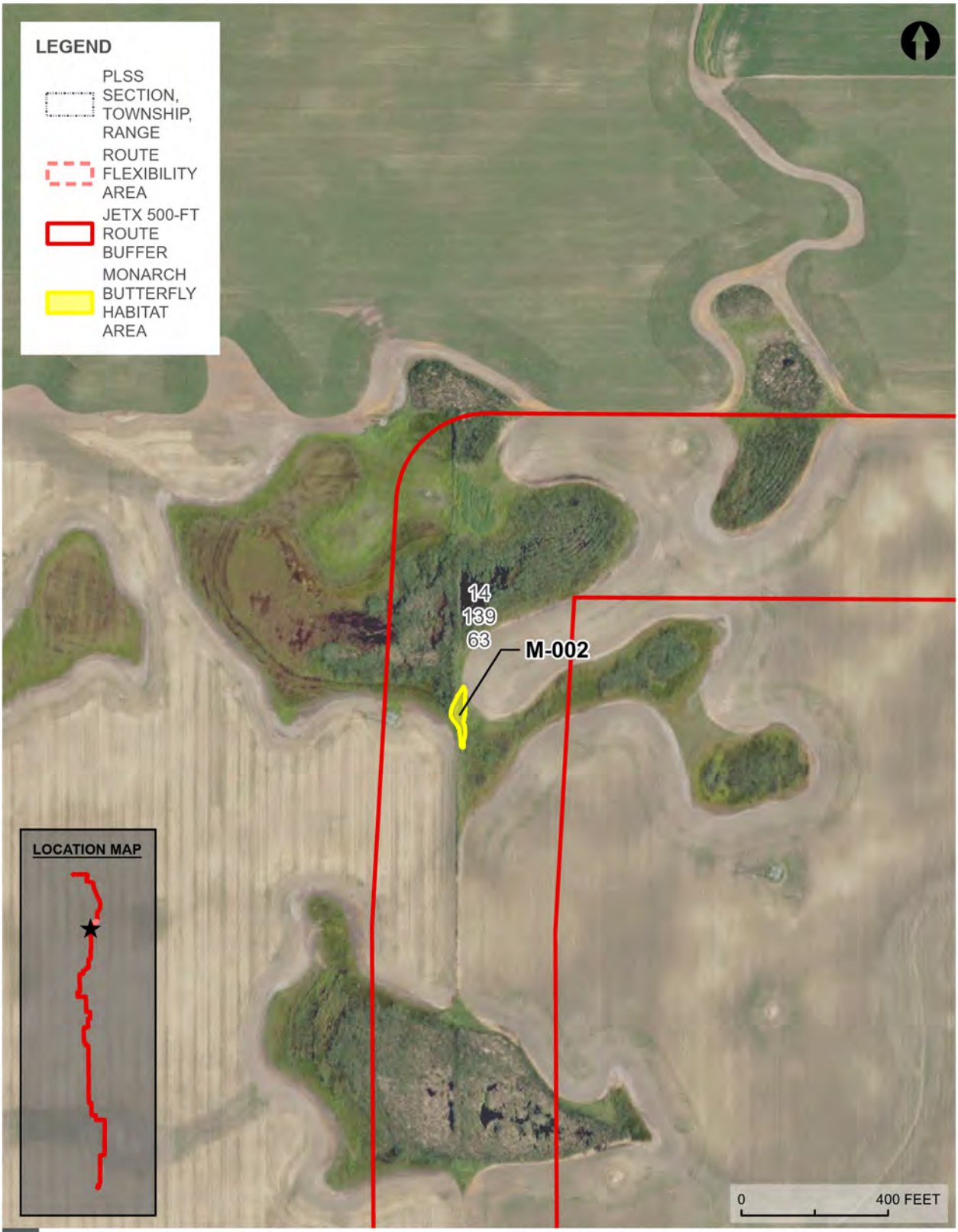
Habitat ID	Species 1	Species 2	Species 3	Species 4	Species 5	Latitude	Longitude	Area (acres)
DASK-017	Green needle grass	Purple coneflower	Bastard toadflax	Little bluestem	Prairie smoke	47.005173	-98.596672	0.36
DASK-018	Little bluestem	Purple coneflower	Upright coneflower	Needle and thread	Dotted gayfeather	47.001213	-98.582527	0.15
DASK-019	Little bluestem	Green needle grass	Annual sunflower	Upright coneflower	Purple prairie clover	47.000004	-98.582207	0.78
DASK-020	Little bluestem	Purple coneflower	Upright coneflower	Big bluestem	Harebell bellflower	46.996887	-98.581940	5.95
DASK-021	Little bluestem	Green needle grass	Dotted gayfeather	Purple coneflower	Upright coneflower	46.992687	-98.580704	0.46
DASK-022	Little bluestem	Purple coneflower	Upright coneflower	Green needle grass	Dotted gayfeather	46.965816	-98.567184	0.80
DASK-023	Little bluestem	Poa pretenses	Purple coneflower	Dotted gayfeather	Upright coneflower	46.963161	-98.565826	0.46
DASK-024	Green needle grass	Little bluestem	Purple coneflower	Stiff sunflower	Upright coneflower	46.962032	-98.564819	0.89
DASK-025	Green needle grass	Little bluestem	Purple coneflower	Stiff sunflower	Upright coneflower	46.960423	-98.563538	0.17
DASK-026	Green needle grass	Little bluestem	Purple coneflower	Stiff sunflower	Upright coneflower	46.954742	-98.560150	3.10
DASK-027	Little bluestem	Needle and thread	Dotted gayfeather	Purple coneflower	Upright coneflower	46.861542	-98.581650	0.36
DASK-028	Little bluestem	Needle and thread	Stiff sunflower	Purple coneflower	Prairie smoke	46.861217	-98.581070	0.18
DASK-029	Little bluestem	Needle and thread	Upright coneflower	Dotted gayfeather	Stiff sunflower	46.858696	-98.580551	0.07
DASK-030	Little bluestem	Needle and thread	Poa pretenses	Stiff sunflower	Prairie smoke	46.857967	-98.581215	0.41
DASK-031	Little bluestem	Needle and thread	Upright coneflower	Dotted gayfeather	Prairie smoke	46.857819	-98.580414	0.14
DASK-032	Little bluestem	Needle and thread	Upright coneflower	Dotted gayfeather	Poa pretenses	46.857399	-98.580269	0.08

Habitat ID	Species 1	Species 2	Species 3	Species 4	Species 5	Latitude	Longitude	Area (acres)
DASK-033	Little bluestem	Needle and thread	Upright coneflower	Dotted gayfeather	Purple coneflower	46.856941	-98.580750	0.92
DASK-034	Needle and thread	Little bluestem	Bastard toe flax	Purple con flower	Poa pretenses	46.855591	-98.580948	0.00
DASK-035	Little bluestem	Goldenrod	Rough blazing star	Purple coneflower	Stiff sunflower	46.721550	-98.619644	0.00
DASK-036	Purple coneflower	Little bluestem	Hairy grama	Stiff-leaved goldenrod	Silvery scurfpea	46.713287	-98.634377	0.98
DASK-037	Purple coneflower	Little bluestem	Big bluestem	Stiff-leaved goldenrod	Silvery scurfpea	46.712715	-98.634682	0.43
DASK-038	Purple coneflower	Little bluestem	Big bluestem	Stiff-leaved goldenrod	Rough blazing star	46.712044	-98.634056	1.39
DASK-039	Little bluestem	Green needle grass	Bastard toadflax	Purple coneflower	Prairie sagewort	46.711411	-98.632622	0.38
DASK-040	Little bluestem	Blue grama	Purple coneflower	Hoary picking	Prairie clover	46.705788	-98.632942	0.20
							Total	21.58

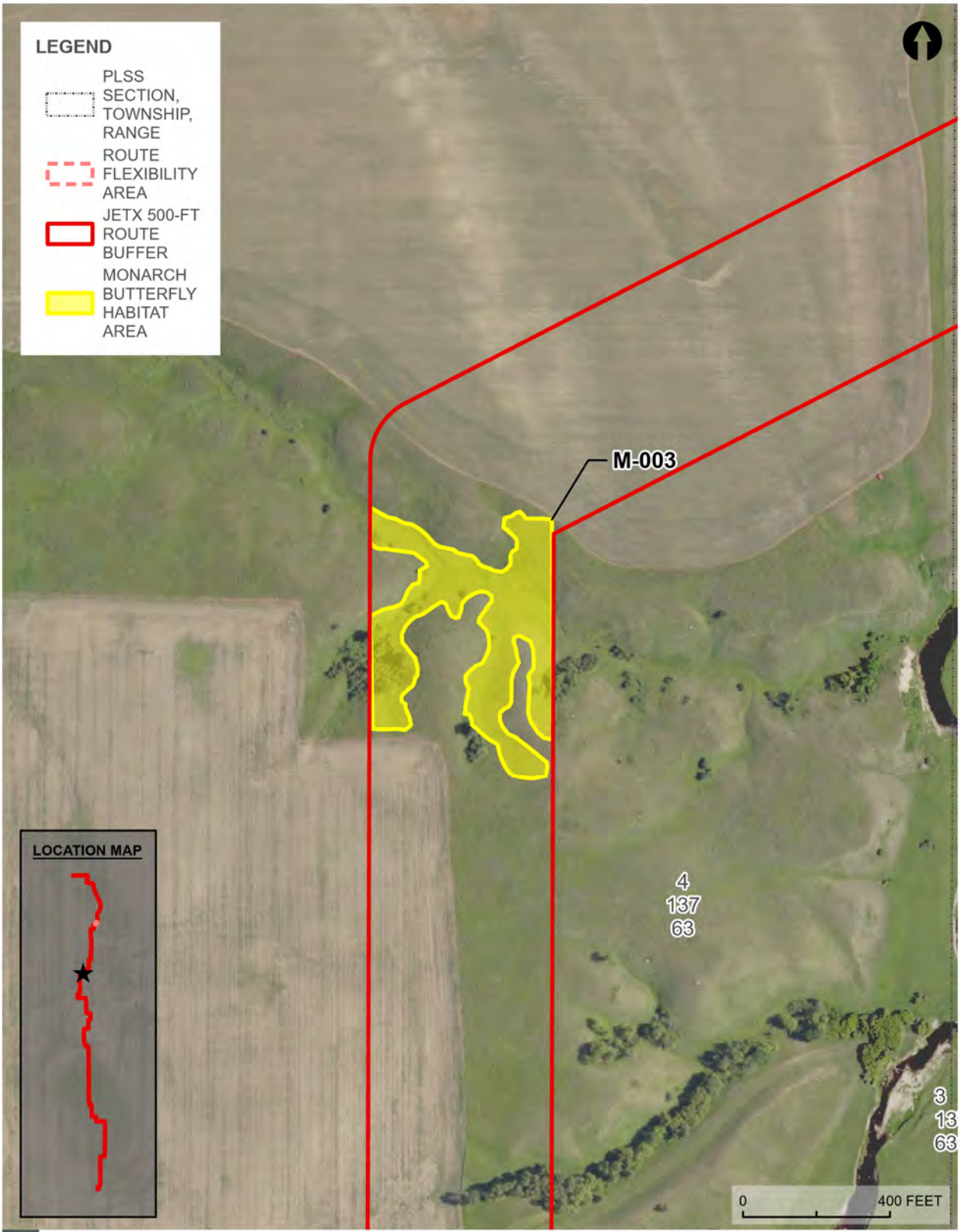
Appendix F. Locations of suitable monarch butterfly habitat within the JETx Survey Area in Stutsman, LaMoure, and Dickey counties, North Dakota.



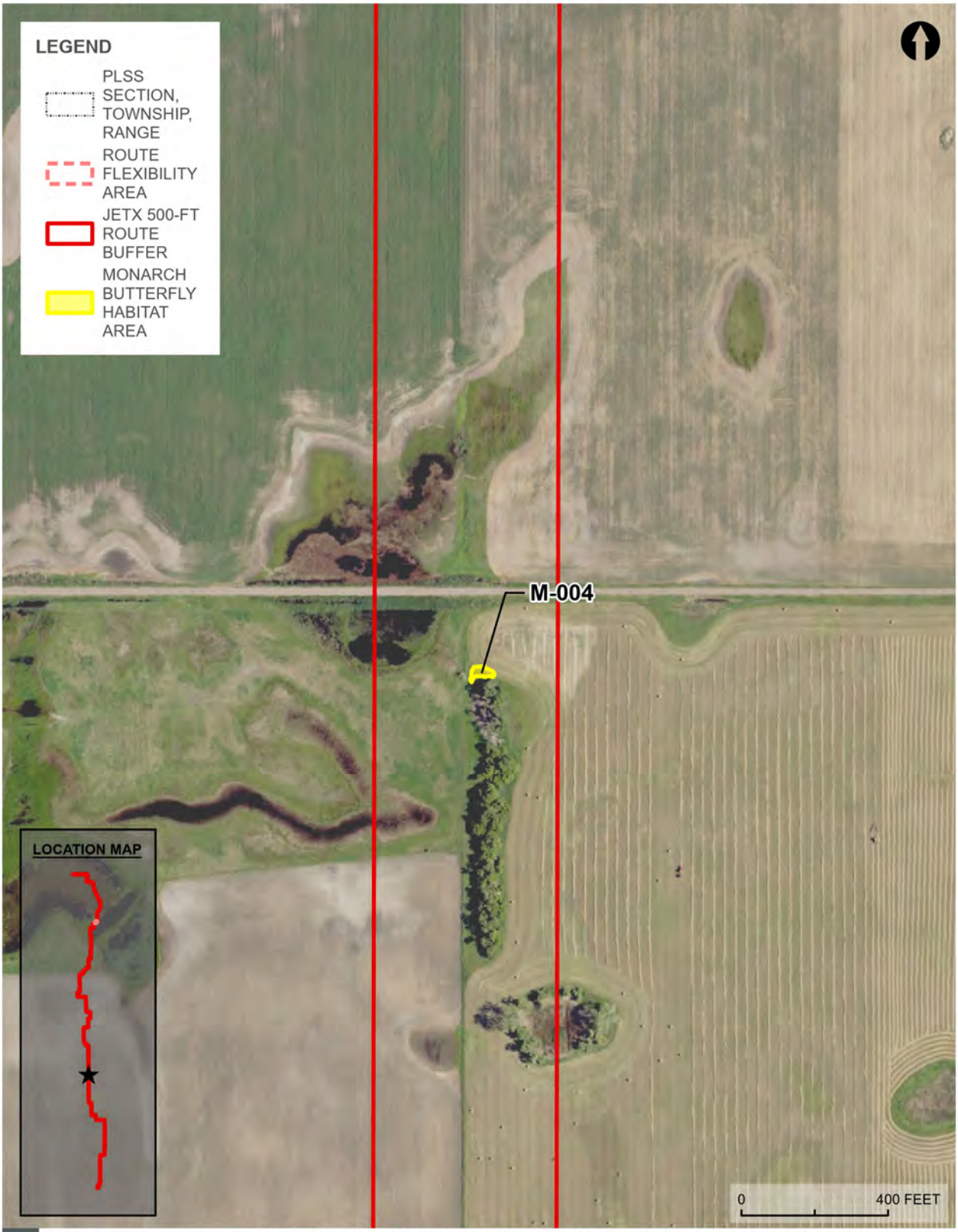
MONARCH BUTTERFLY SUITABLE HABITAT - OVERVIEW MAP



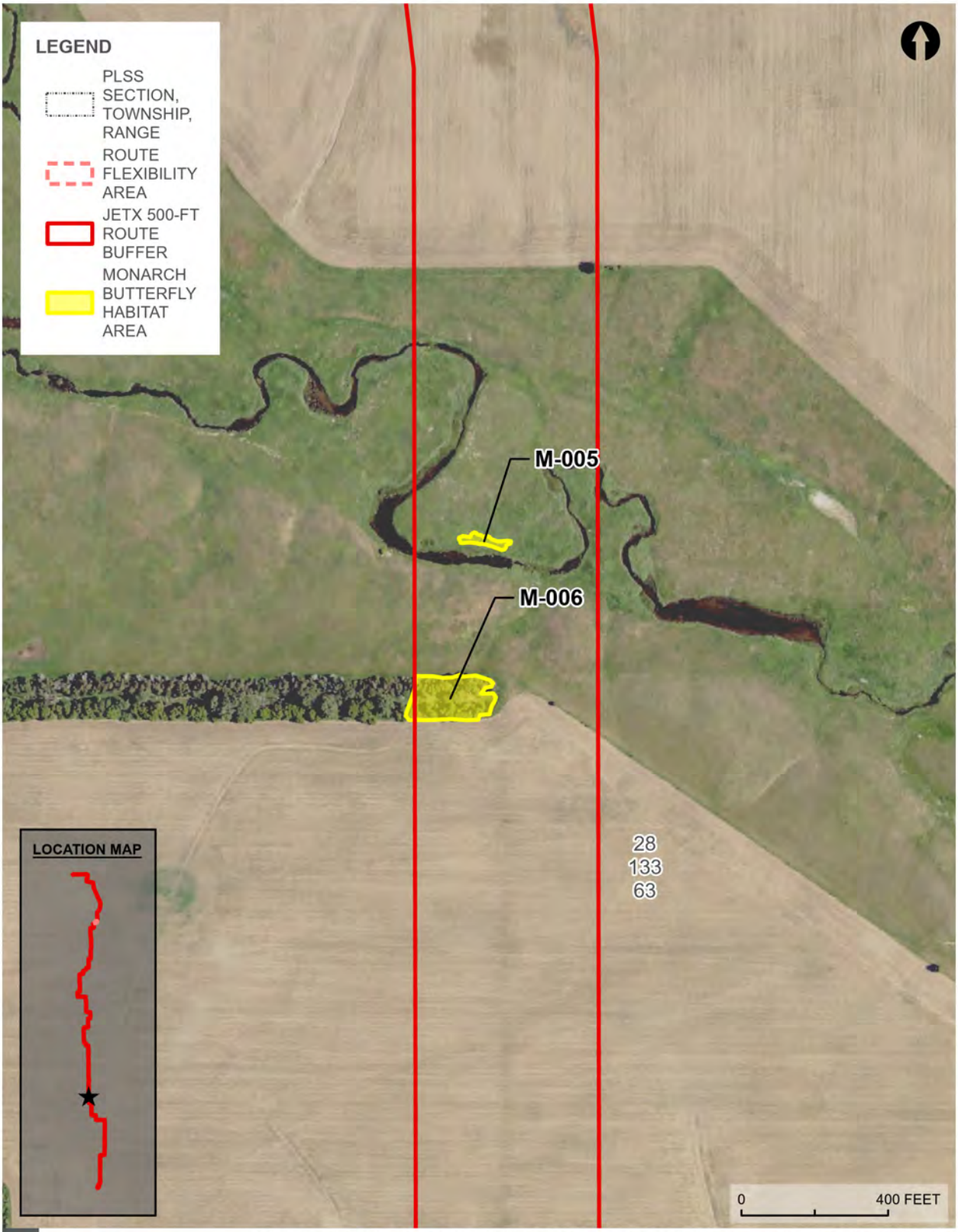
MONARCH BUTTERFLY SUITABLE HABITAT - OVERVIEW MAP



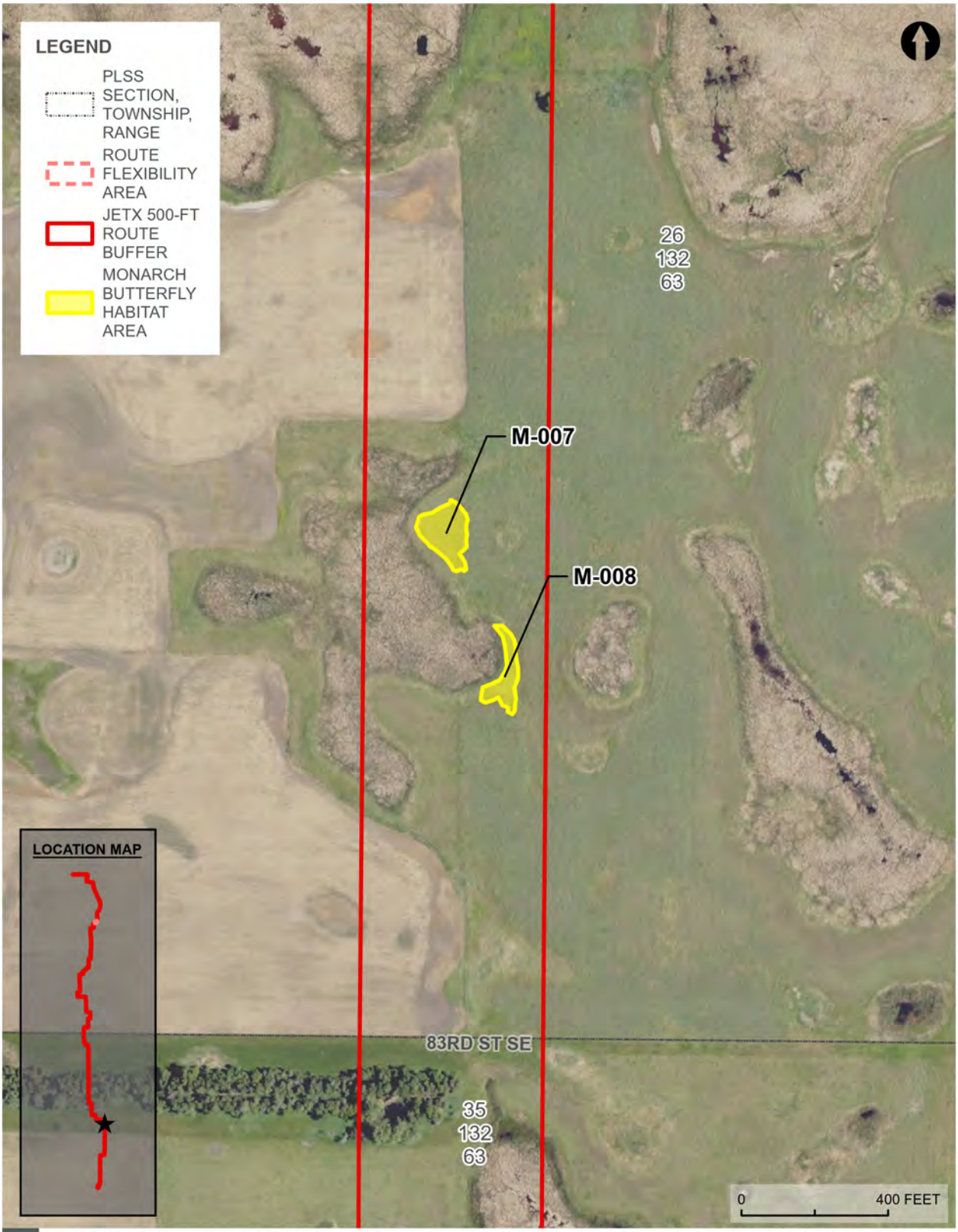
MONARCH BUTTERFLY SUITABLE HABITAT - OVERVIEW MAP



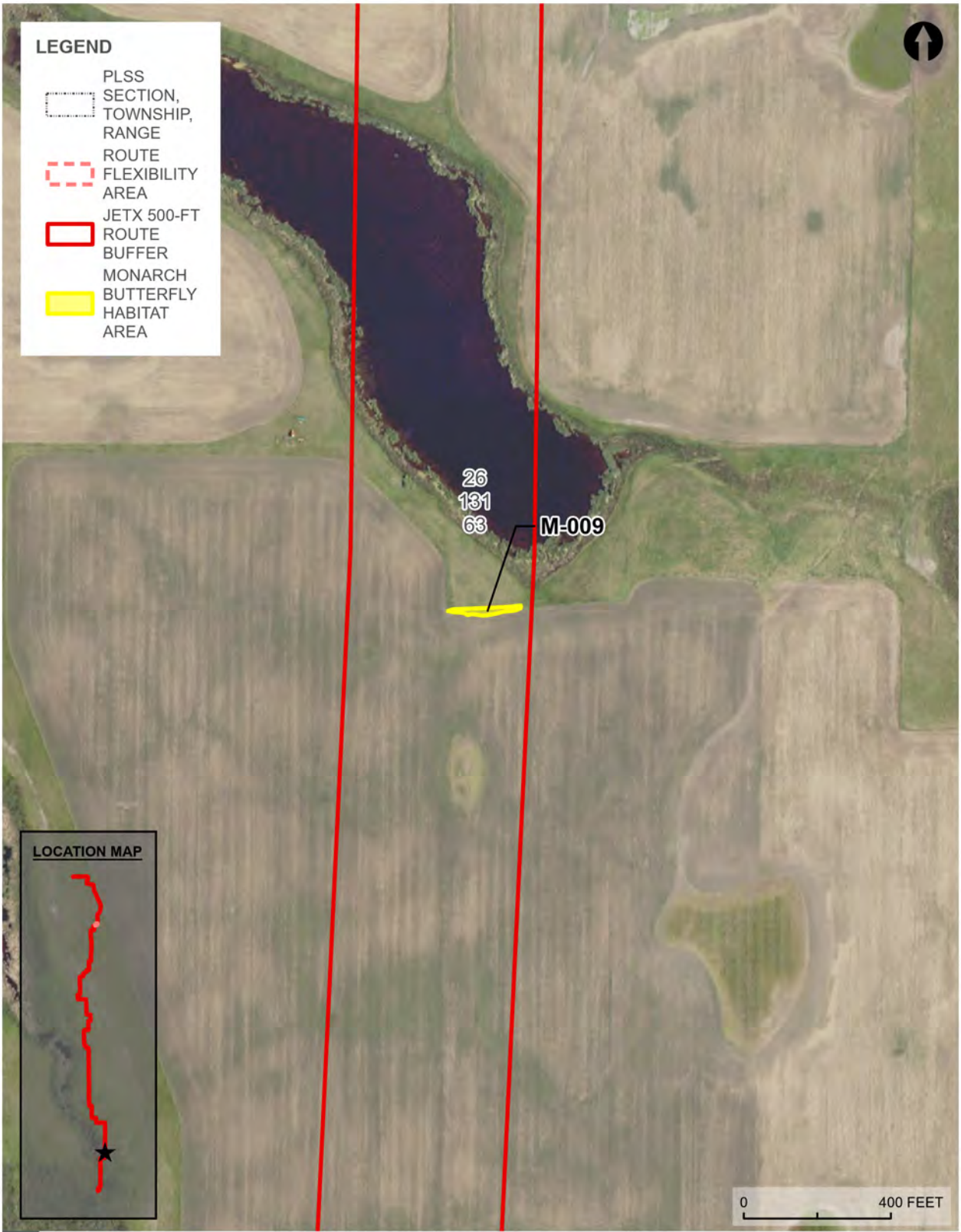
MONARCH BUTTERFLY SUITABLE HABITAT - OVERVIEW MAP



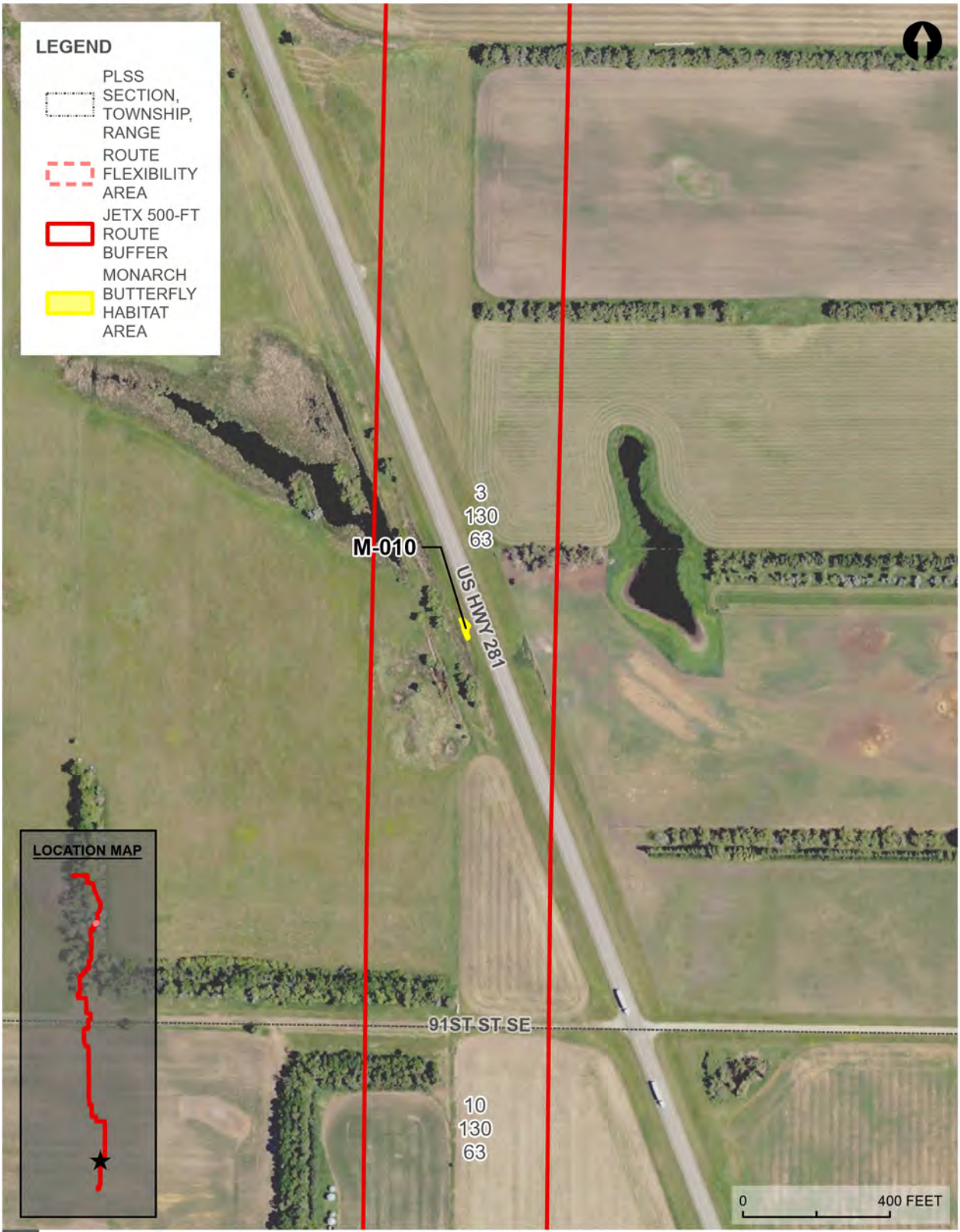
MONARCH BUTTERFLY SUITABLE HABITAT - OVERVIEW MAP



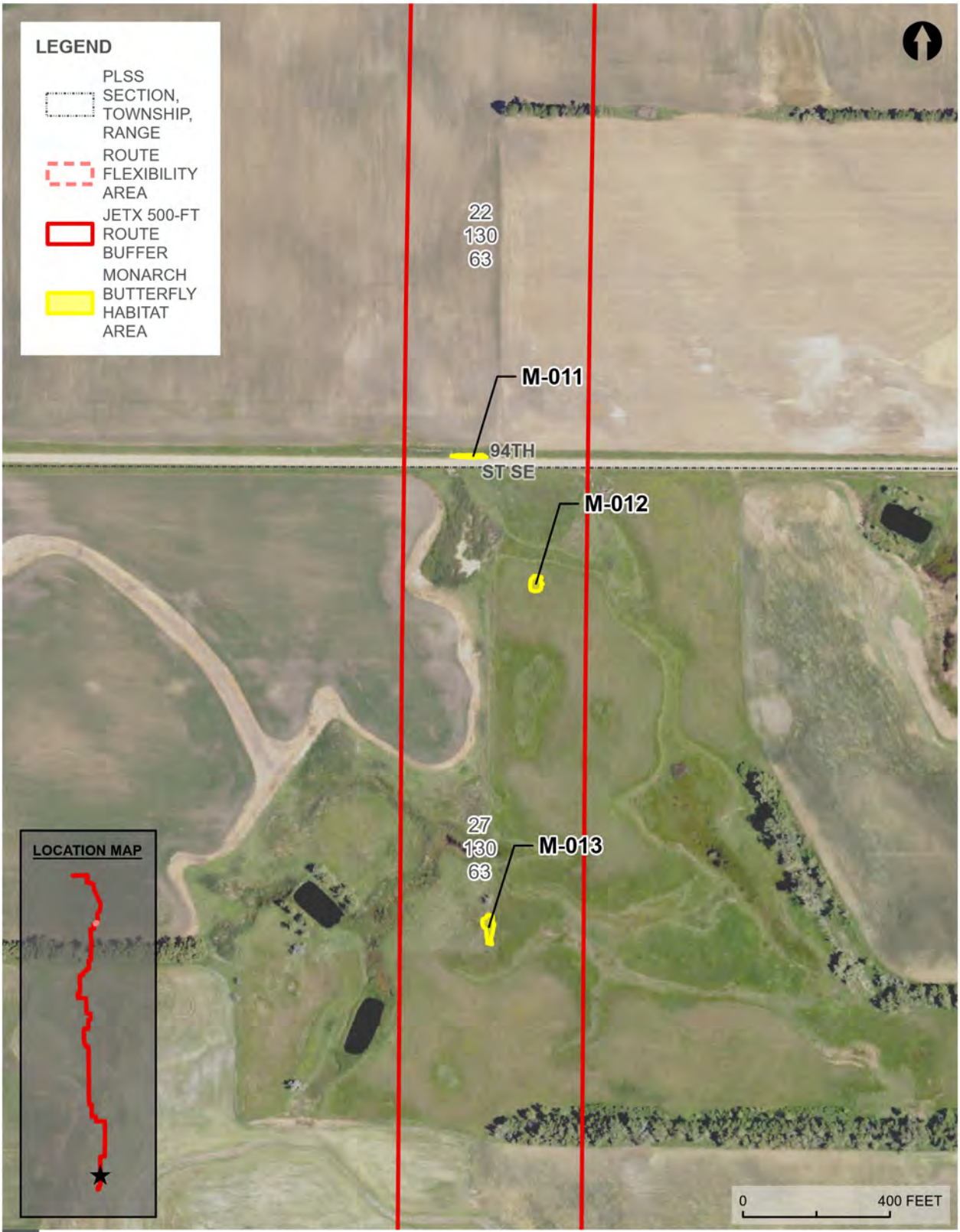
MONARCH BUTTERFLY SUITABLE HABITAT - OVERVIEW MAP



MONARCH BUTTERFLY SUITABLE HABITAT - OVERVIEW MAP



MONARCH BUTTERFLY SUITABLE HABITAT - OVERVIEW MAP



MONARCH BUTTERFLY SUITABLE HABITAT - OVERVIEW MAP

Appendix G. Results of the monarch butterfly habitat evaluation within the JETx Survey Area in Stutsman, LaMoure, and Dickey counties, North Dakota.

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Habitat ID	Latitude	Longitude	Area (acres)
M-001	47.002003	-98.583511	0.92
M-003	46.712708	-98.633865	4.07
M-004	46.376530	-98.609642	0.03
M-002	46.853512	-98.597305	0.08
M-005	46.305515	-98.609619	0.06
M-006	46.304344	-98.609970	0.55
M-009	46.131905	-98.535347	0.06
M-008	46.215630	-98.534157	0.23
M-007	46.216702	-98.534790	0.38
M-010	46.100269	-98.557304	0.01
M-011	46.053696	-98.558159	0.01
M-012	46.052742	-98.557449	0.03
M-013	46.050175	-98.557953	0.04
		Total	**6.48**

Appendix H. Locations of suitable whooping crane habitat within the JETx Survey Area in Stutsman, LaMoure, and Dickey counties, North Dakota.

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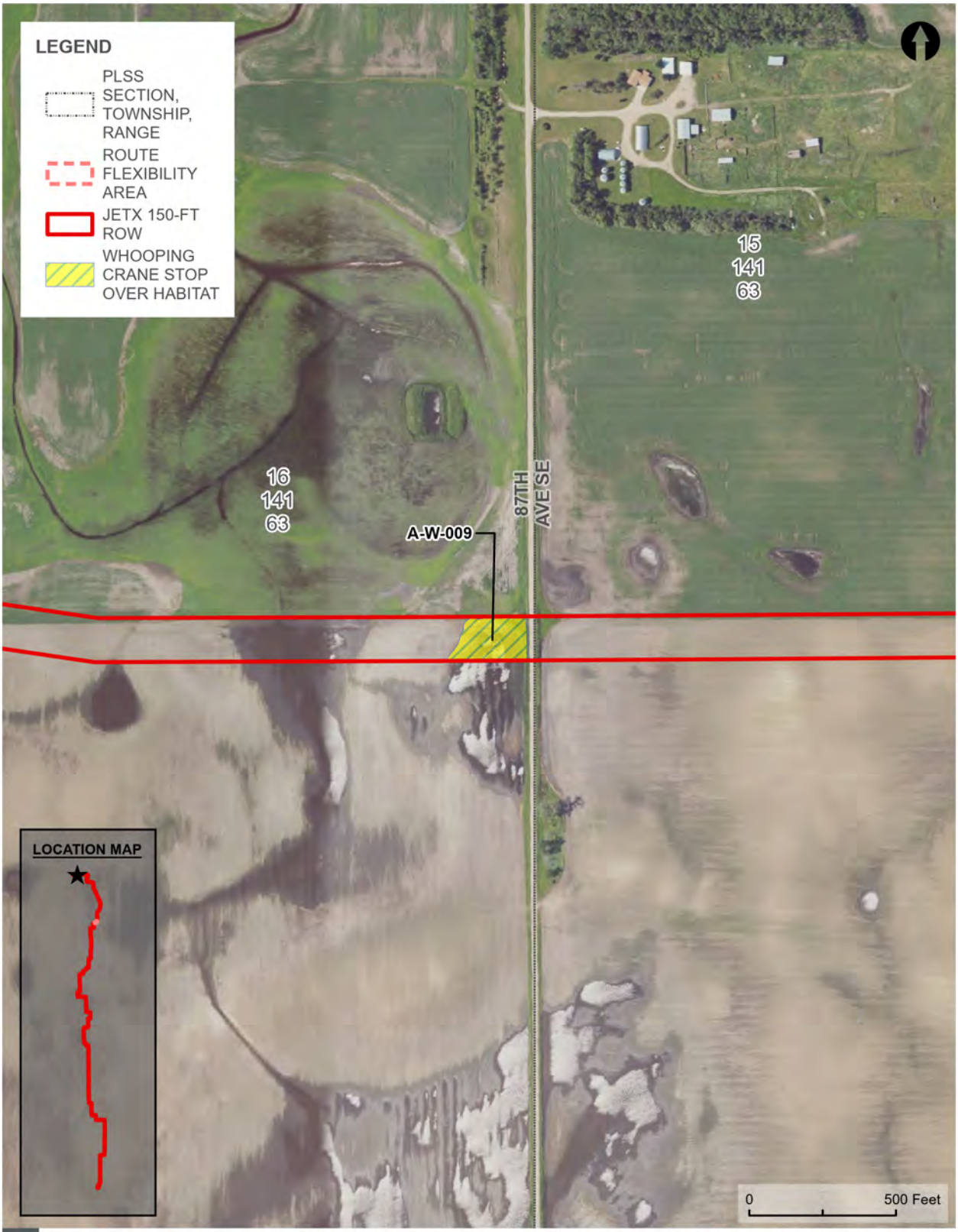
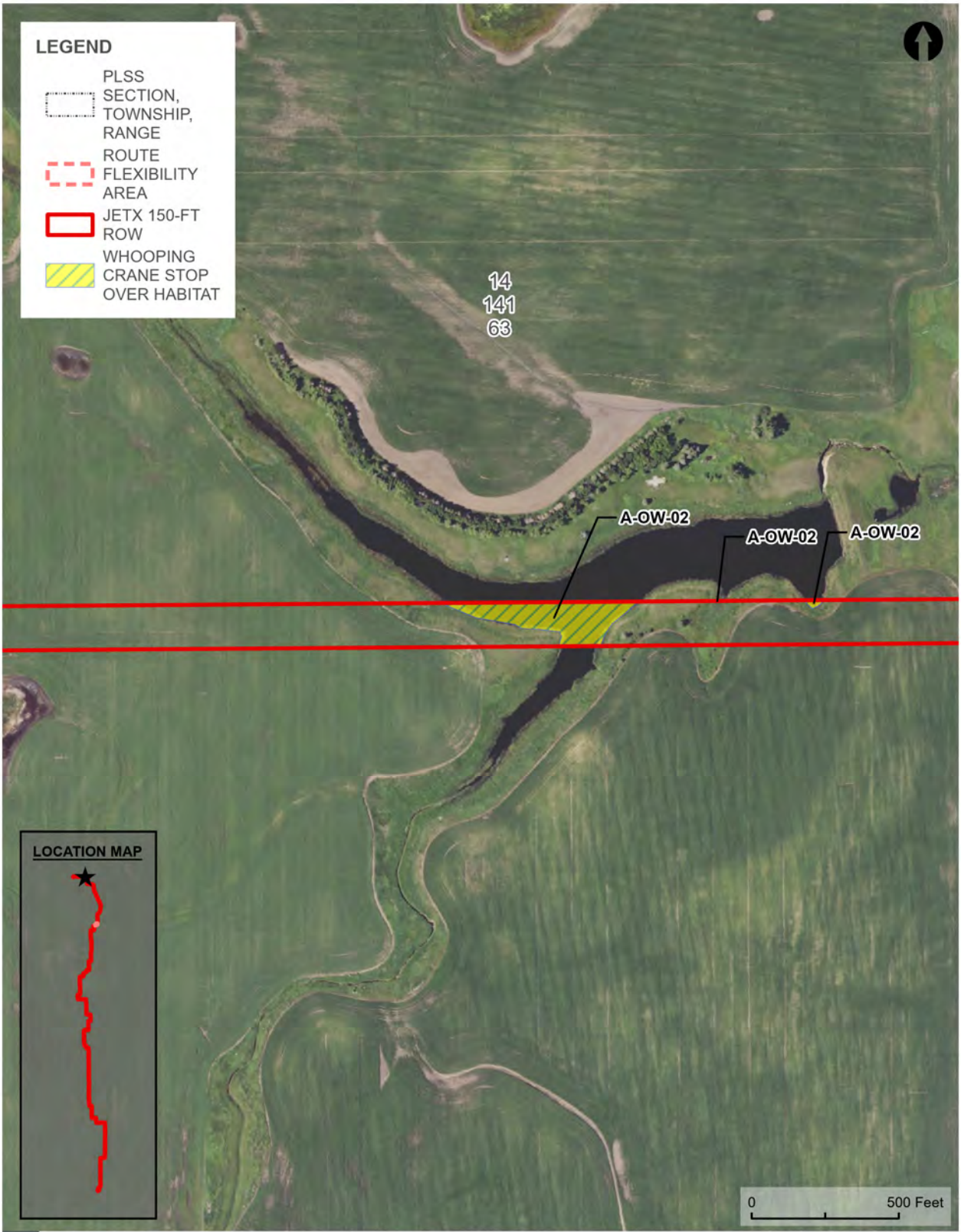
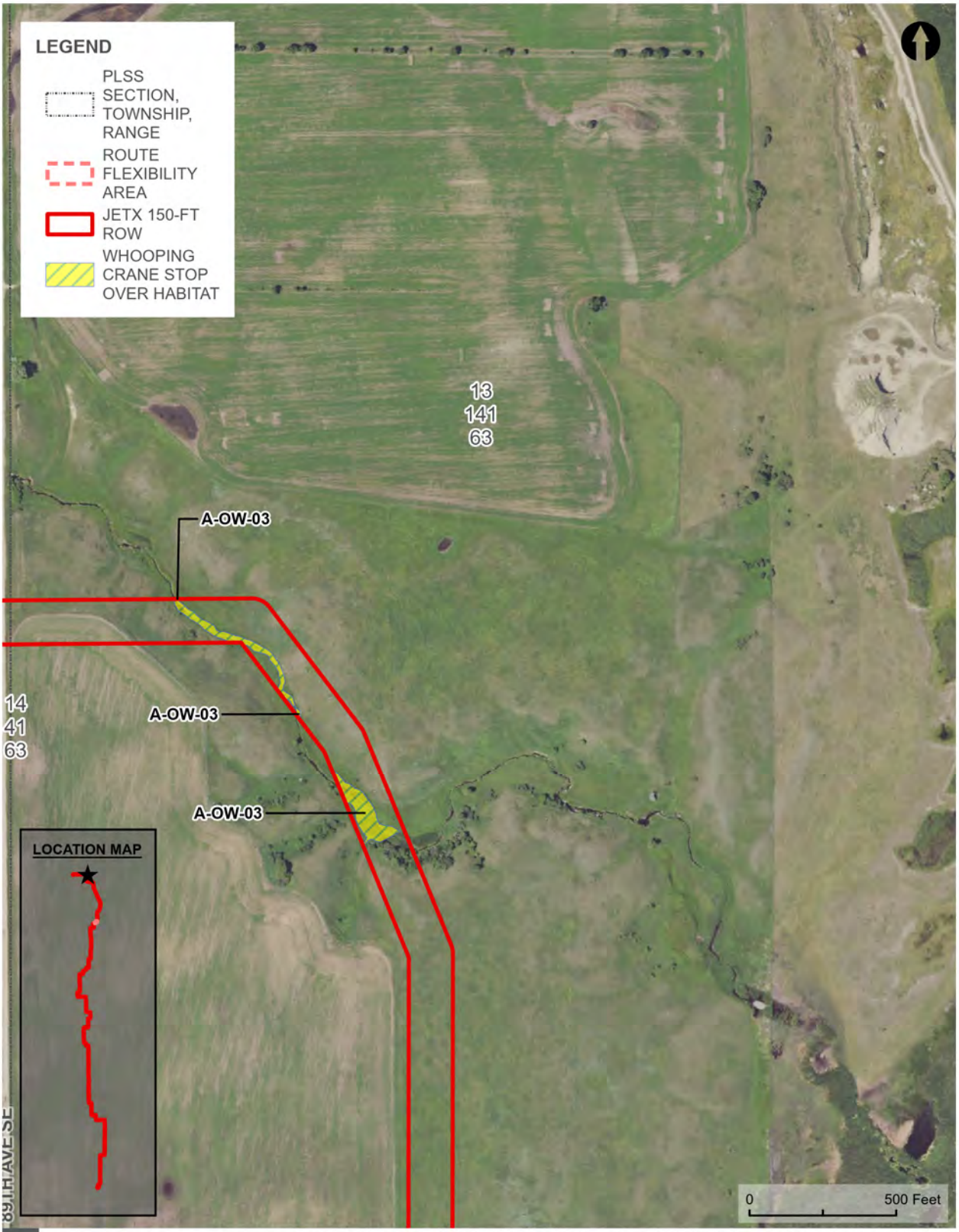


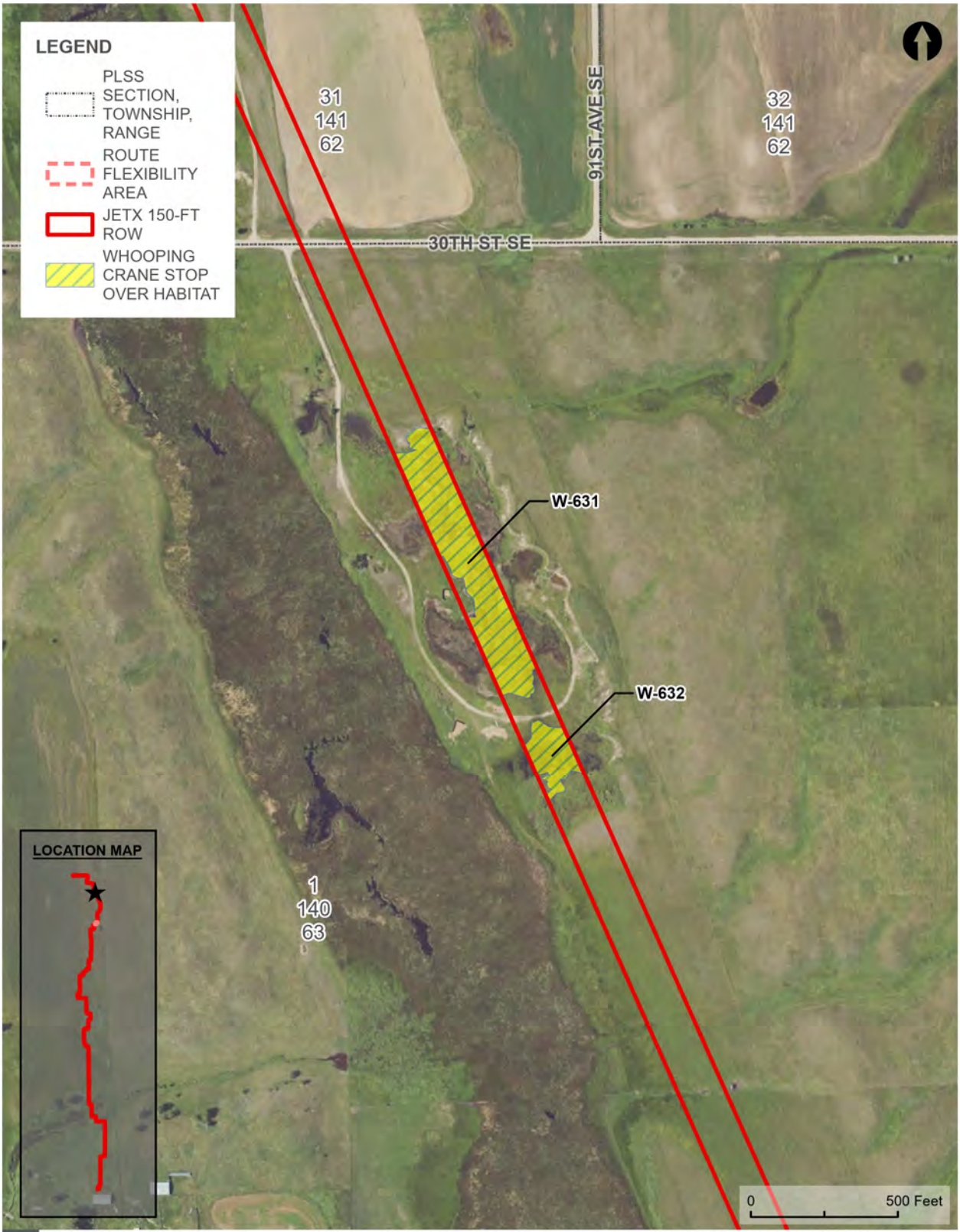
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



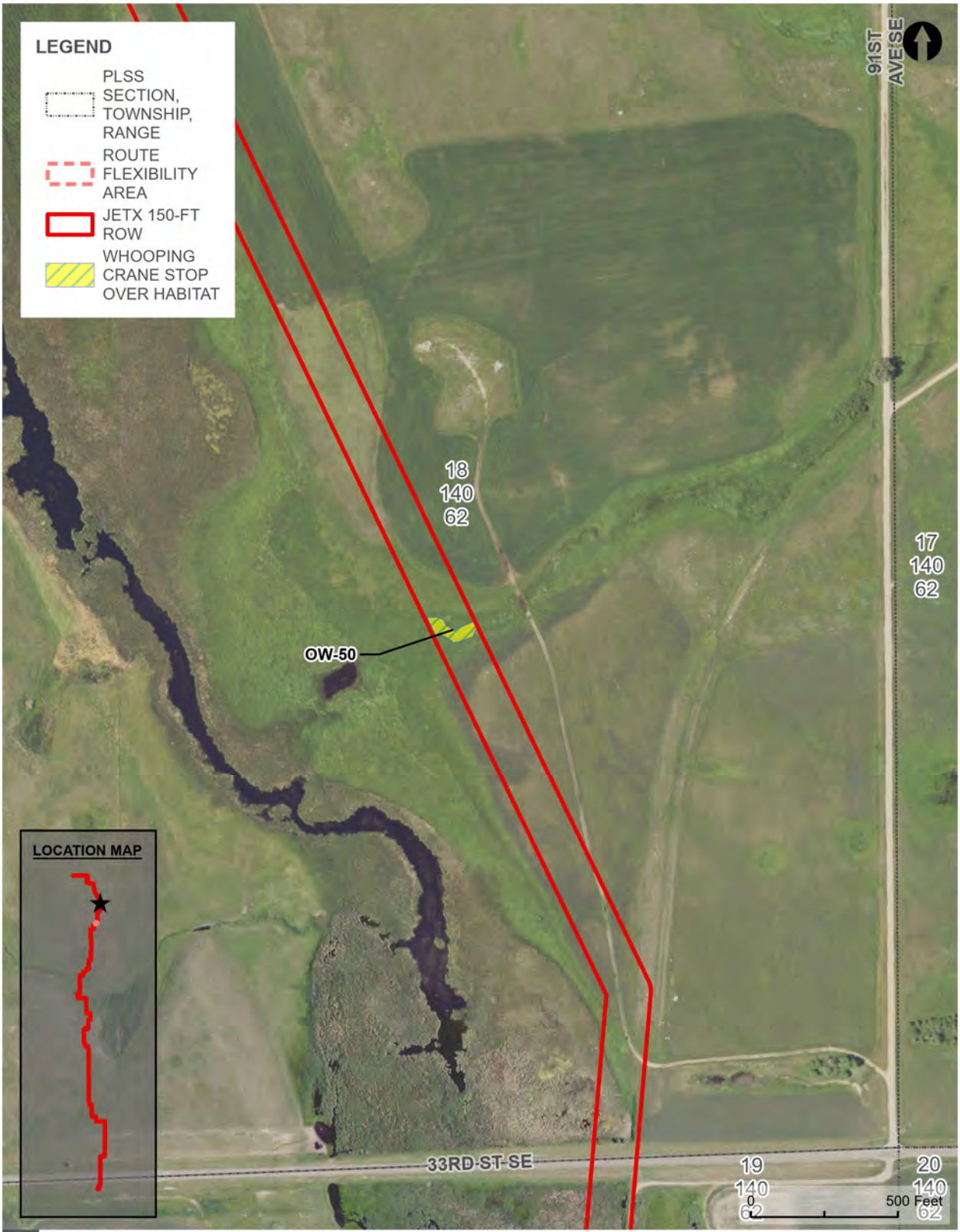
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



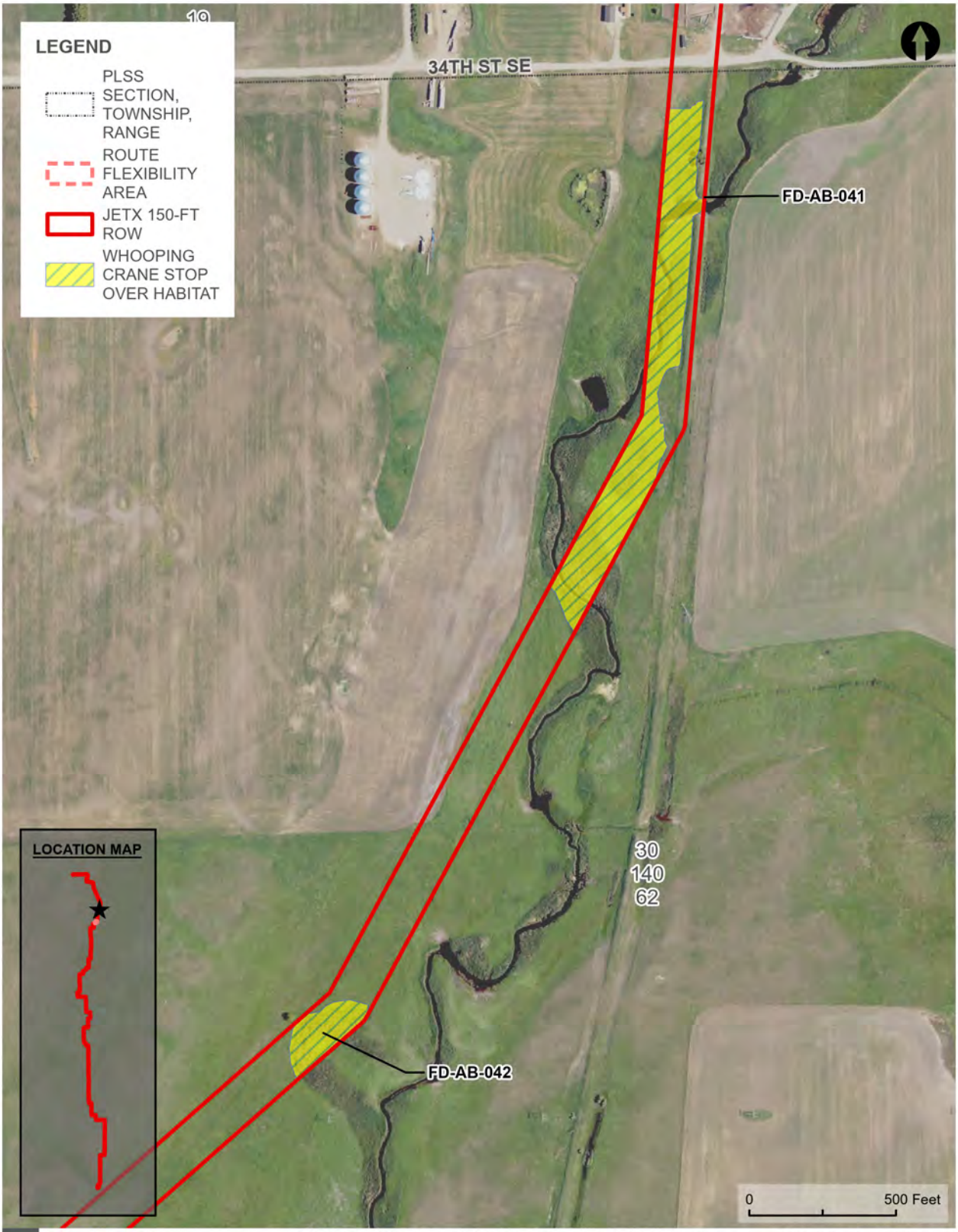
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



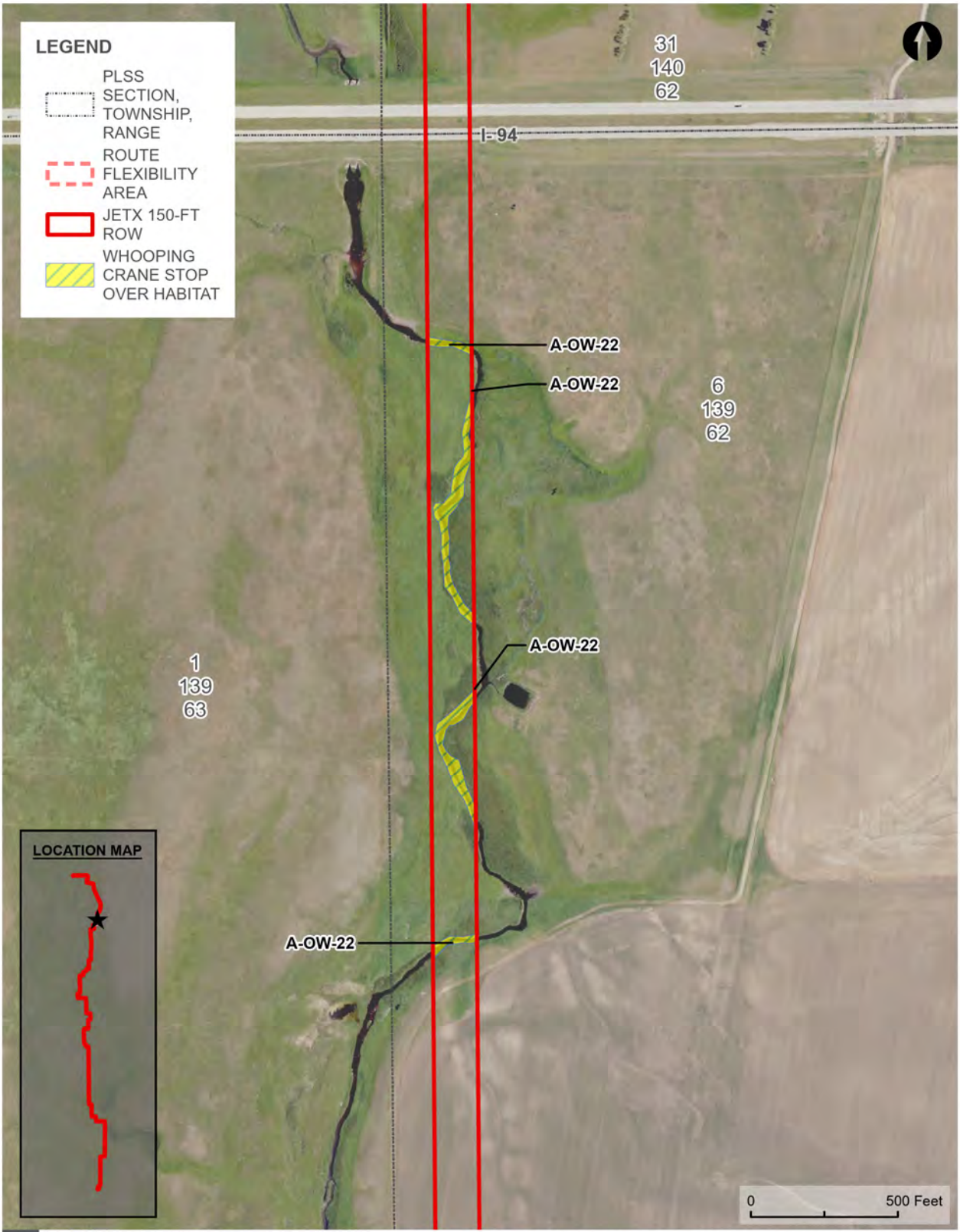
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



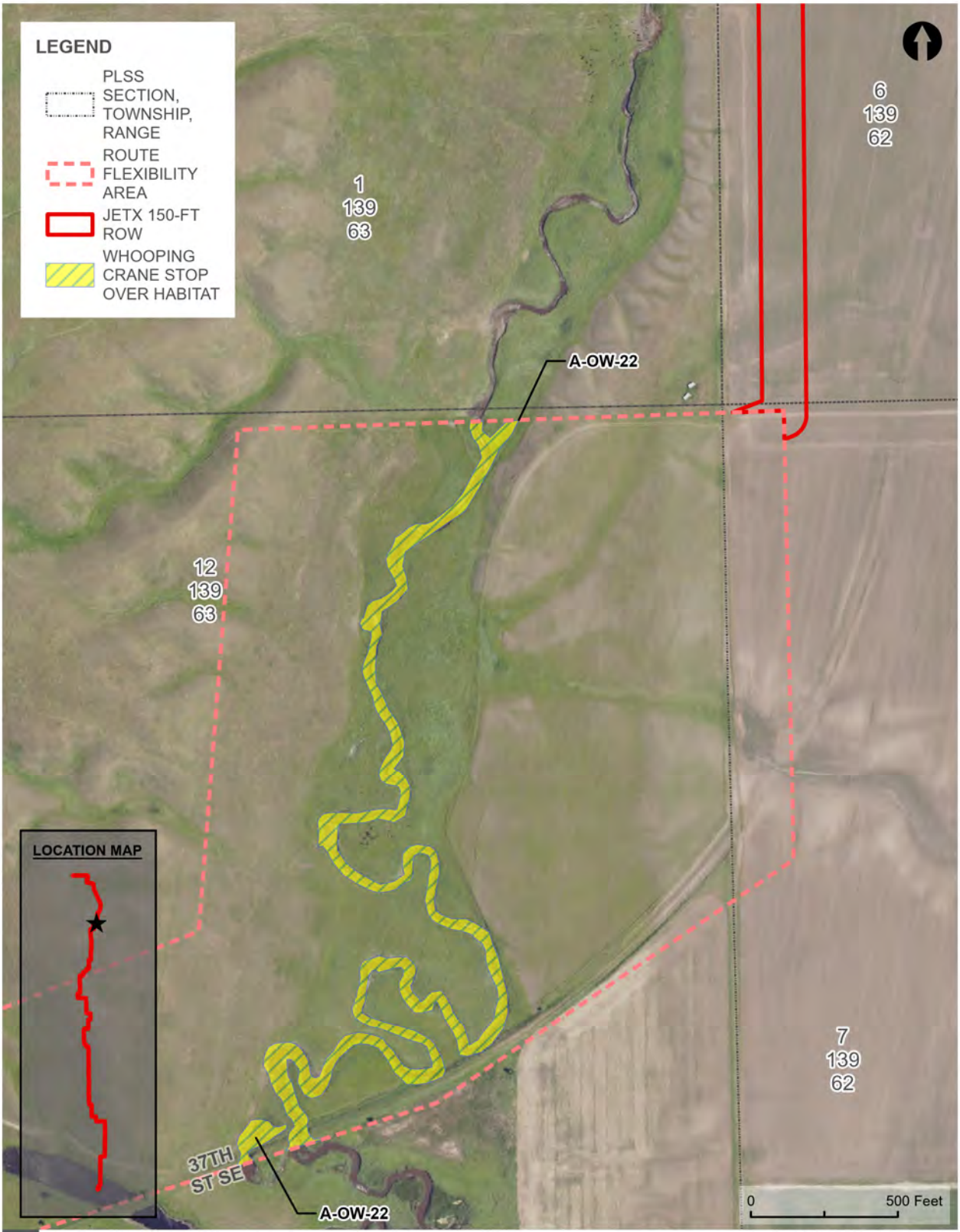
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



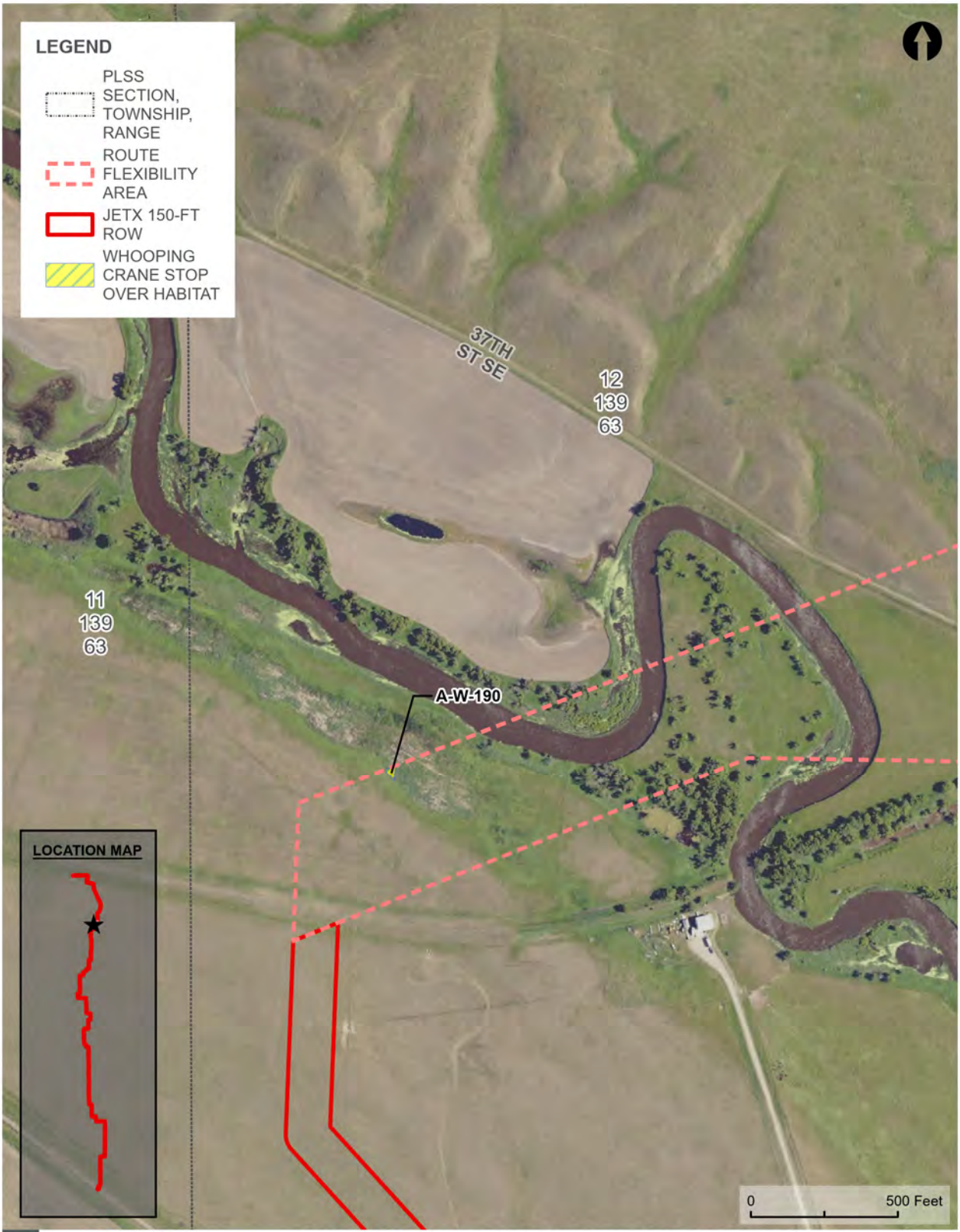
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



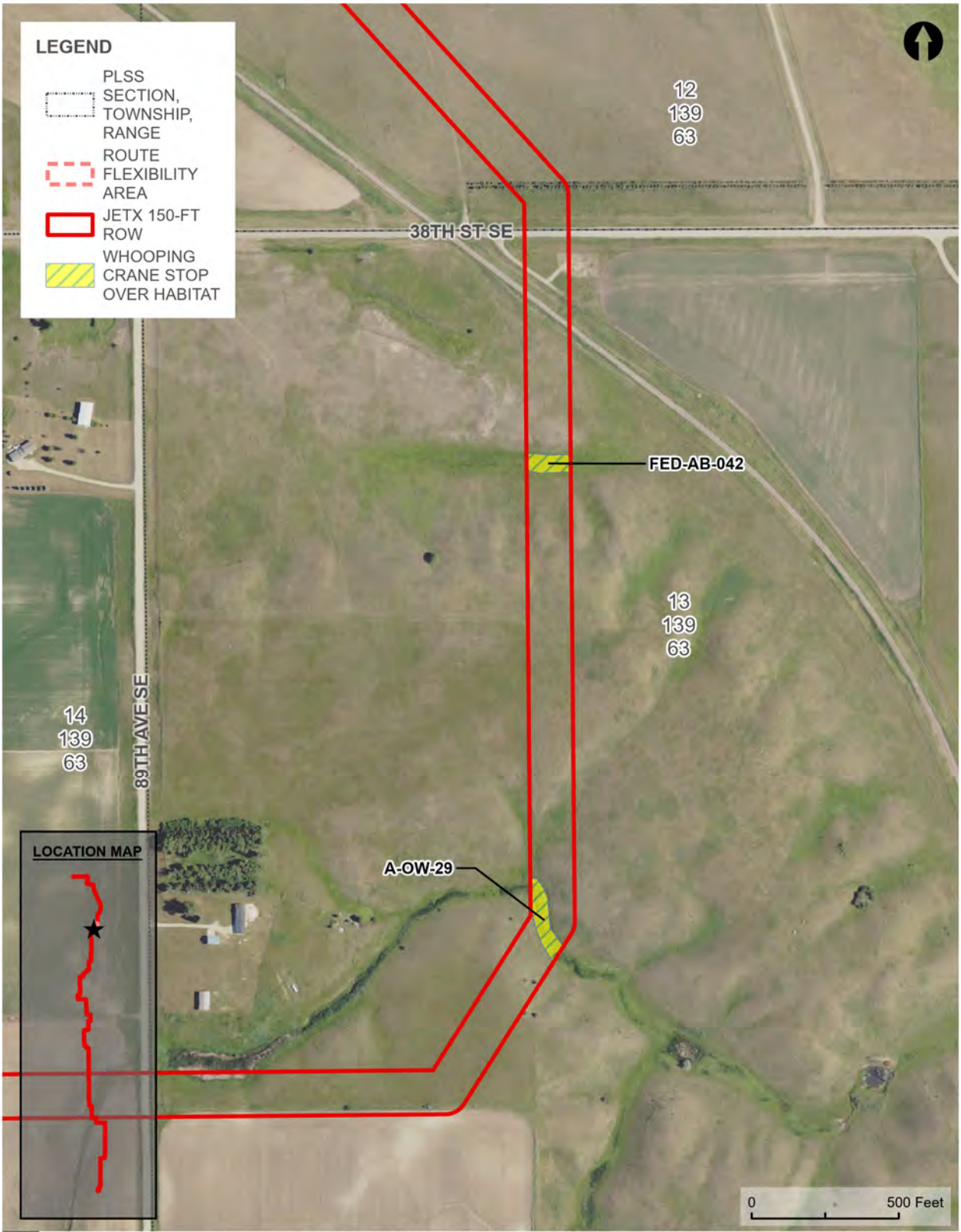
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



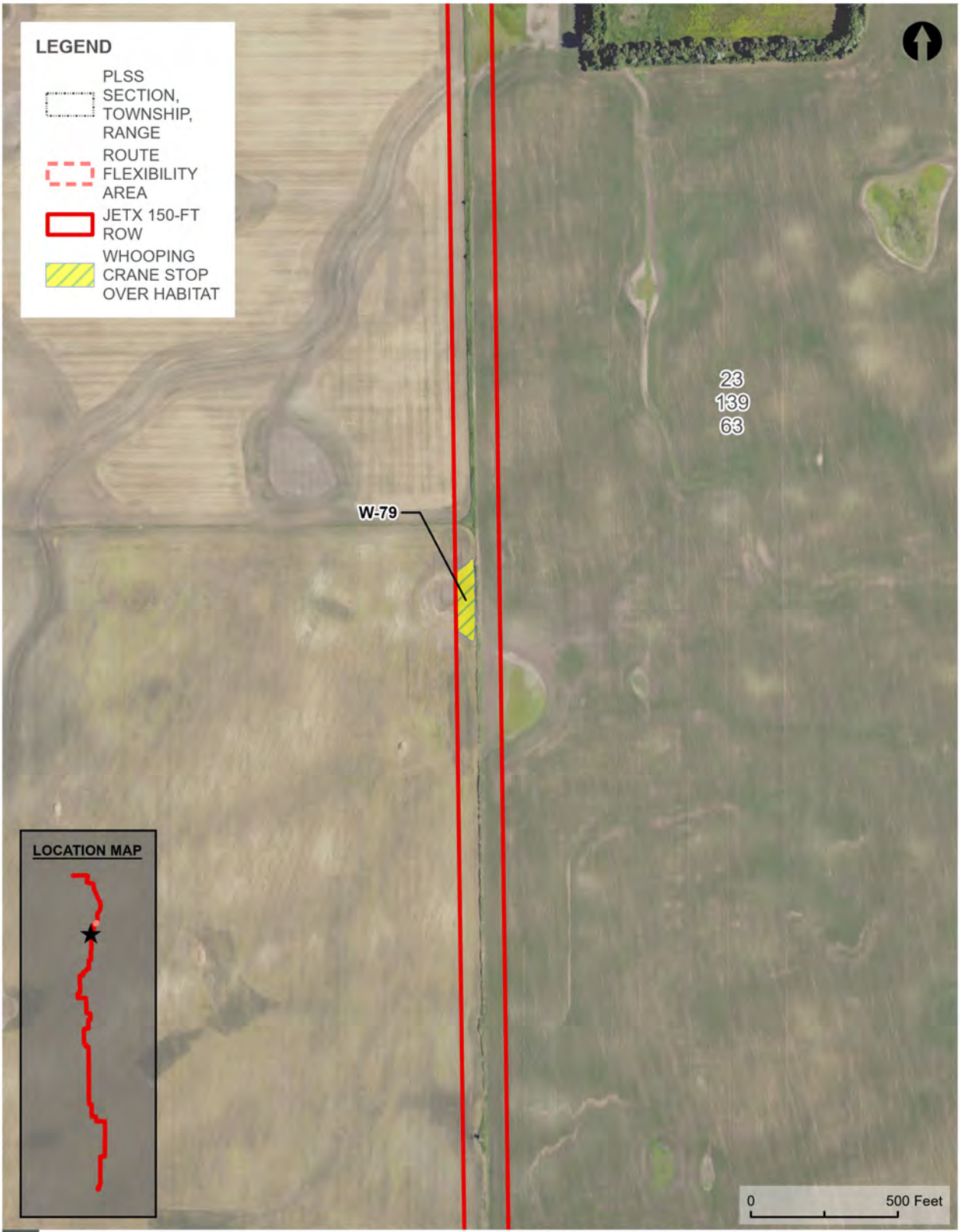
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



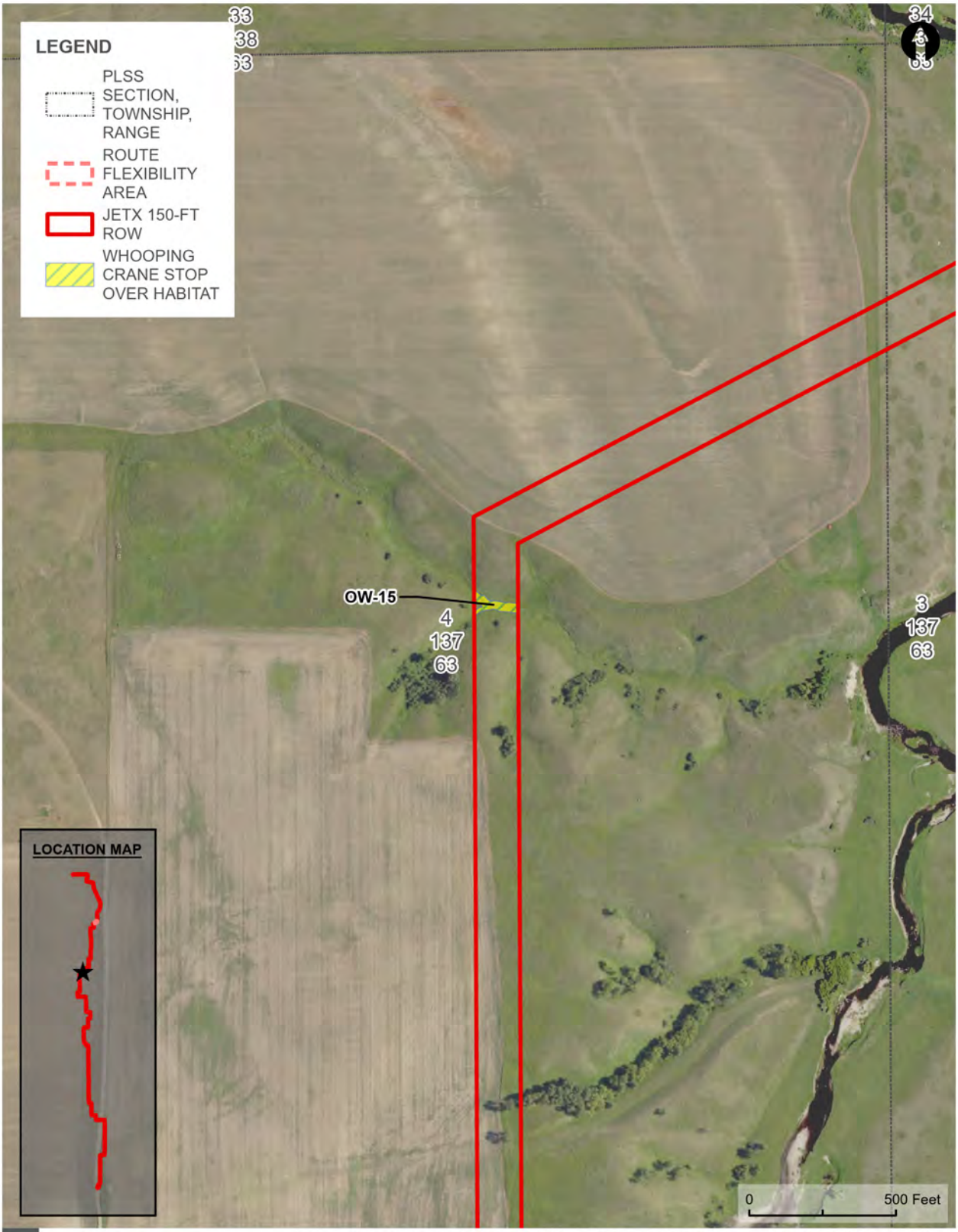
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



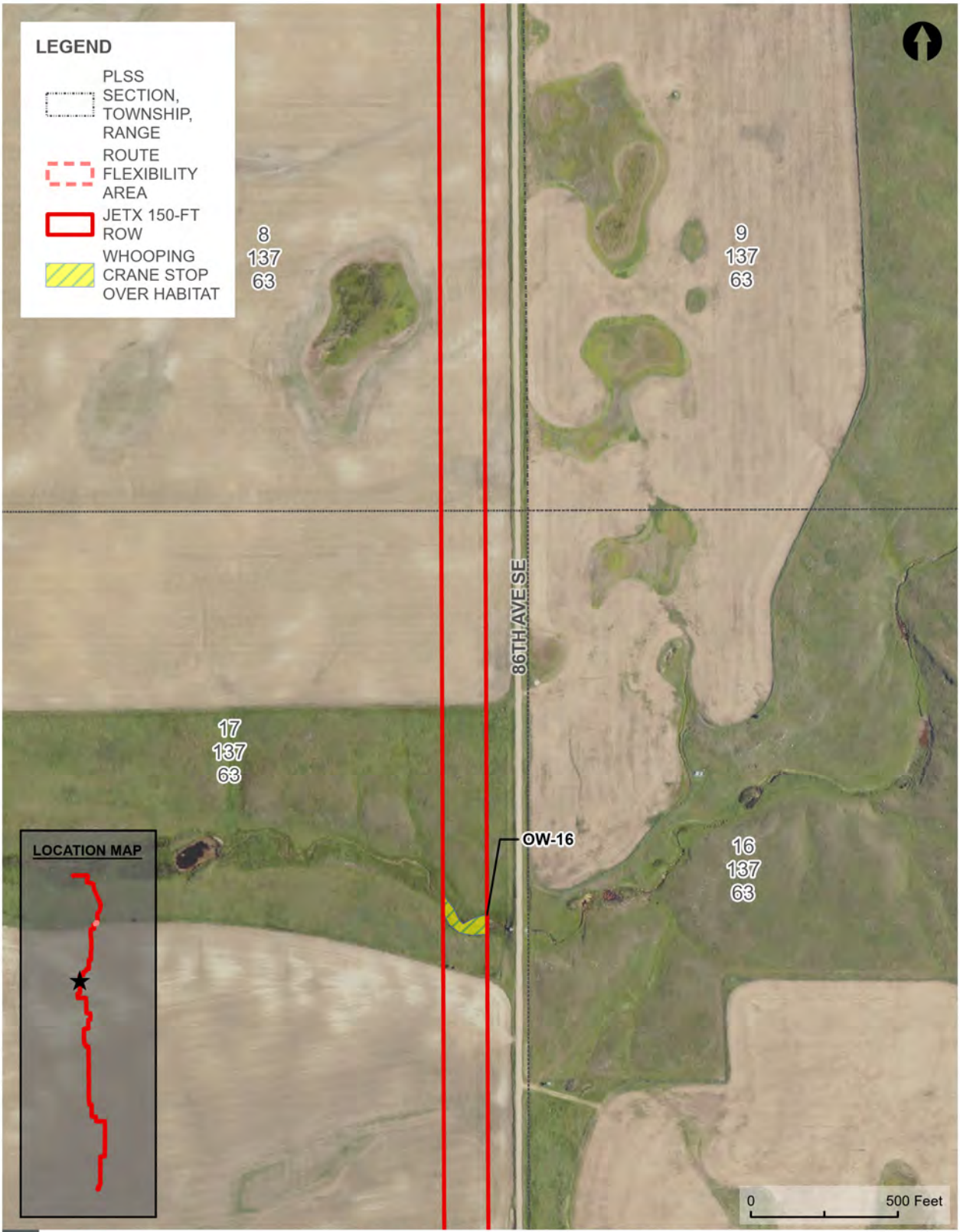
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



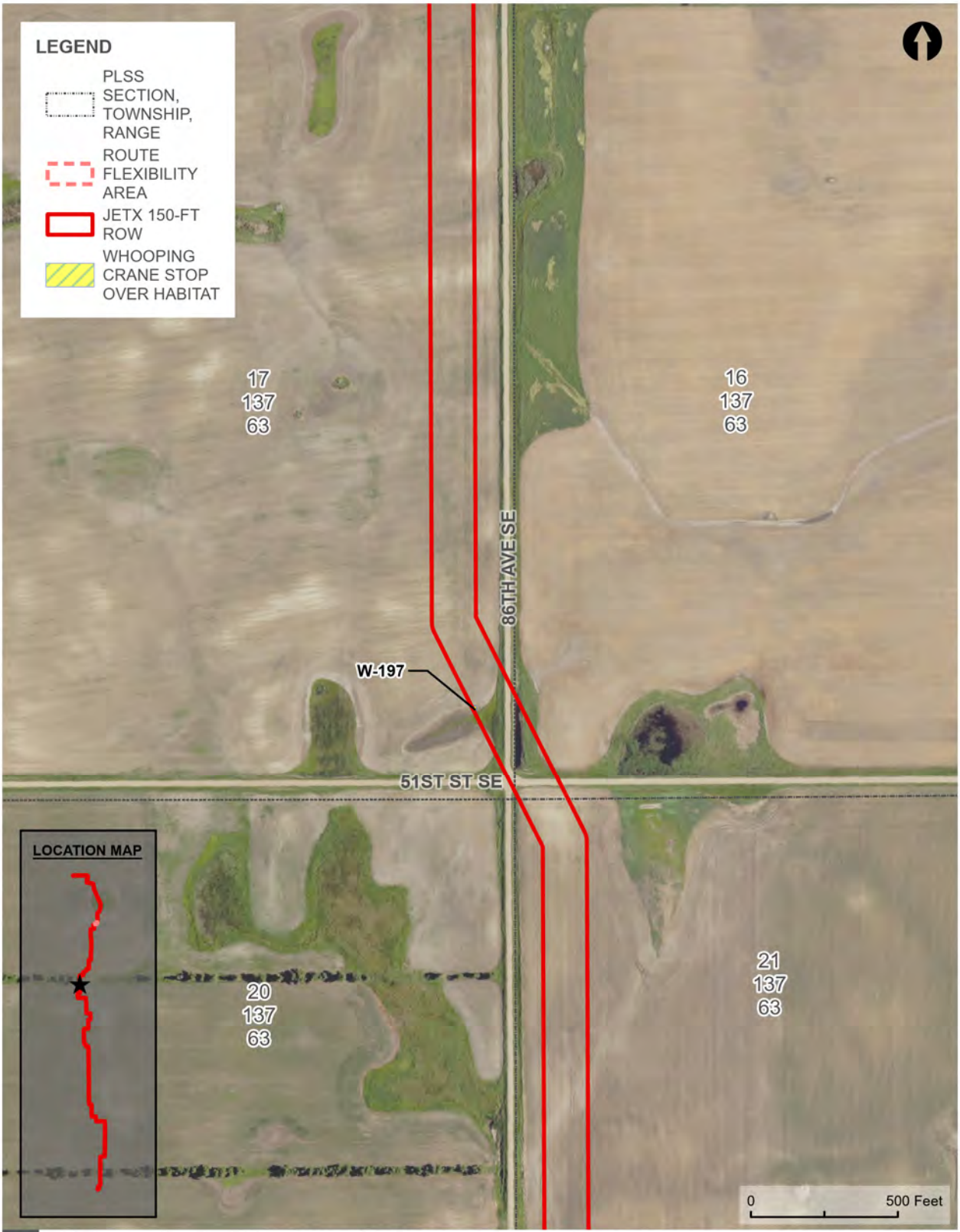
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



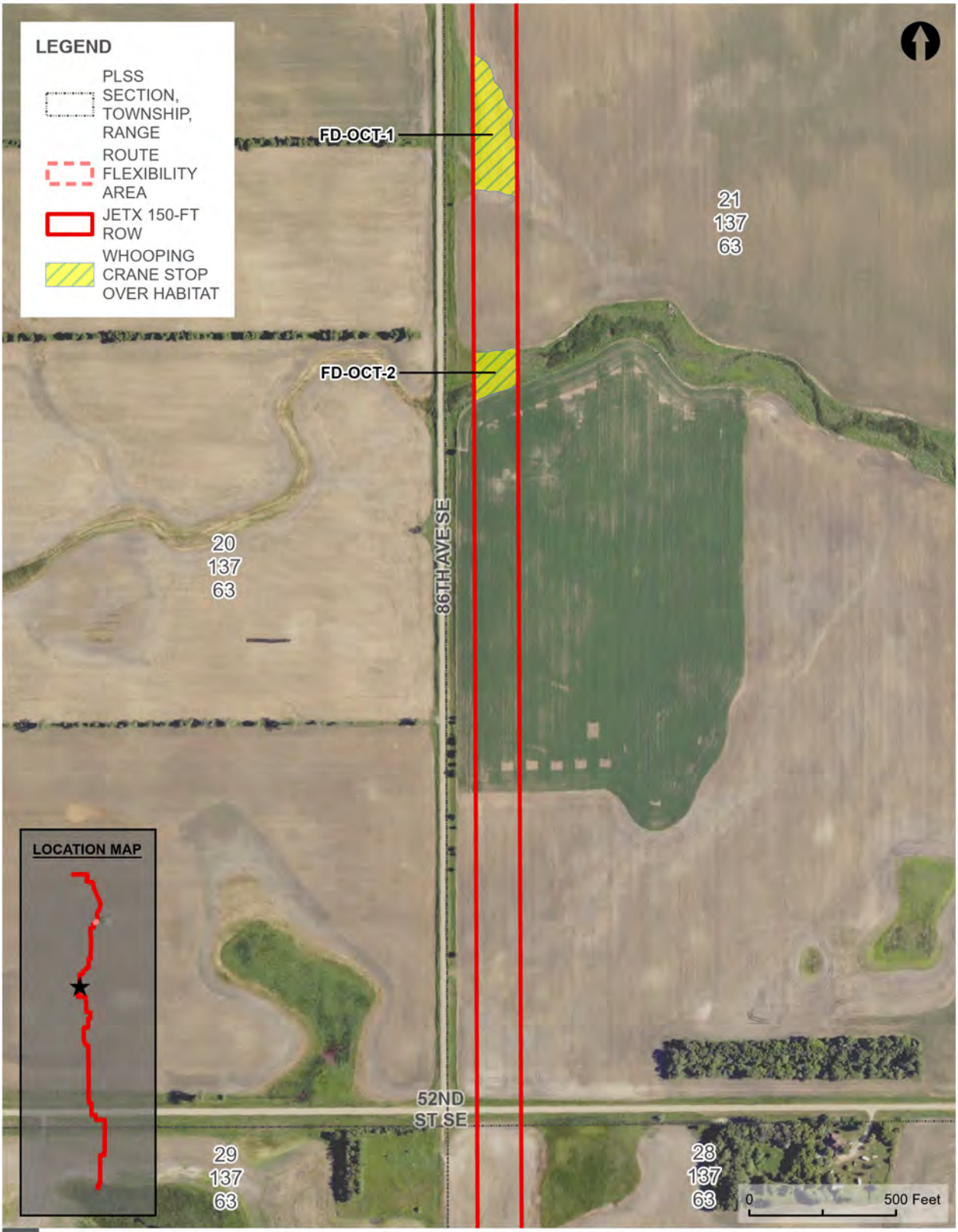
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



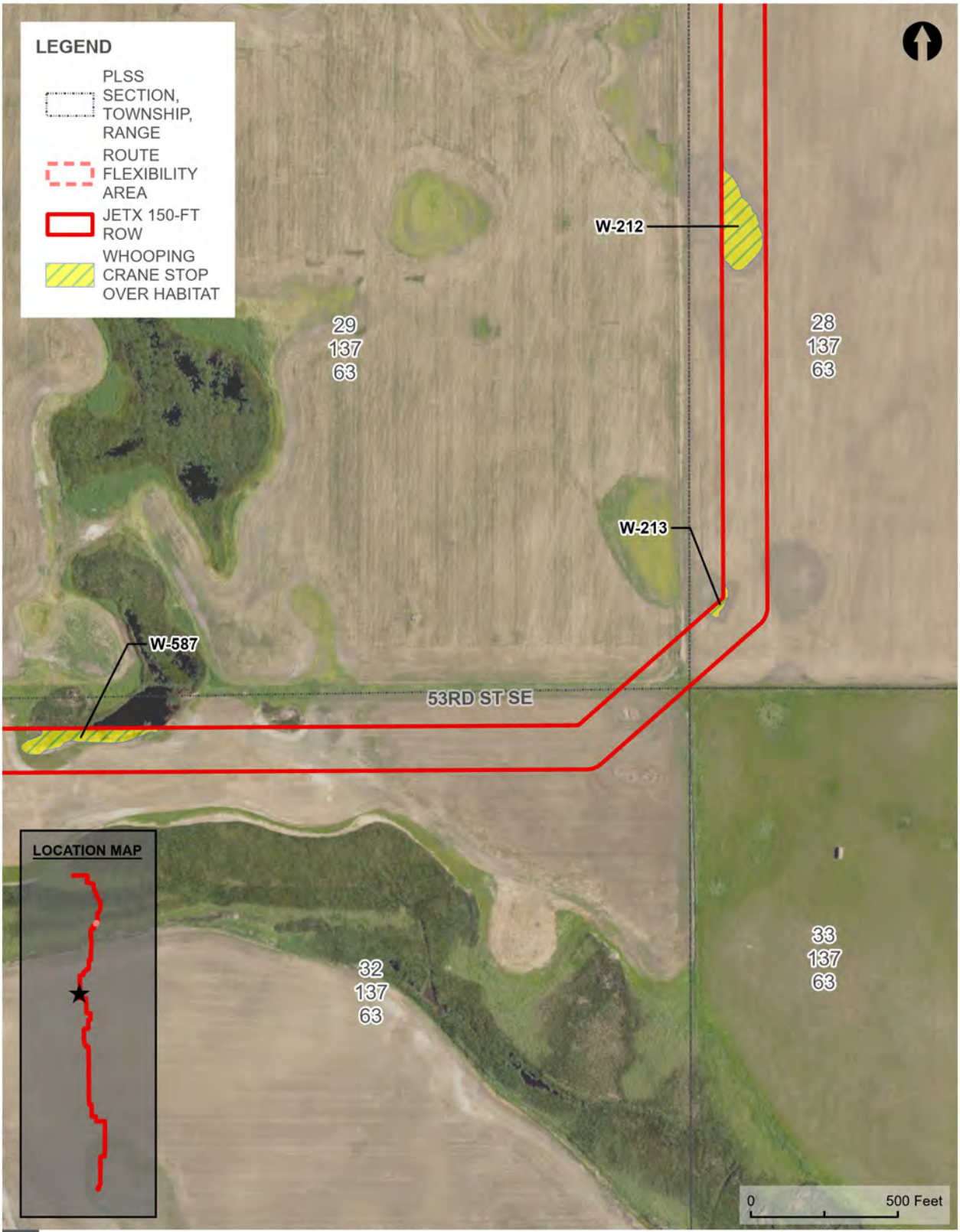
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



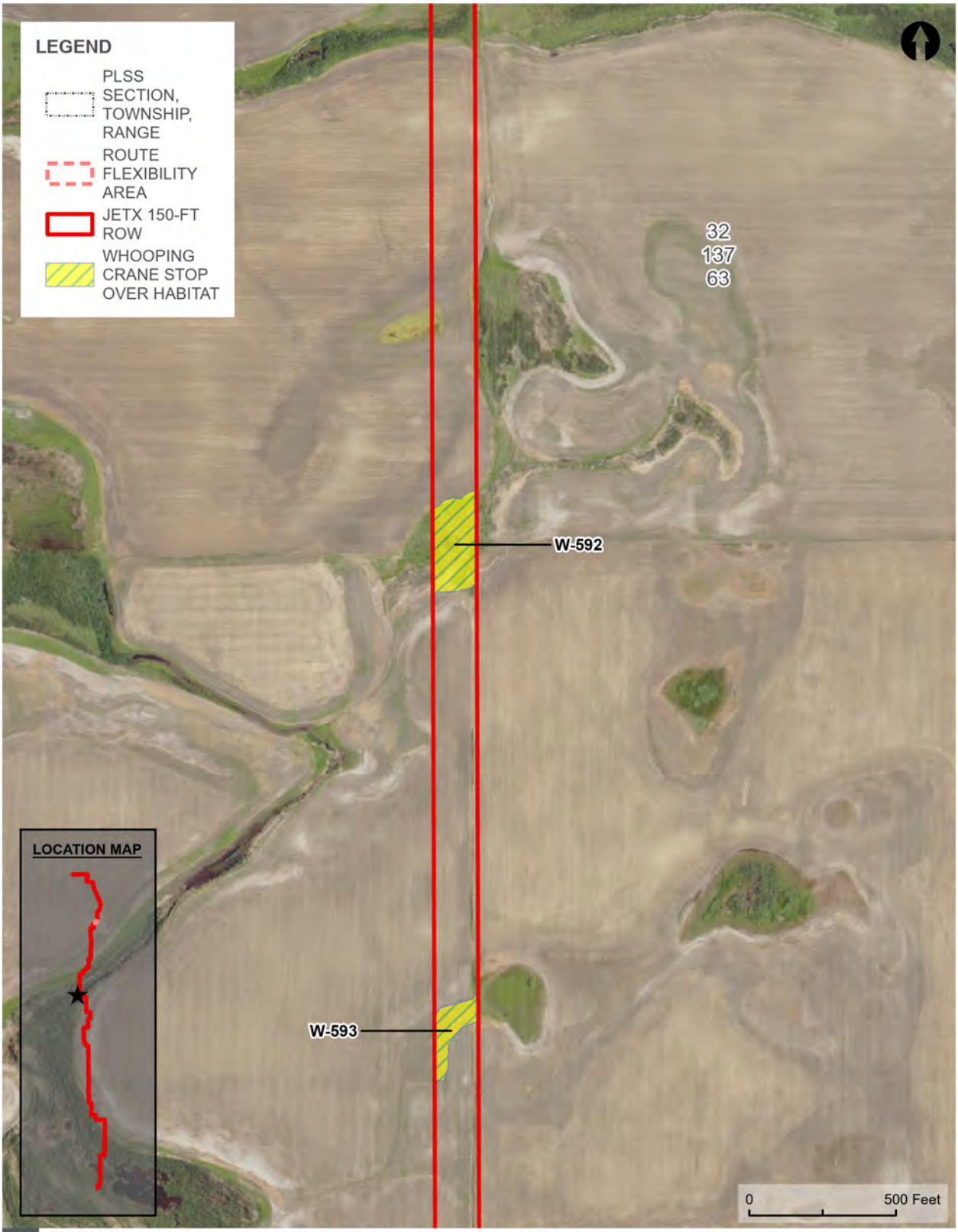
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



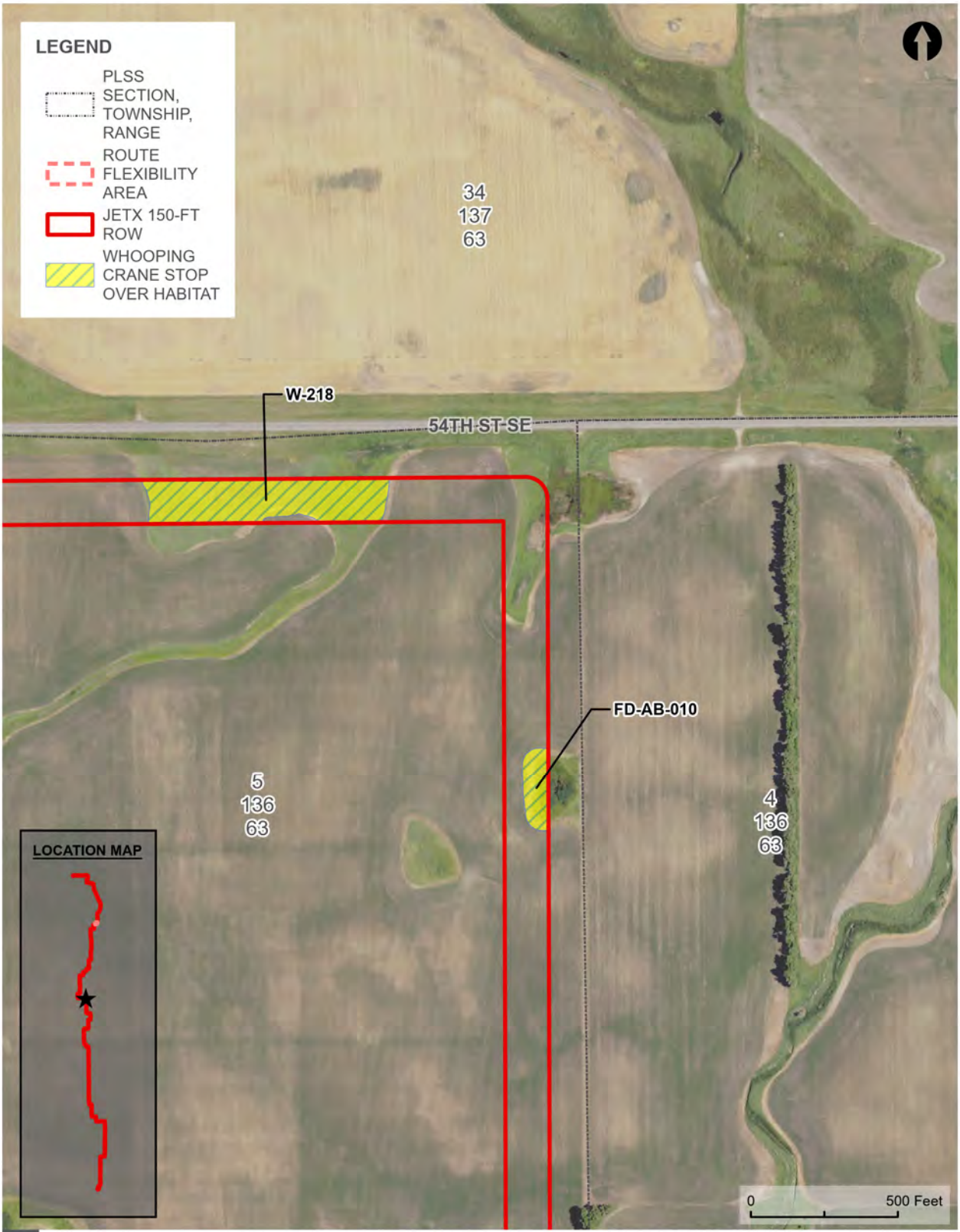
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



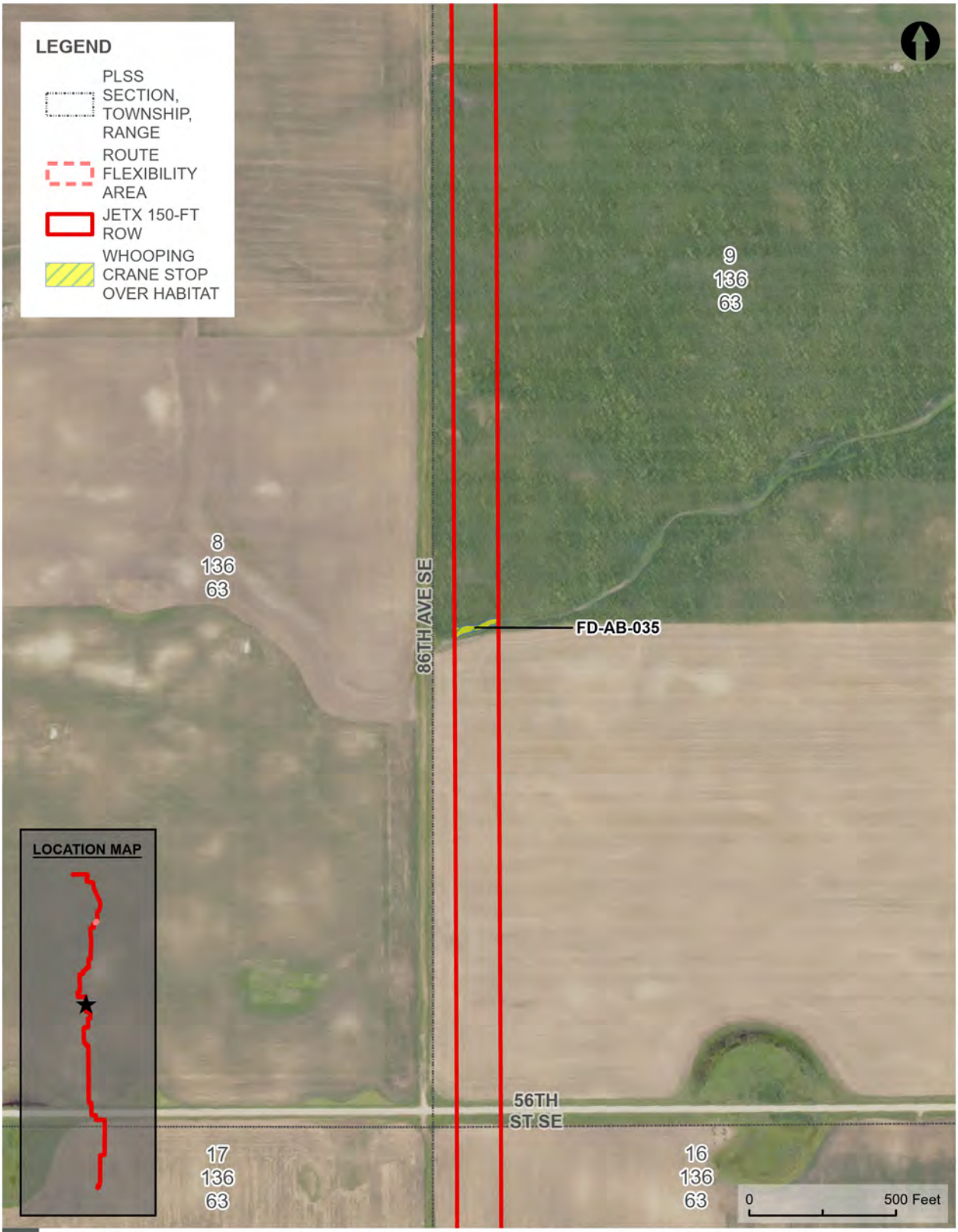
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



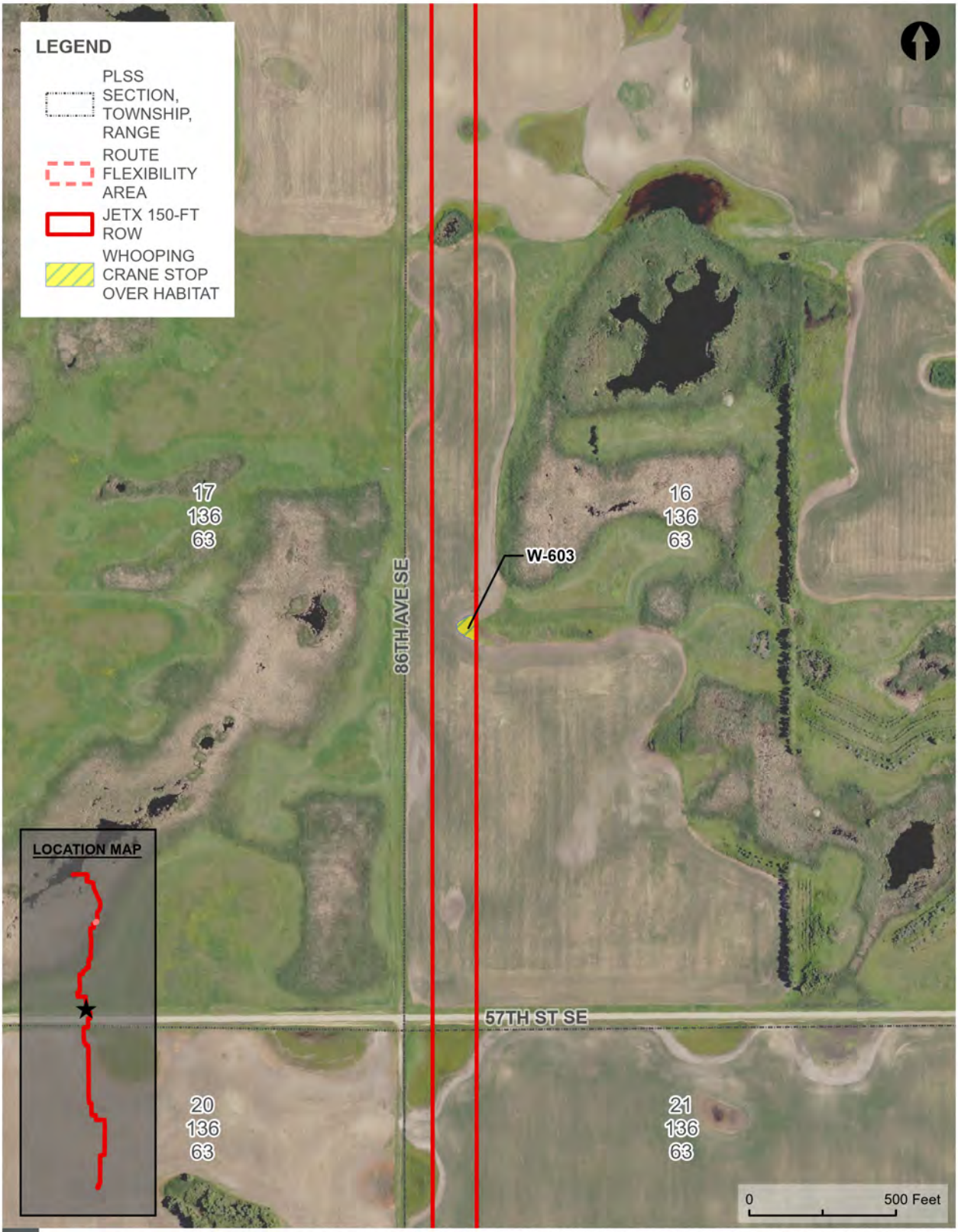
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



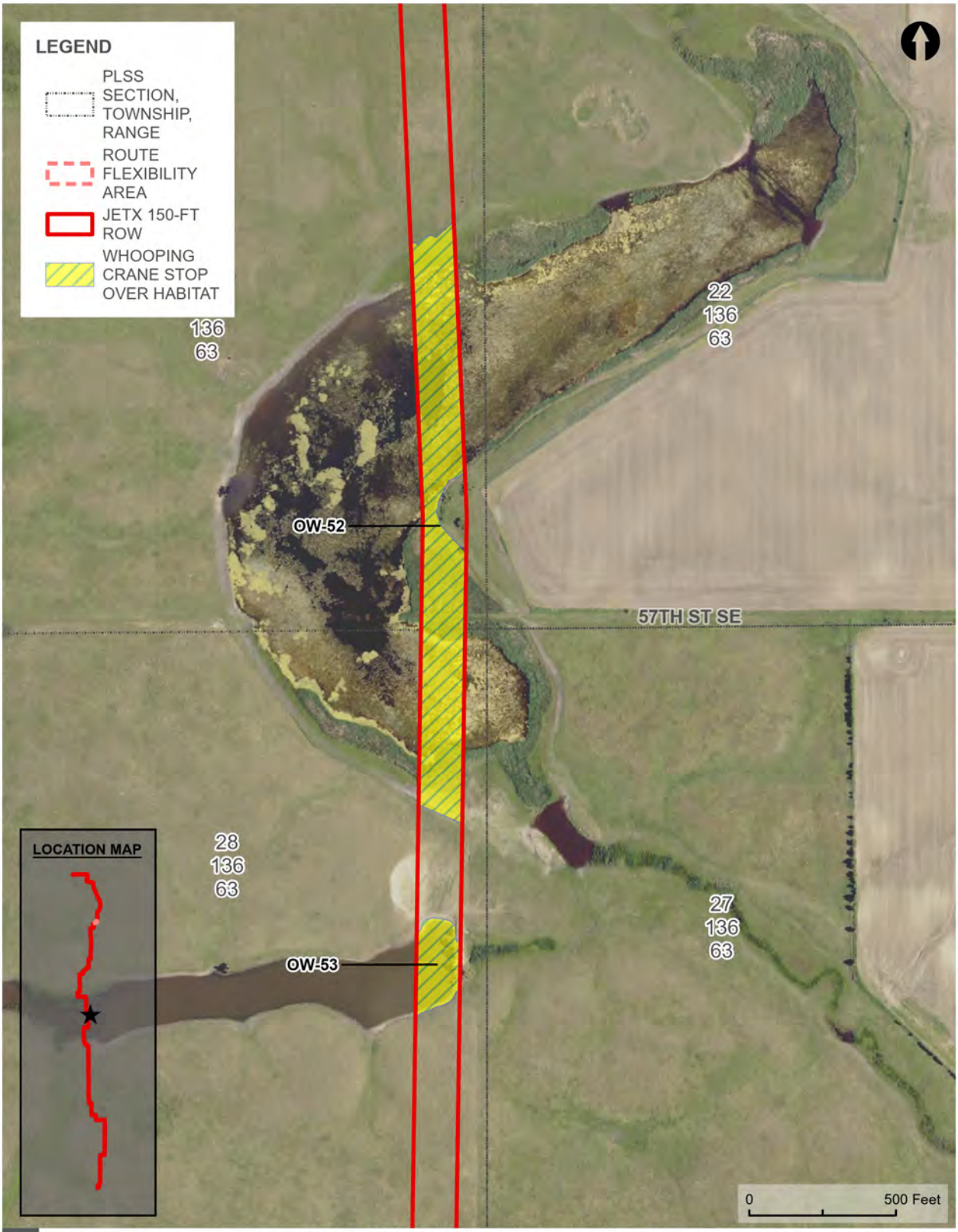
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



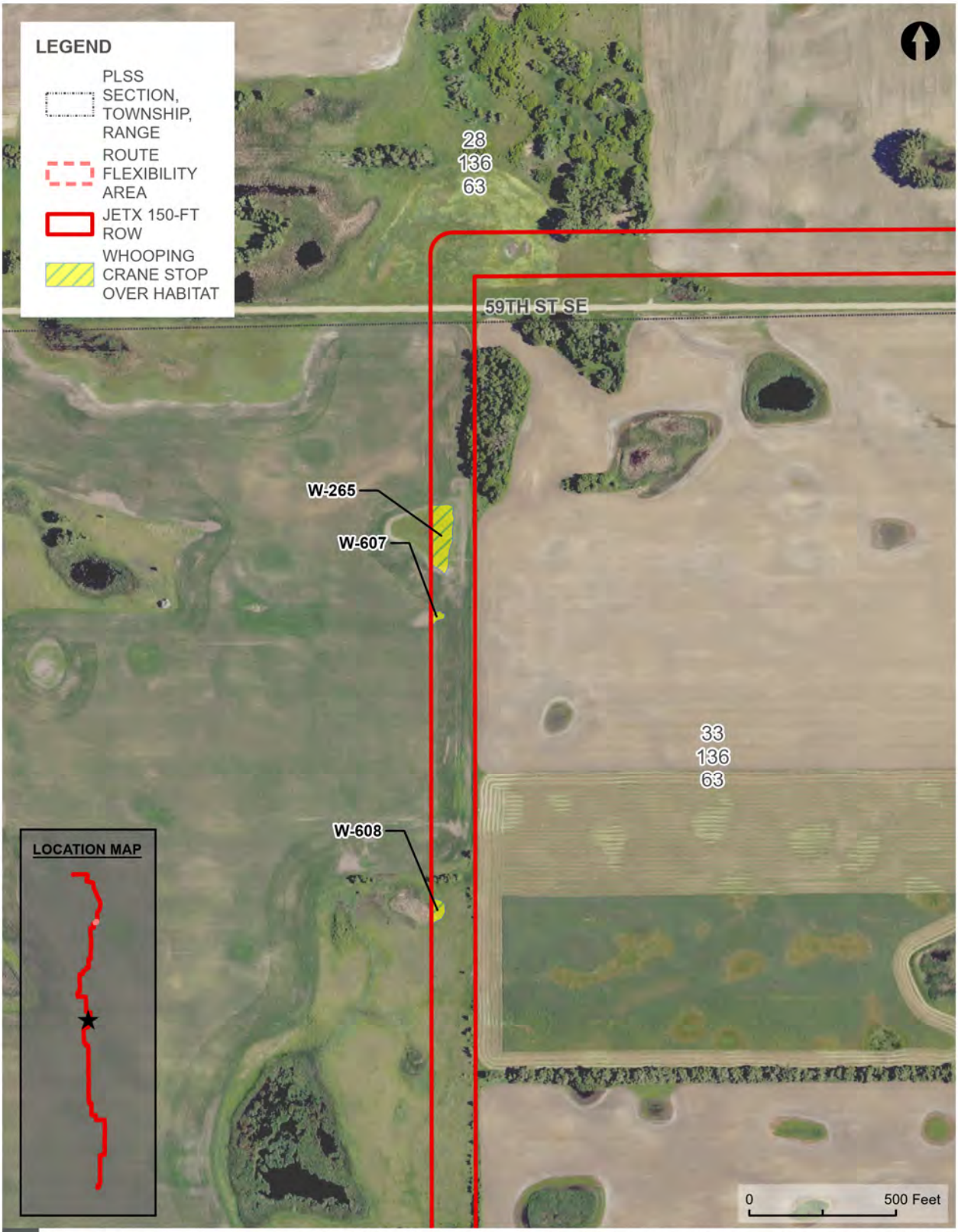
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



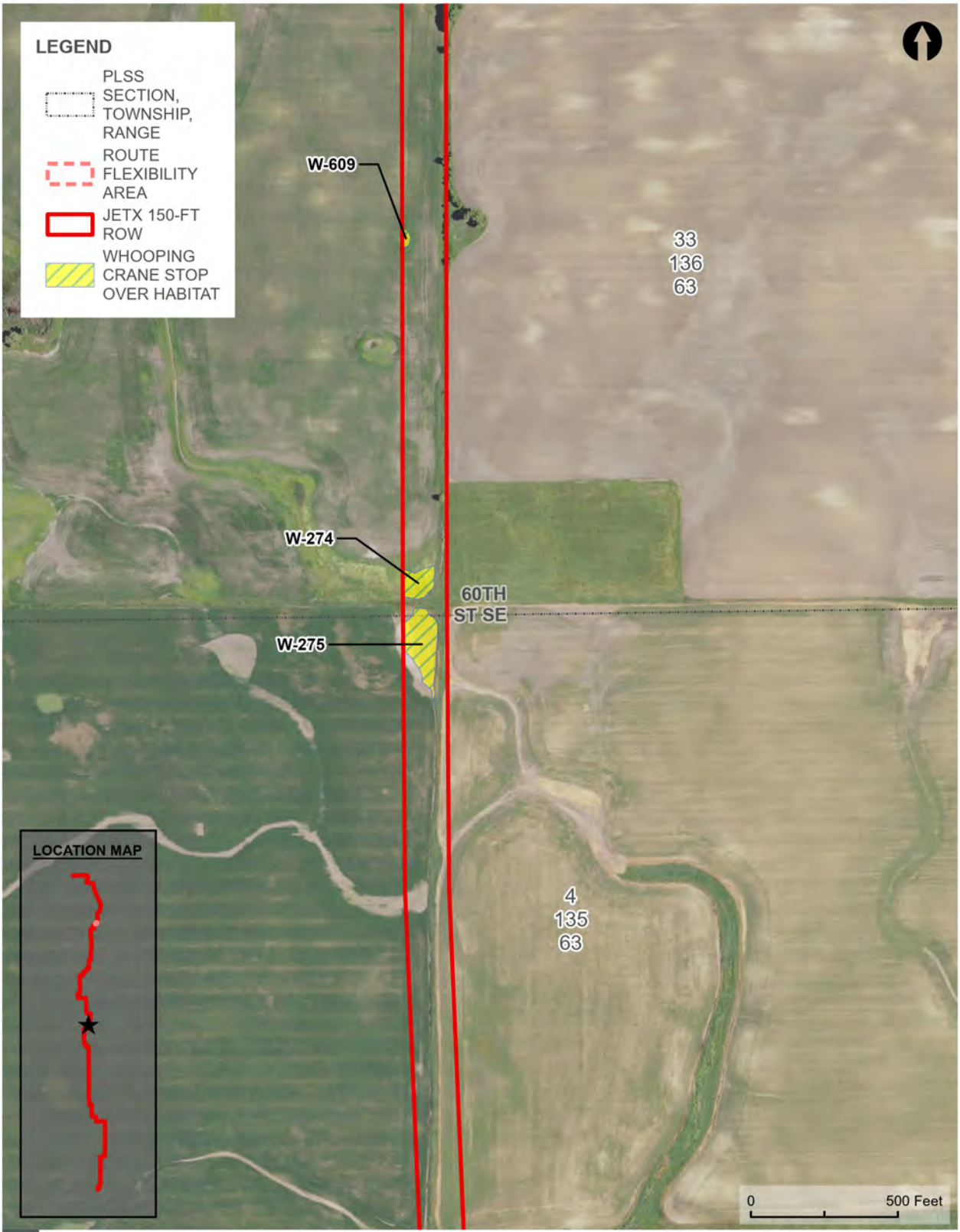
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



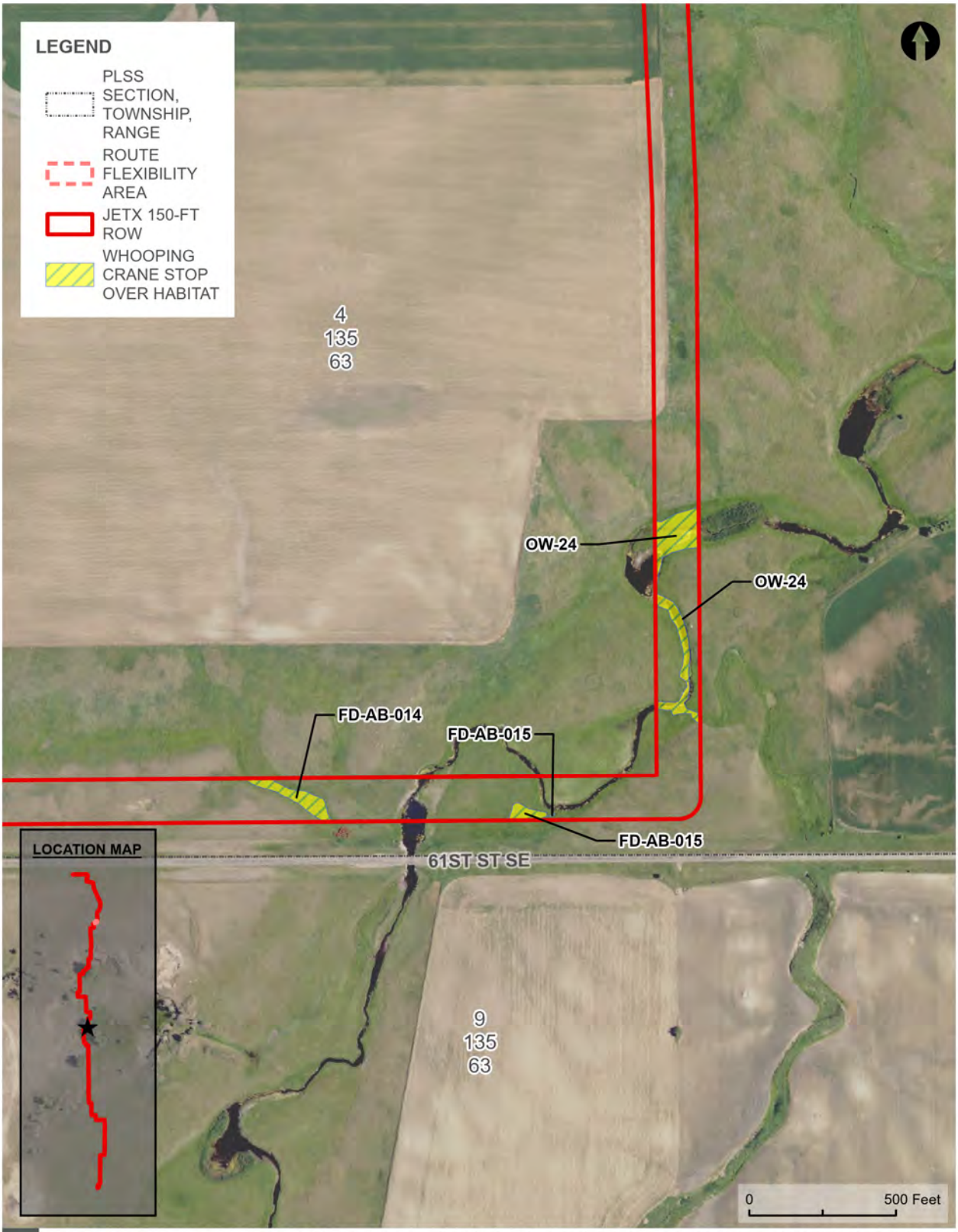
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



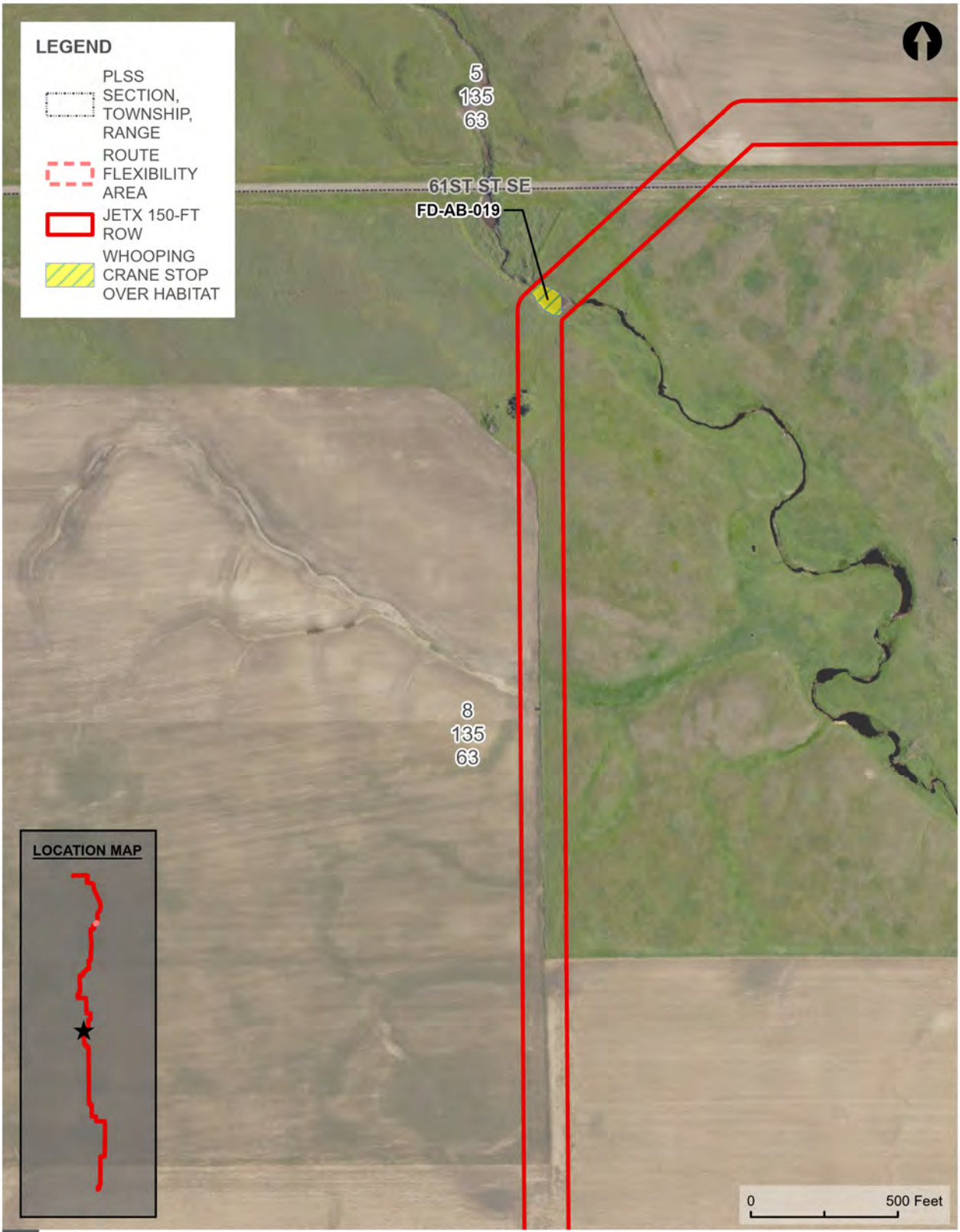
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



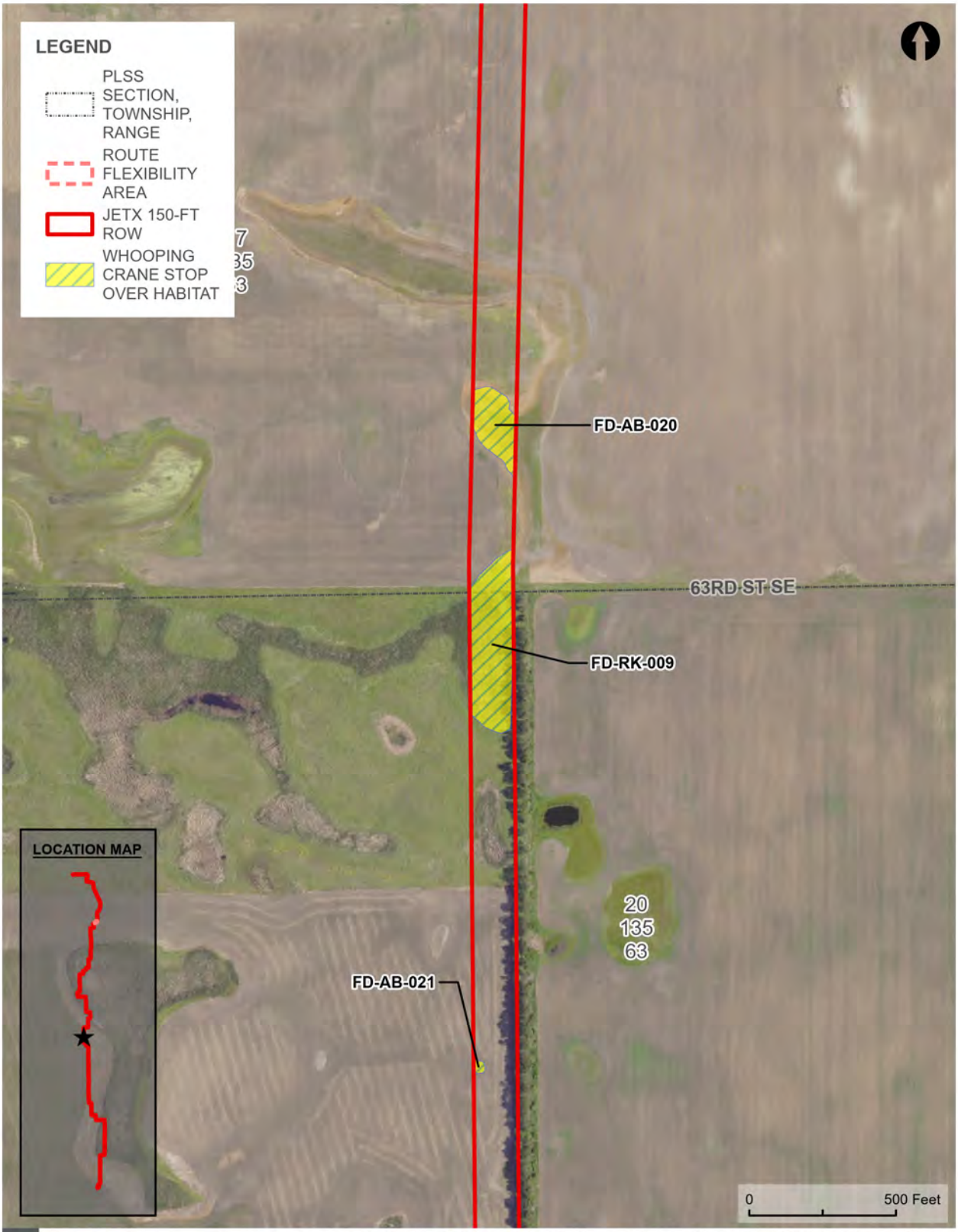
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



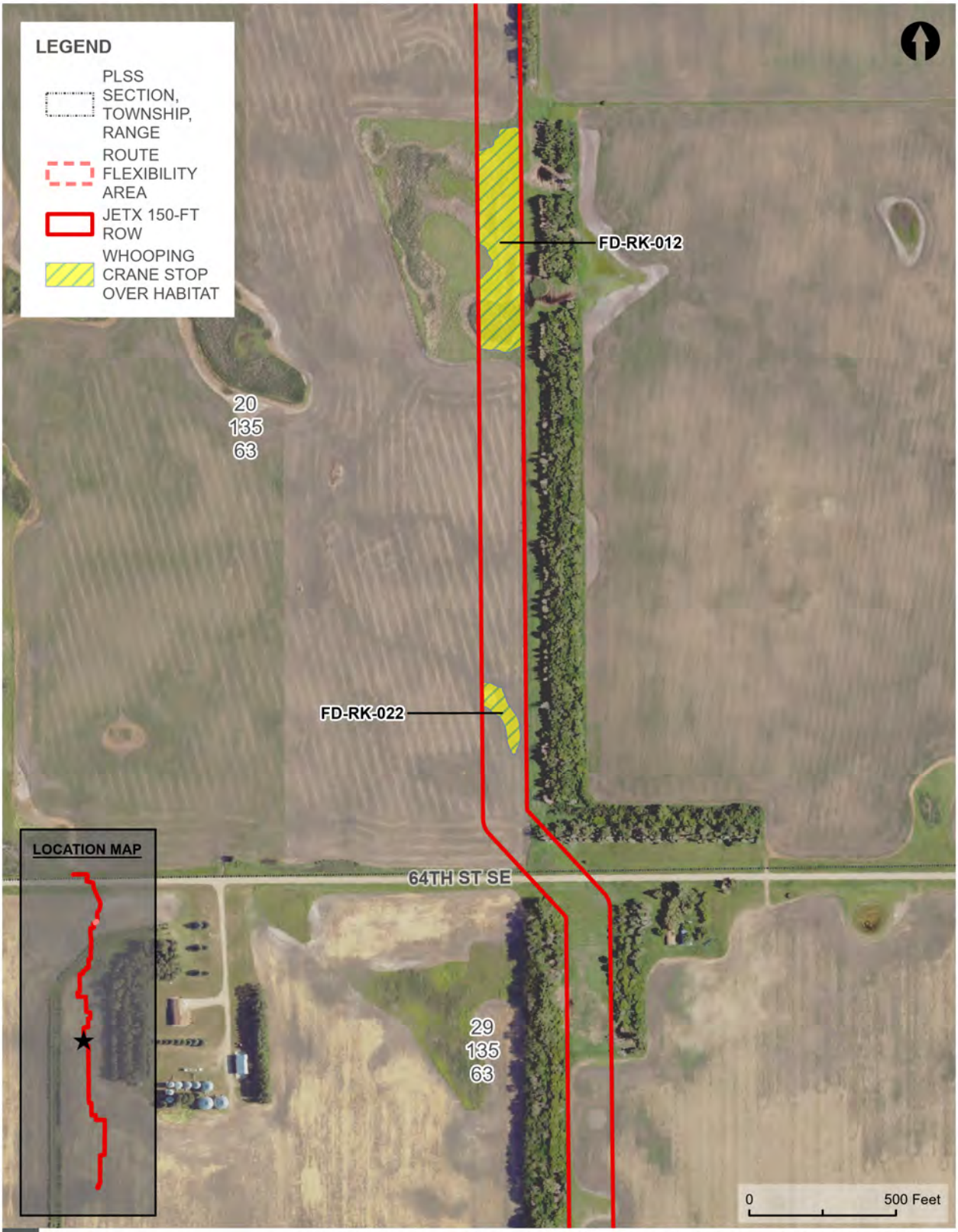
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



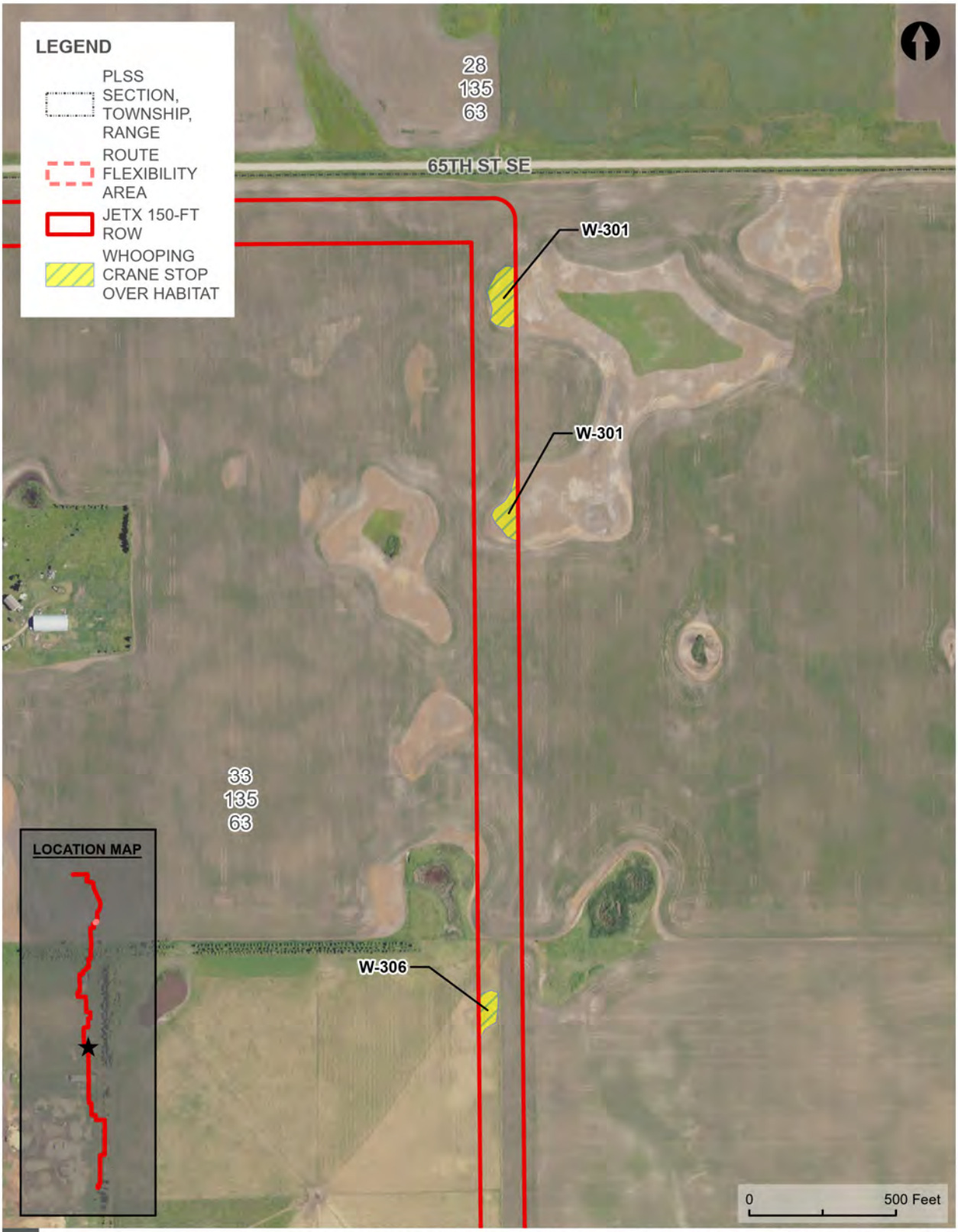
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



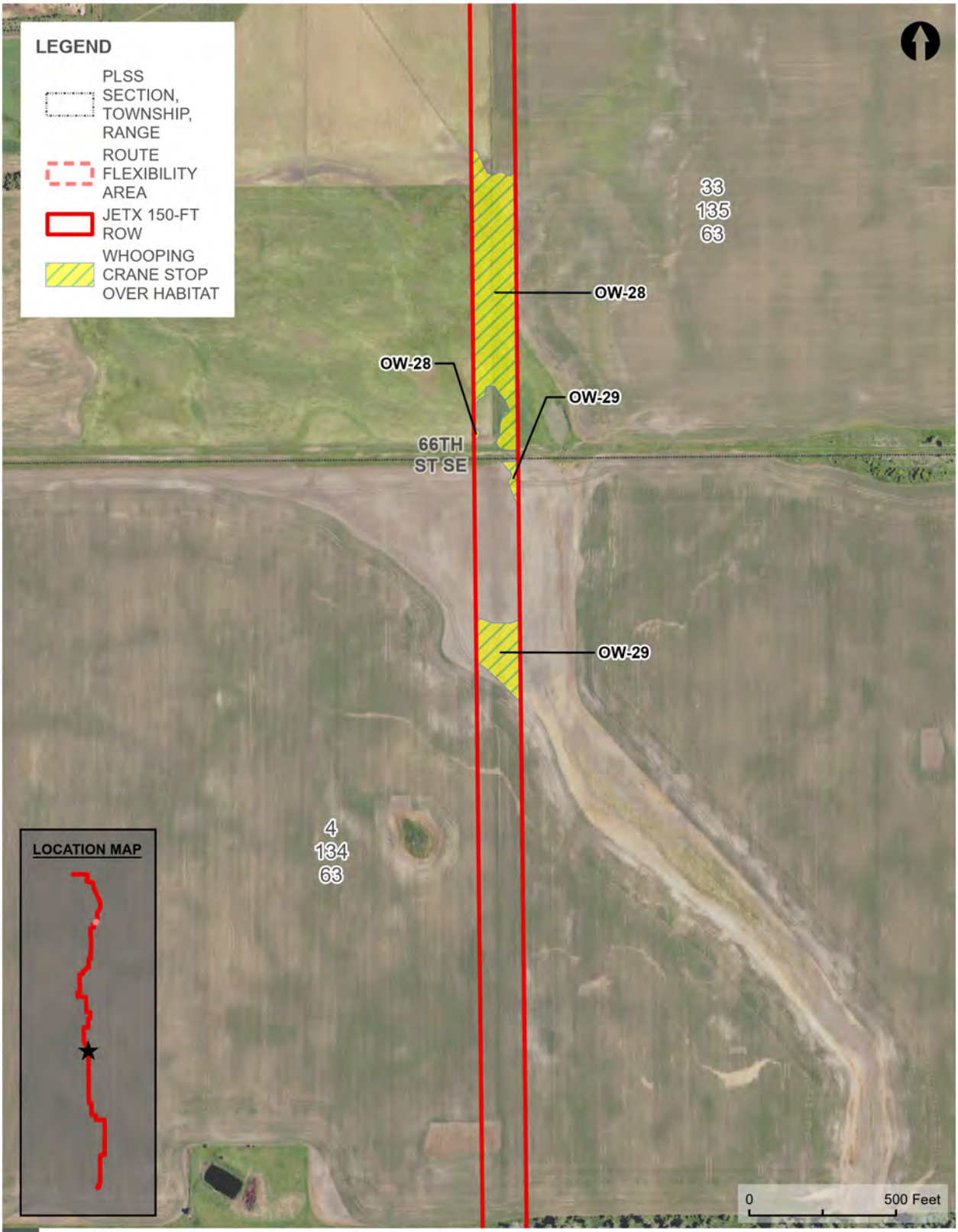
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



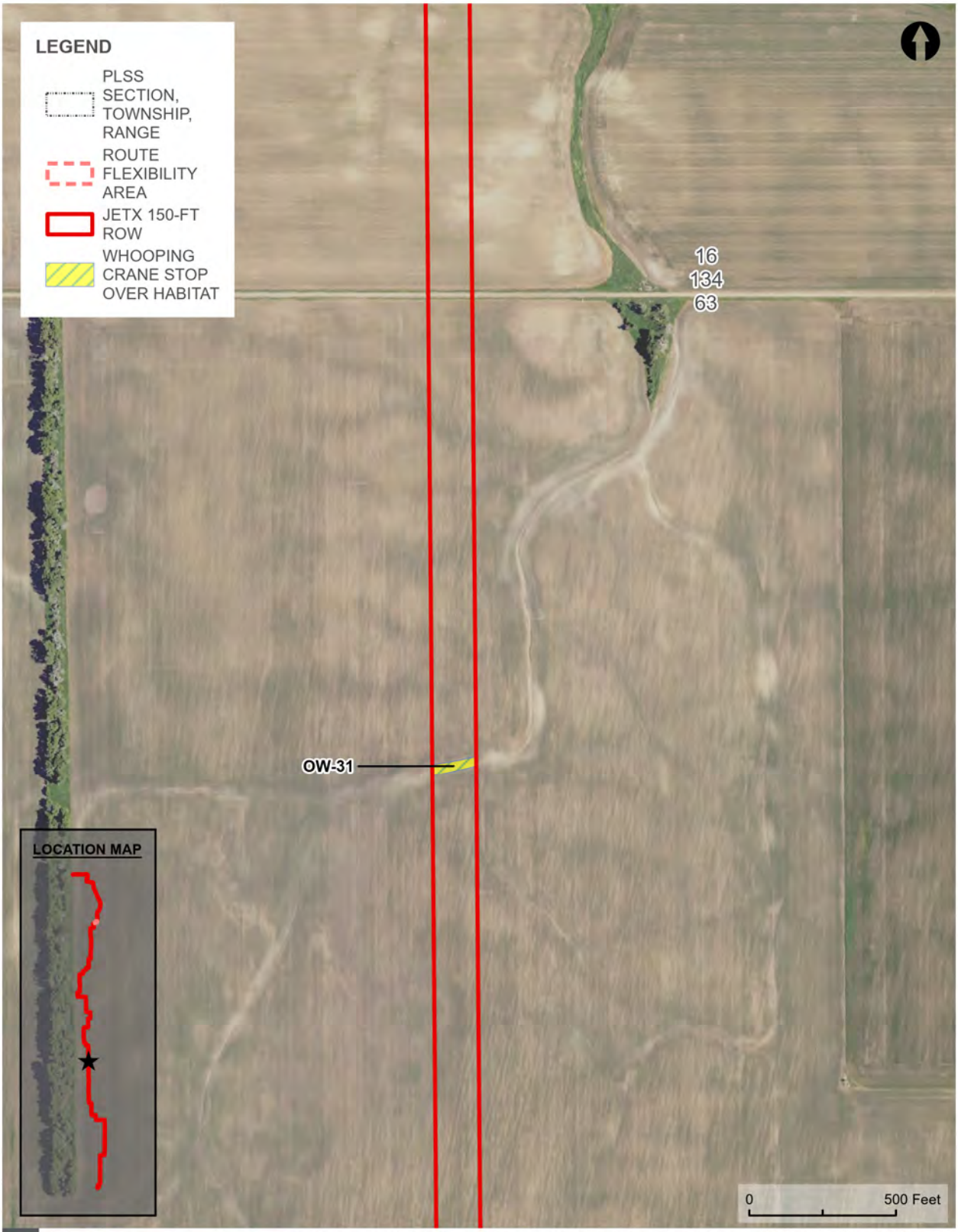
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



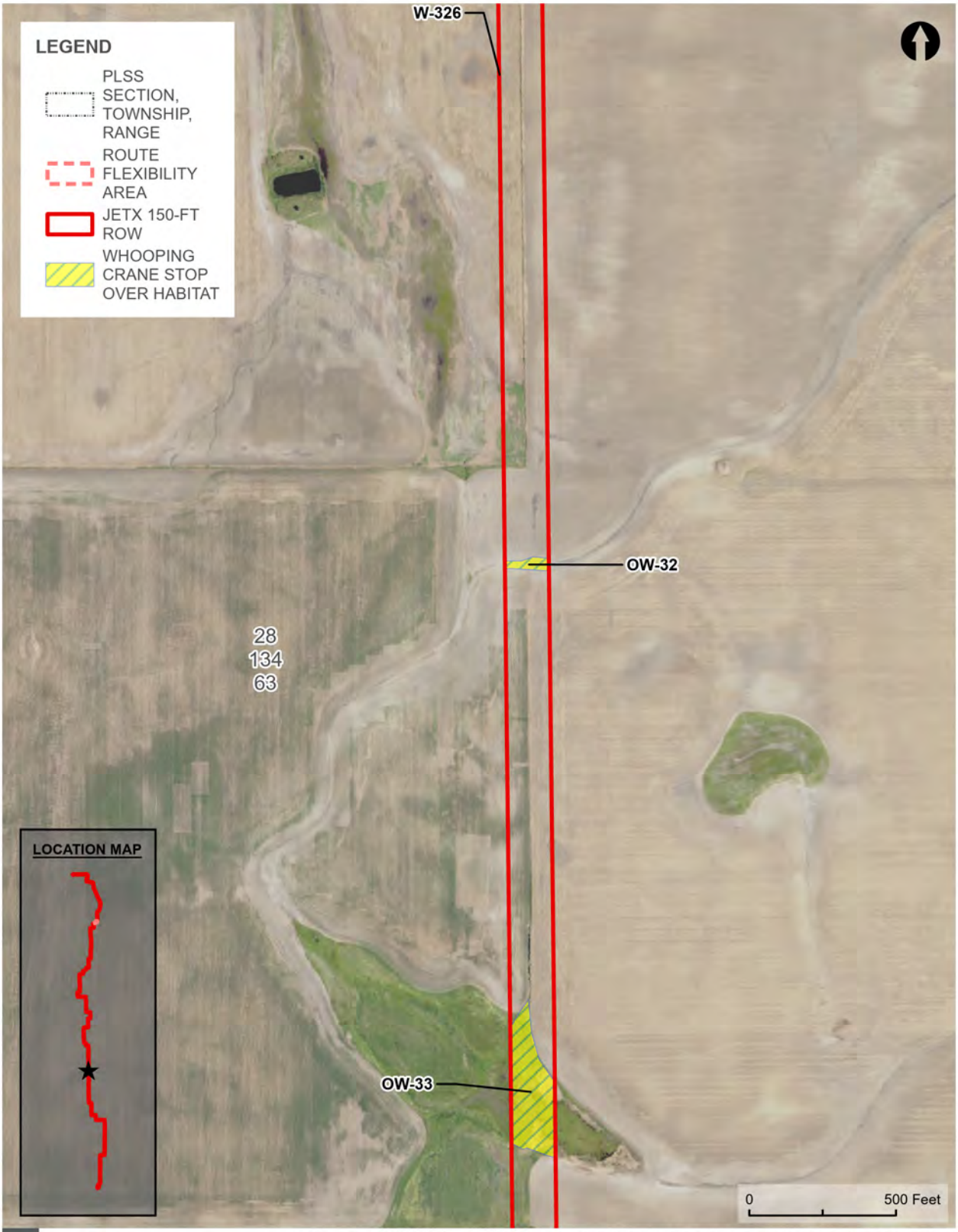
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



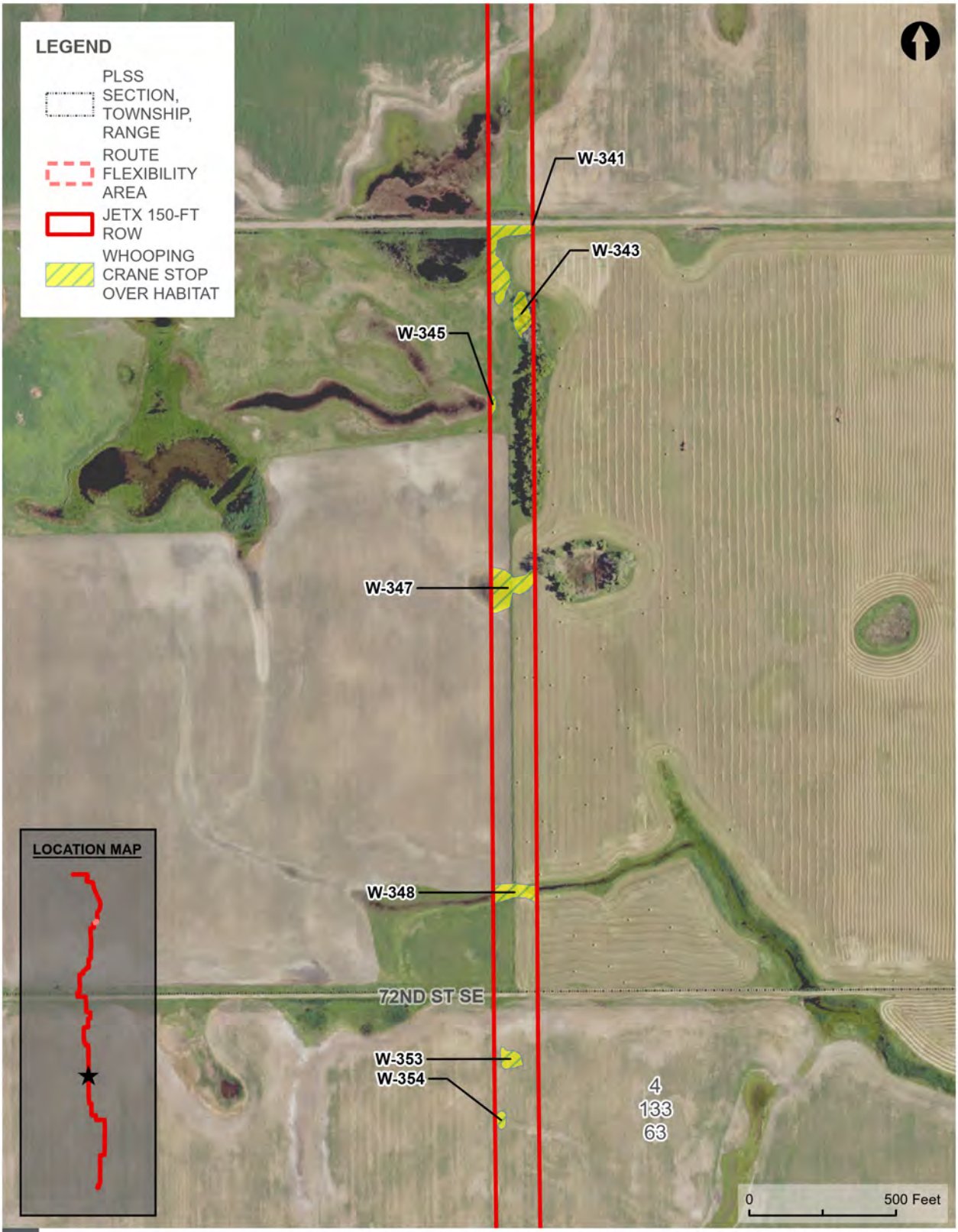
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



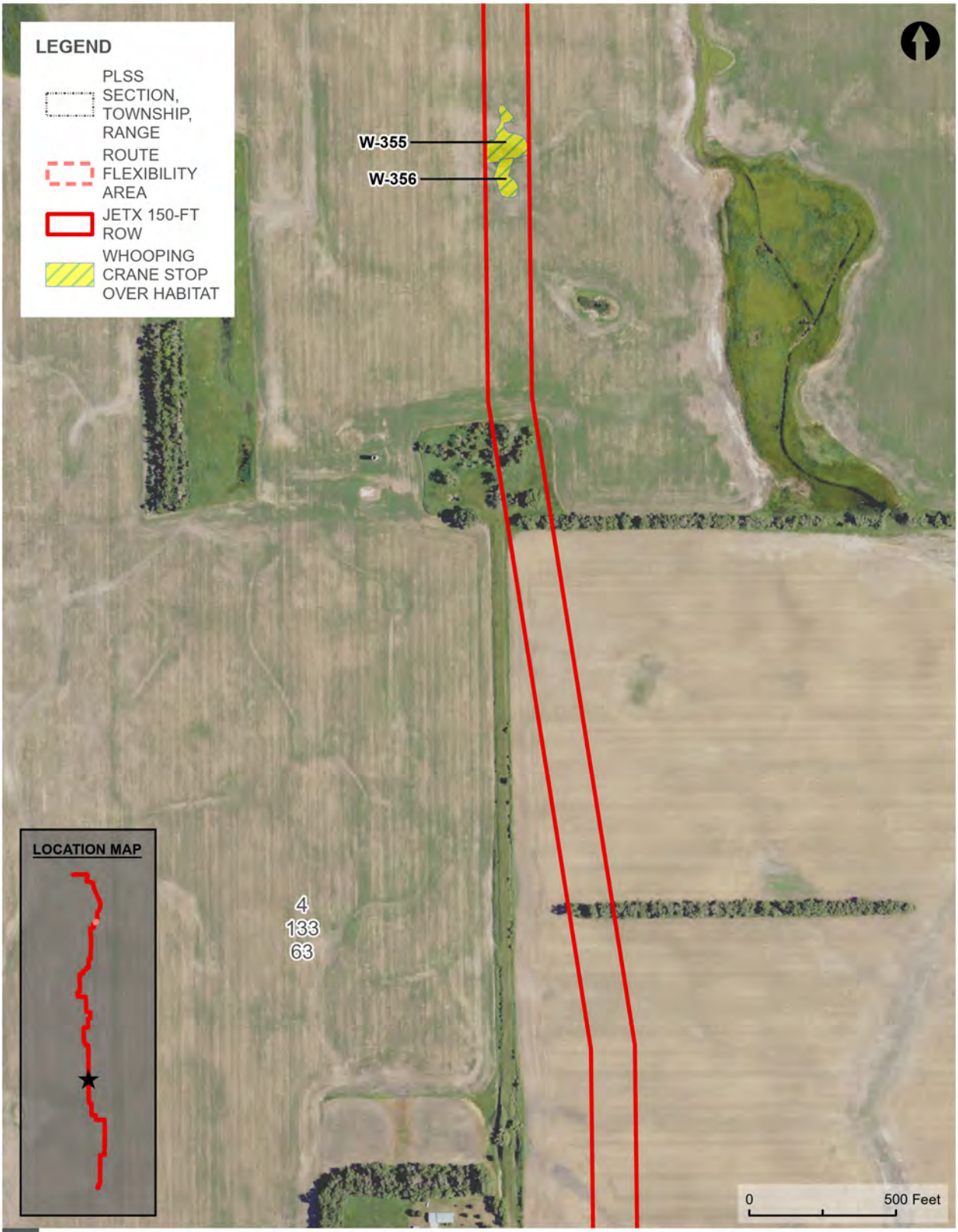
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



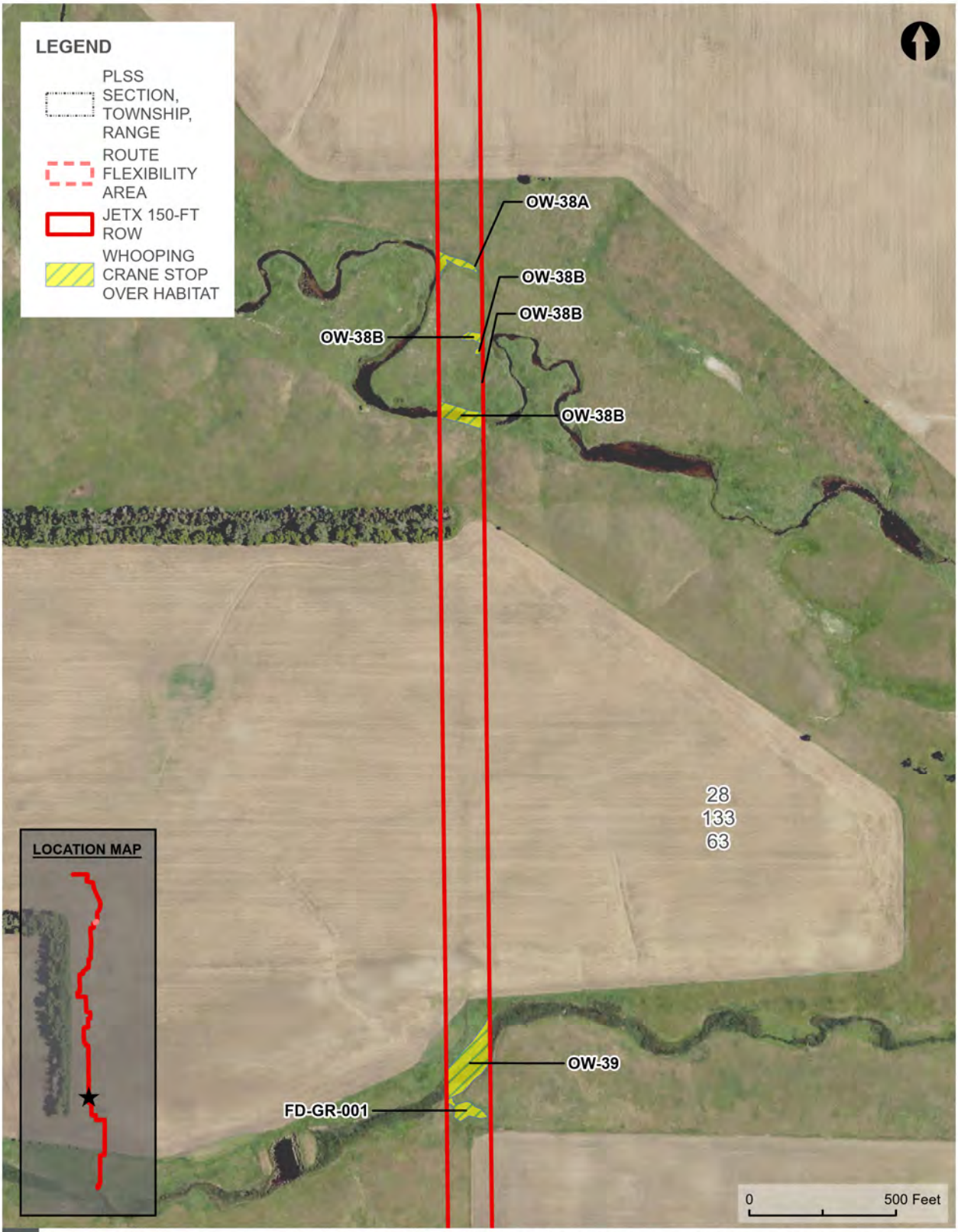
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



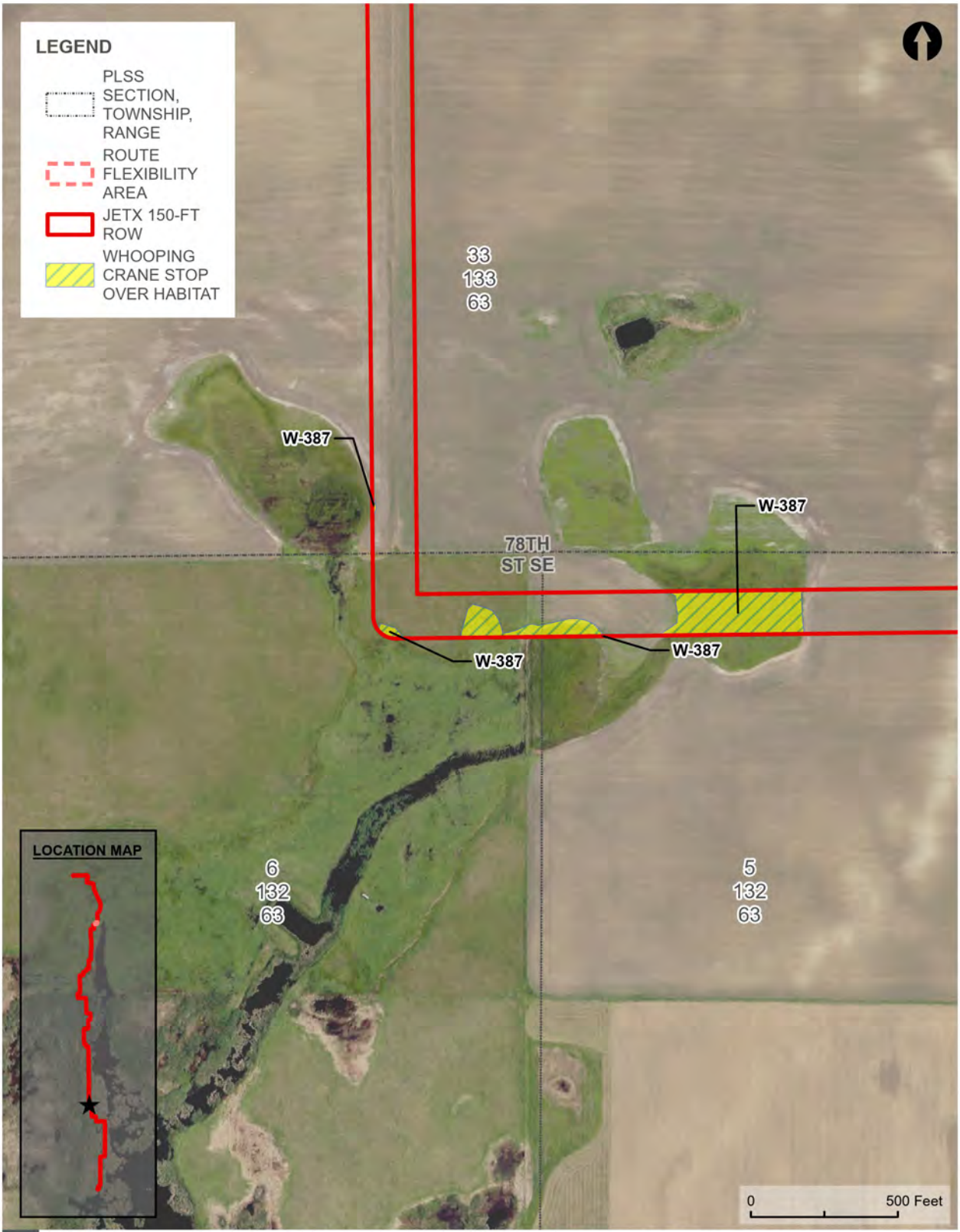
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



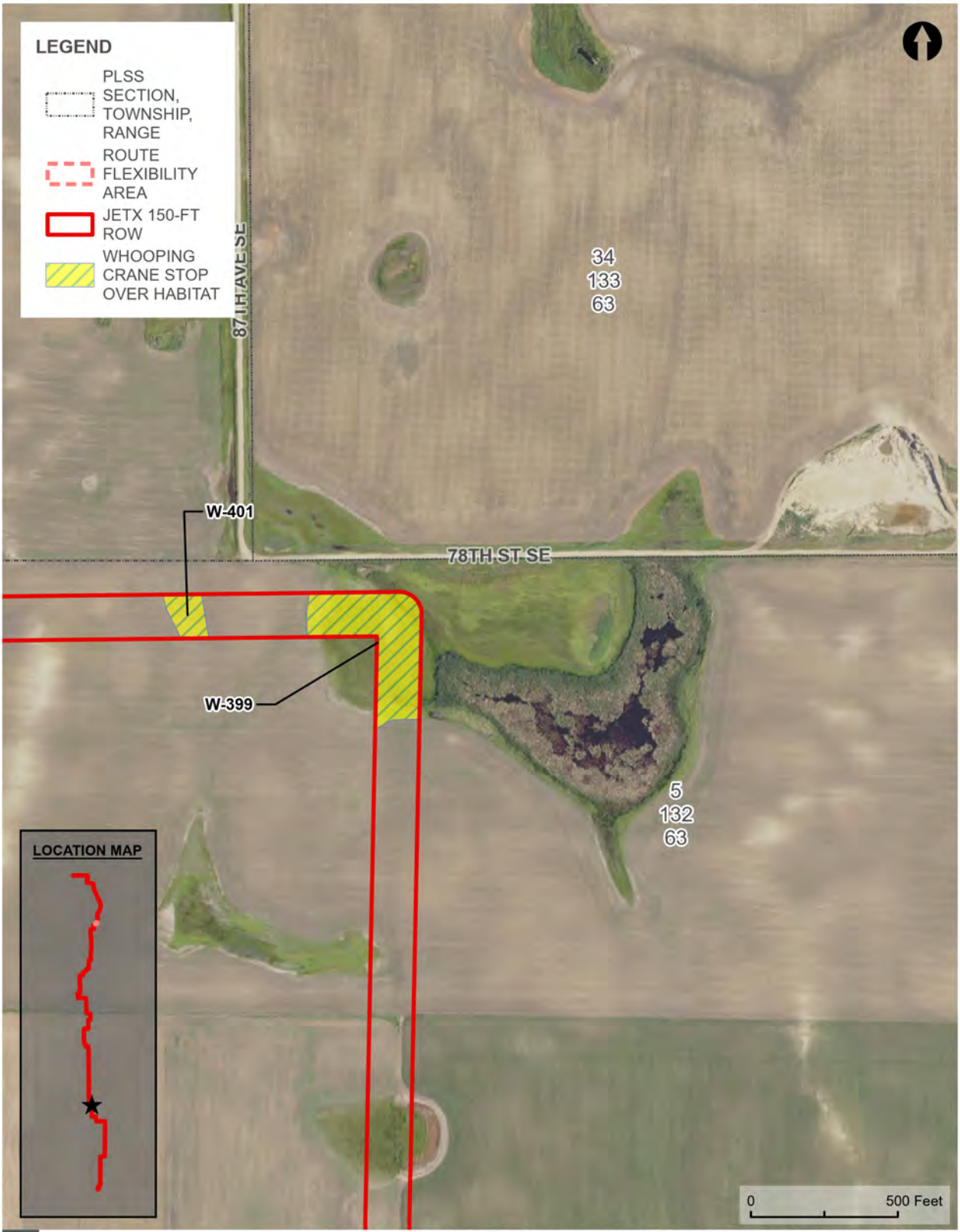
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



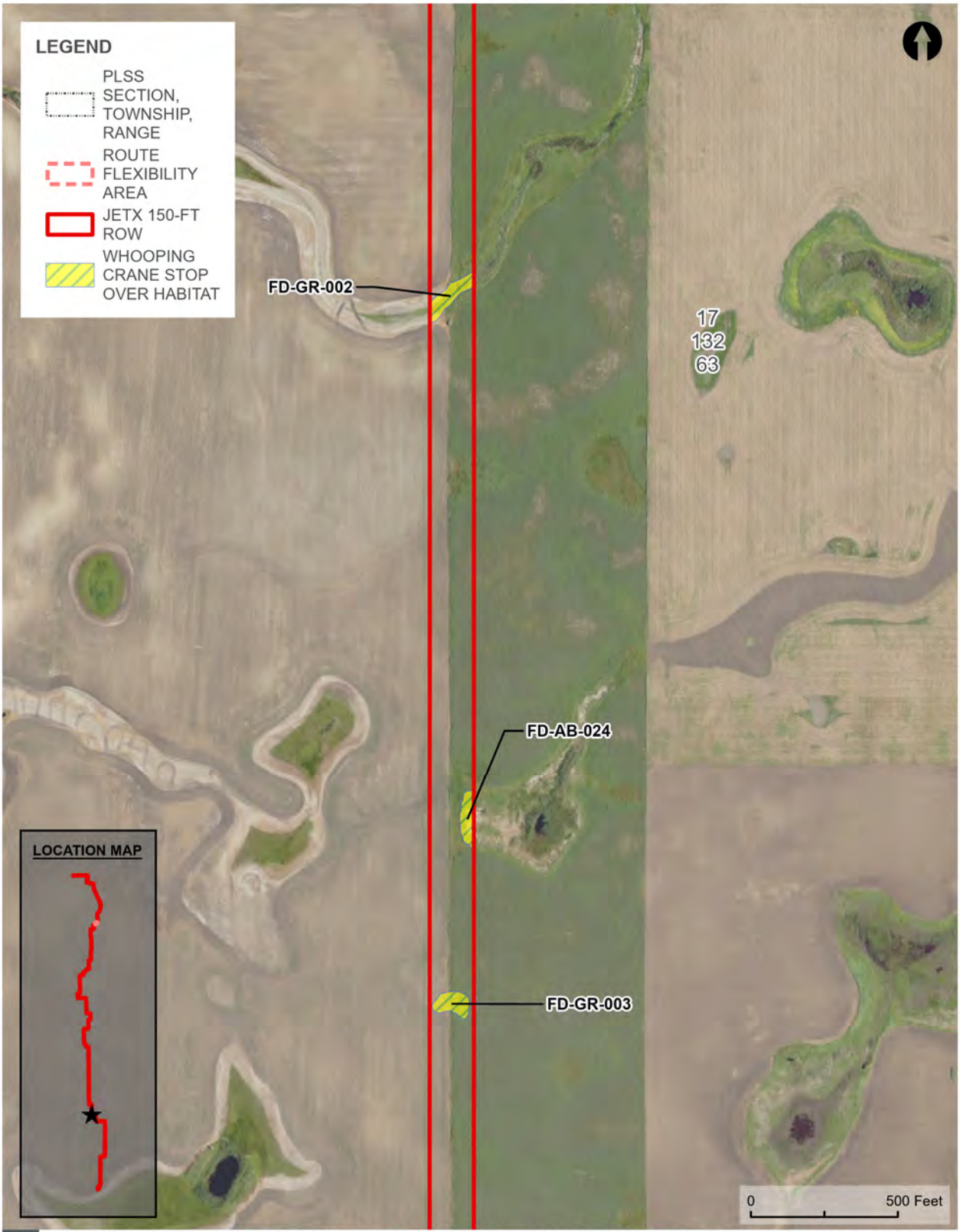
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



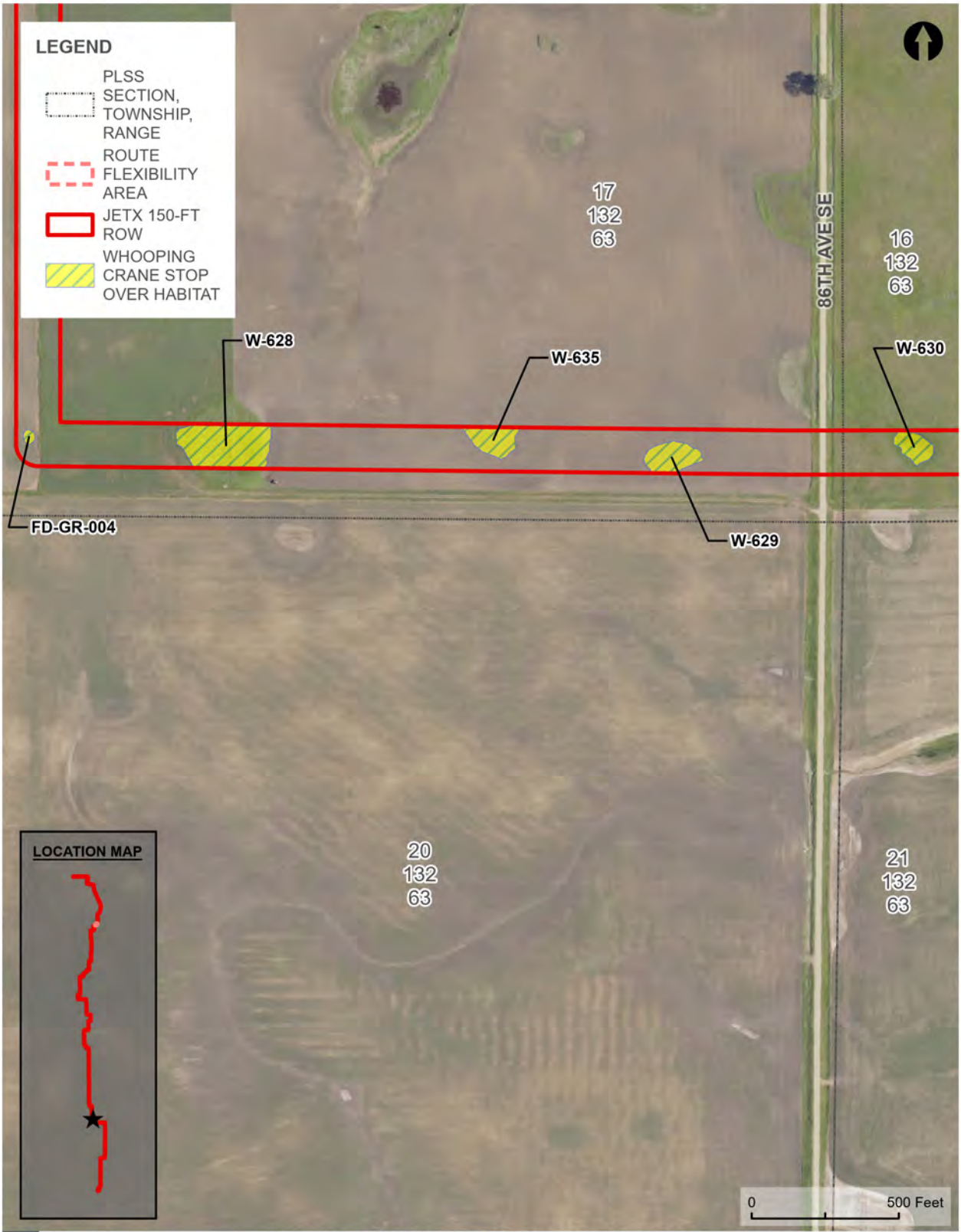
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



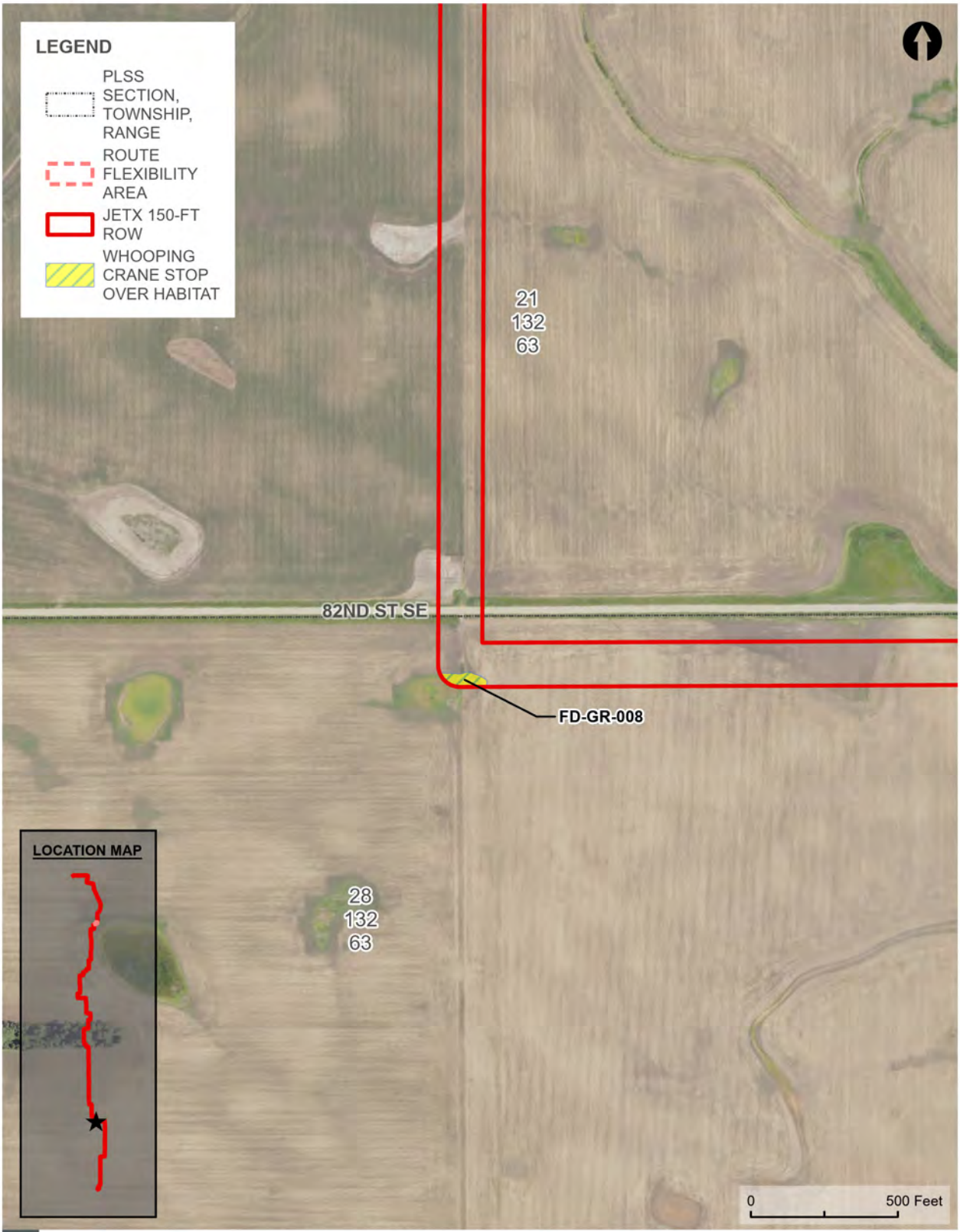
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



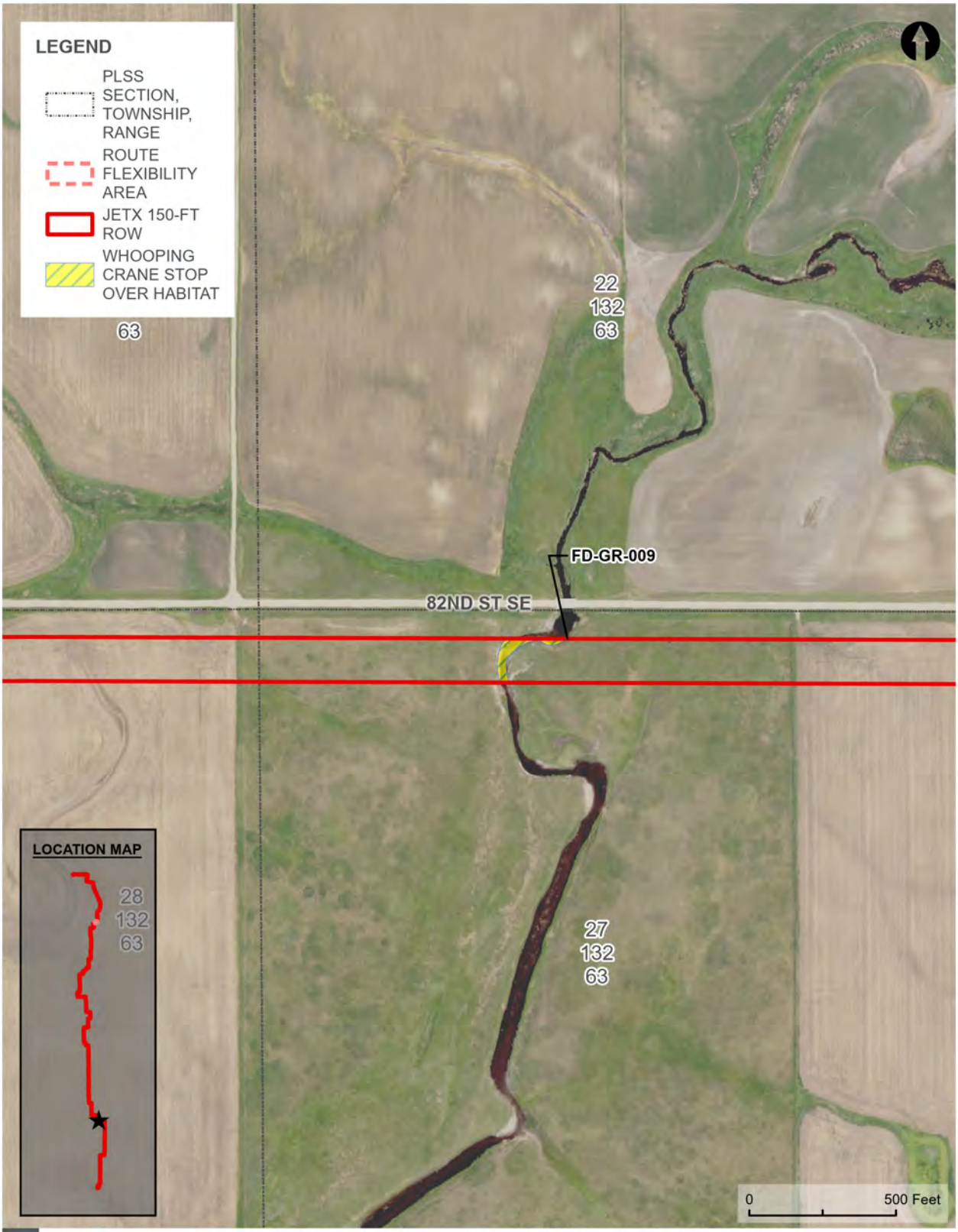
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



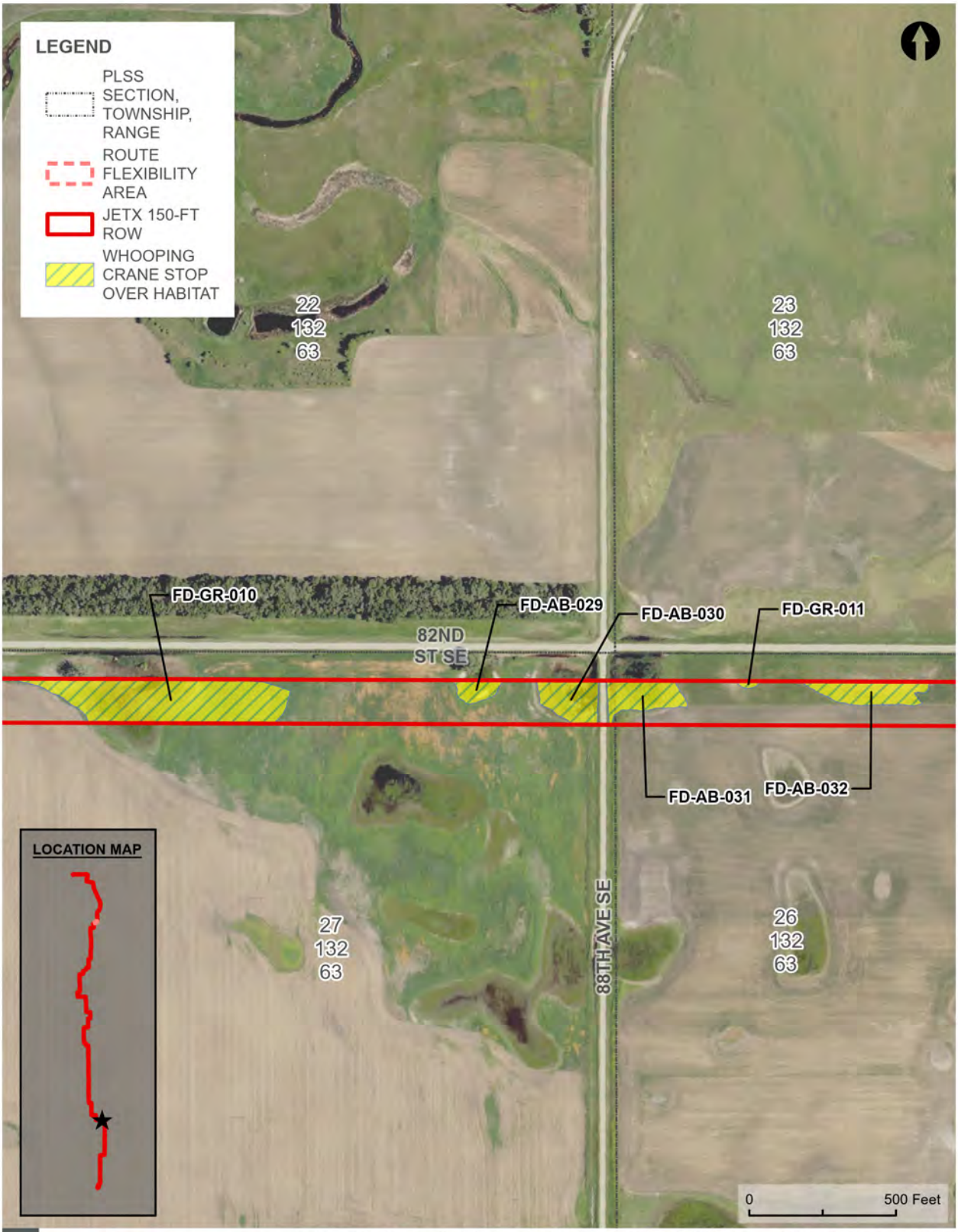
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



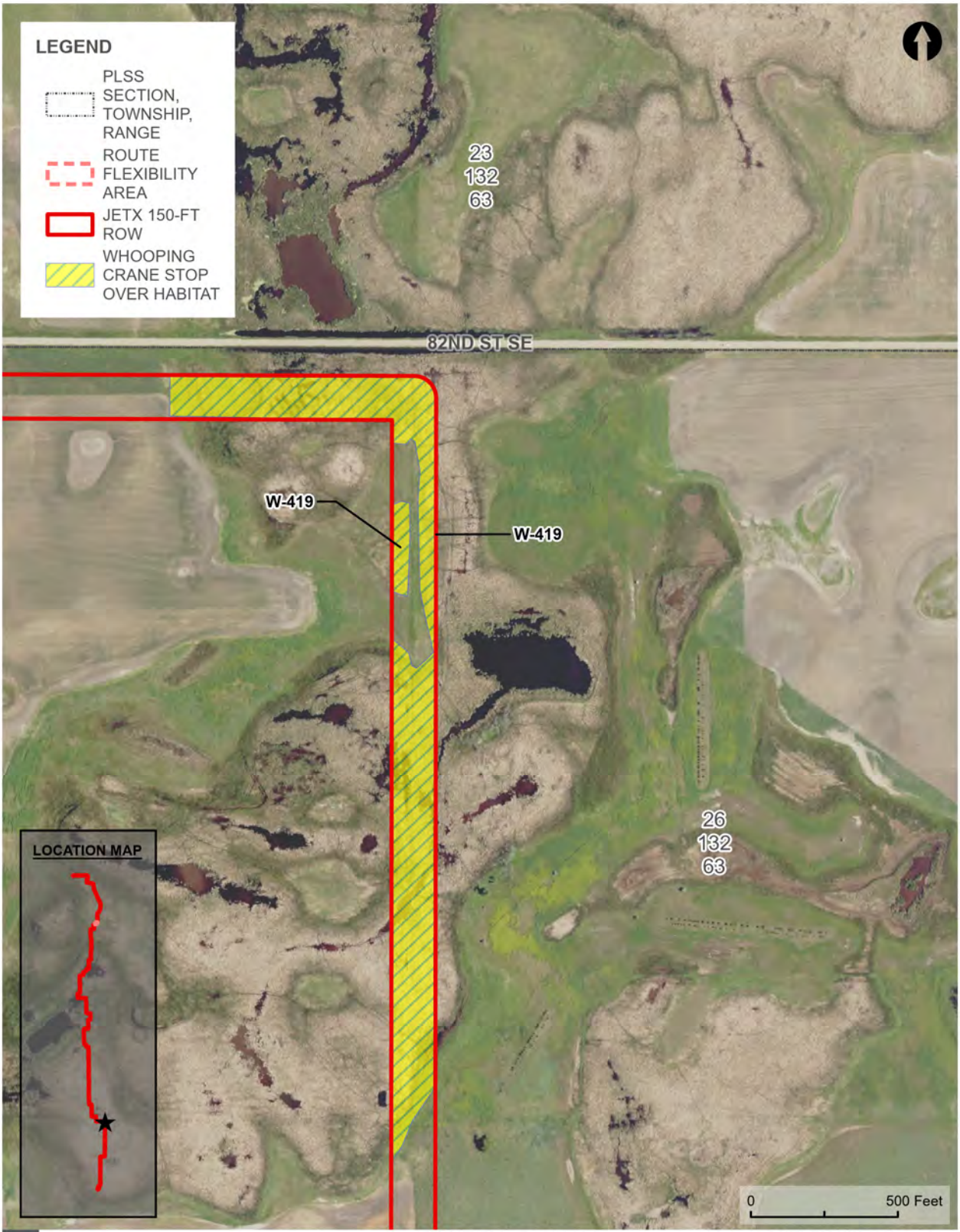
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP

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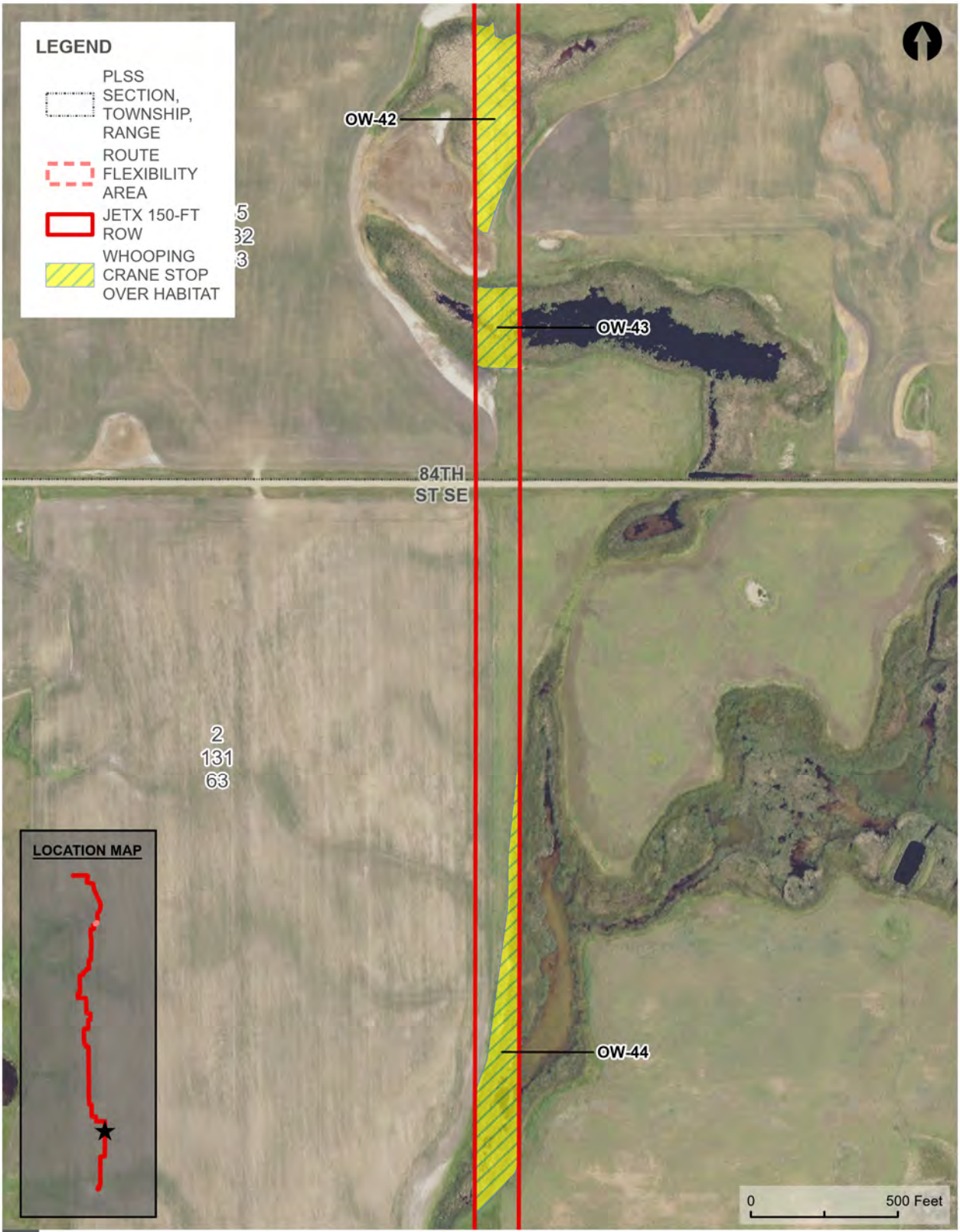
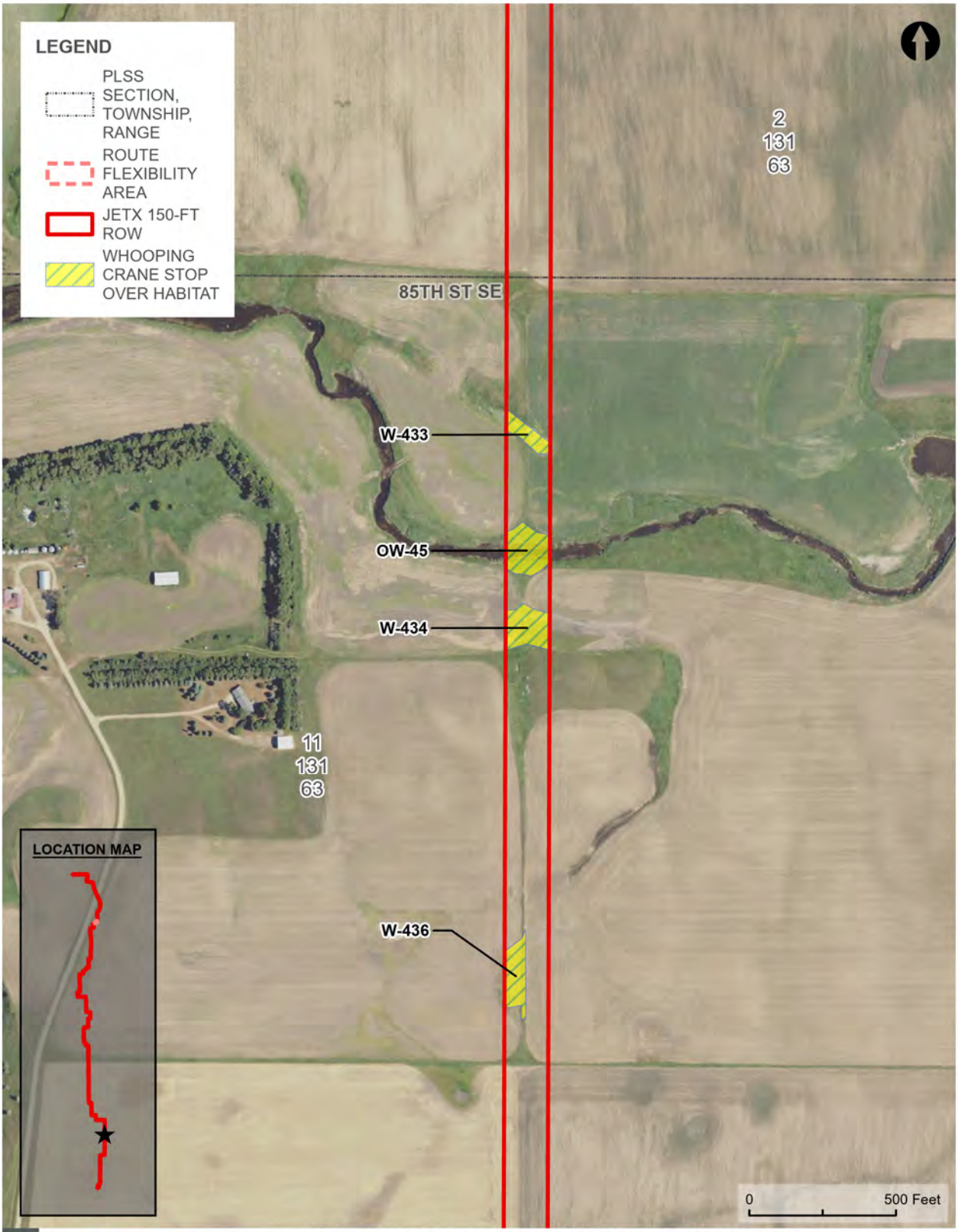
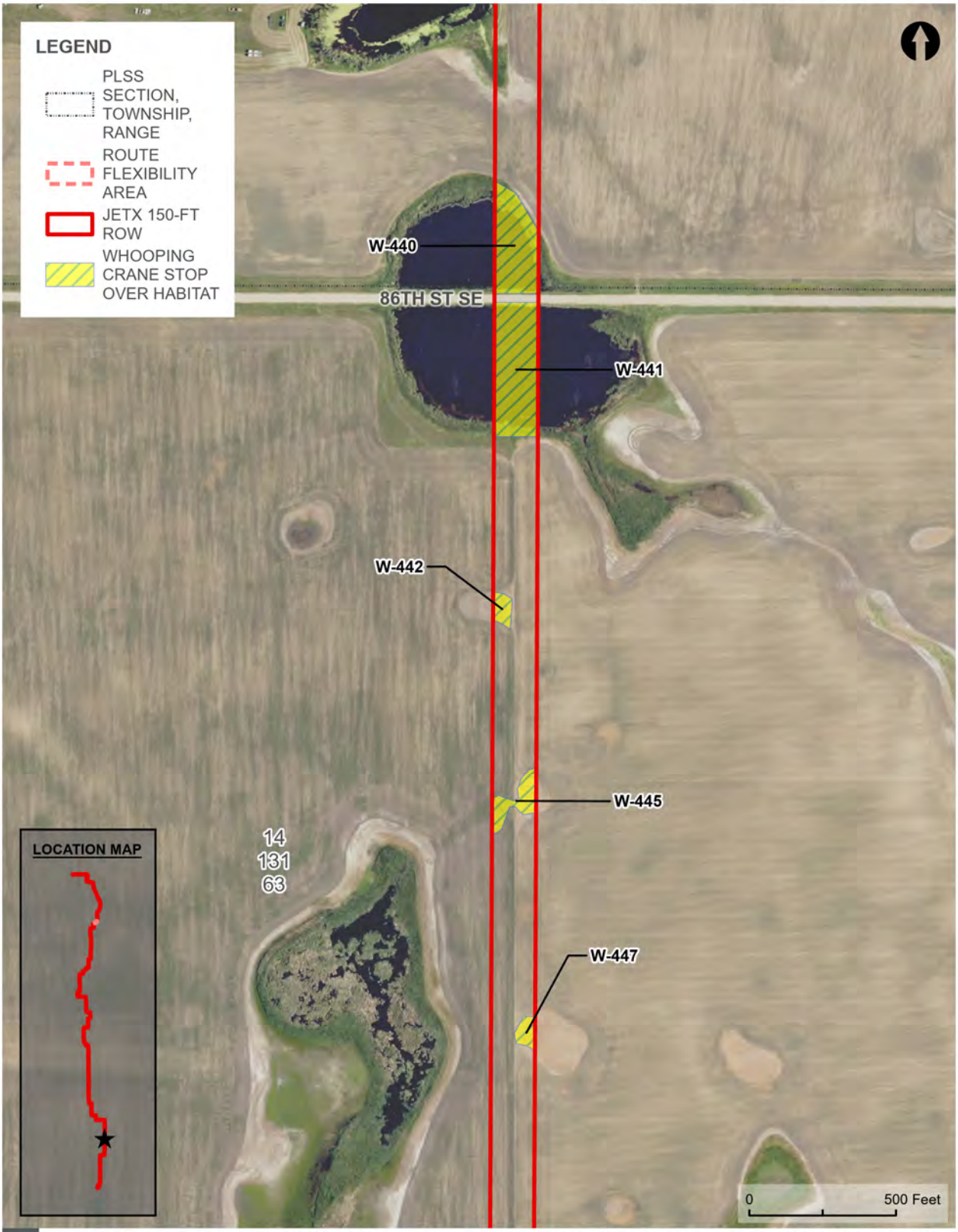


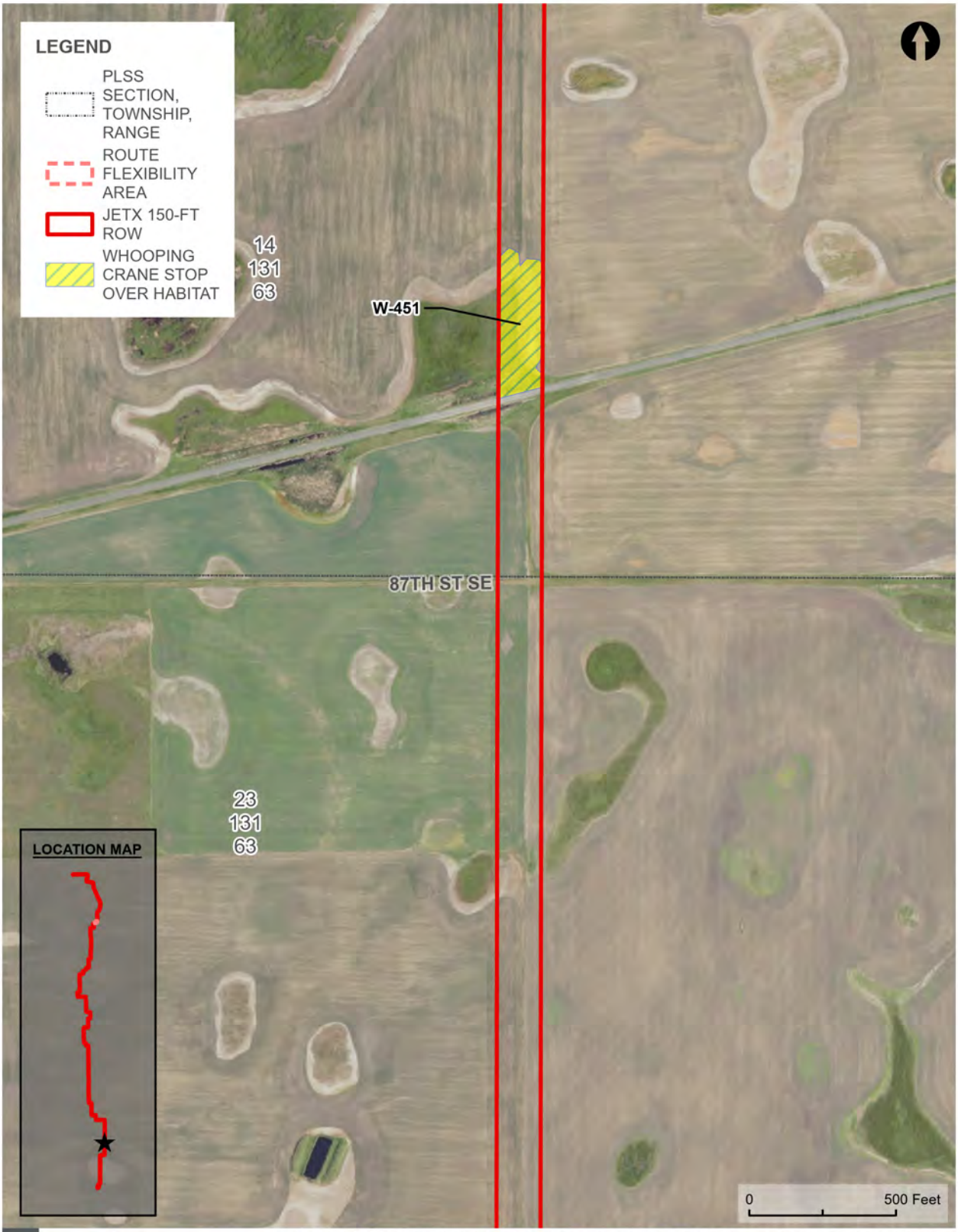
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



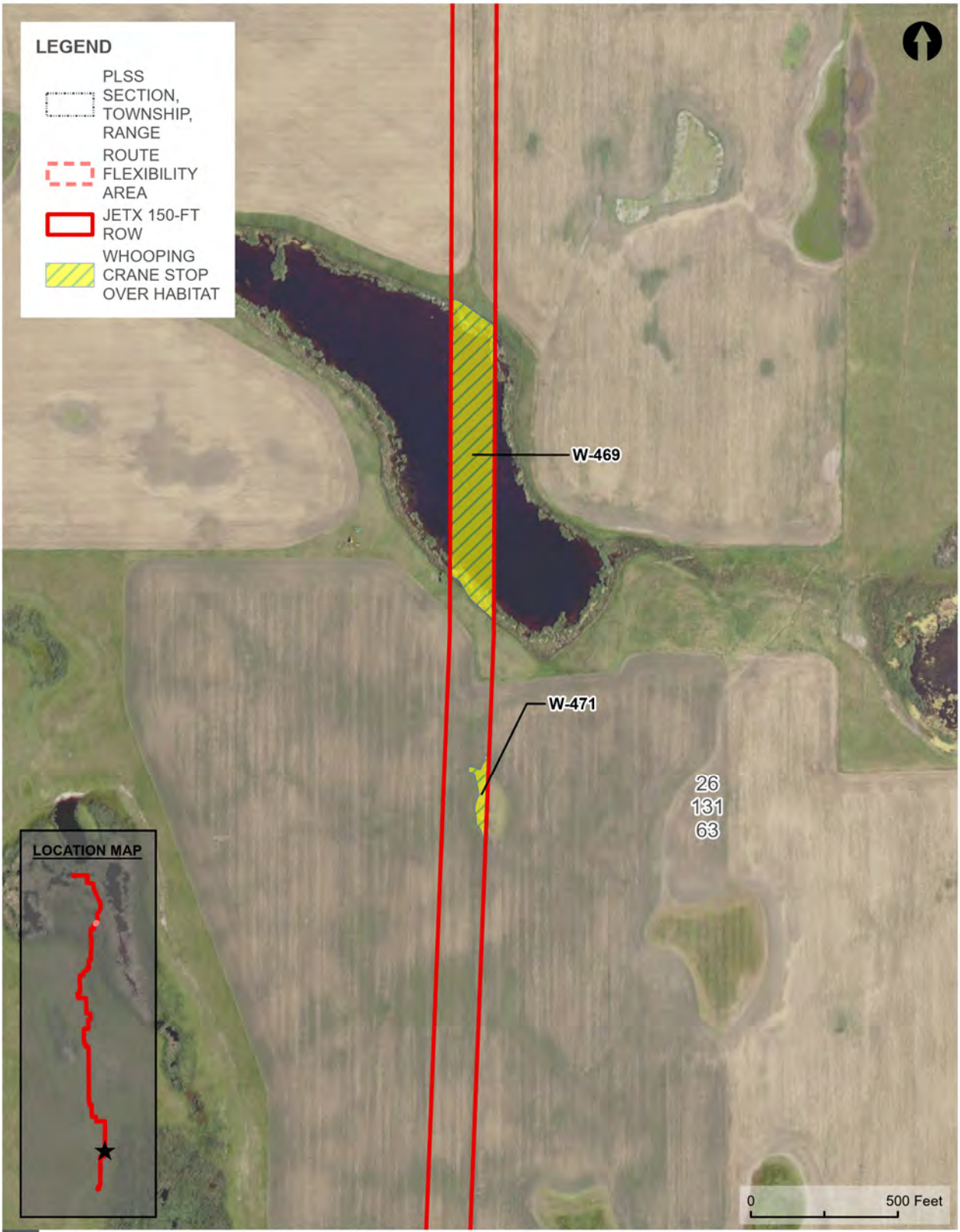
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



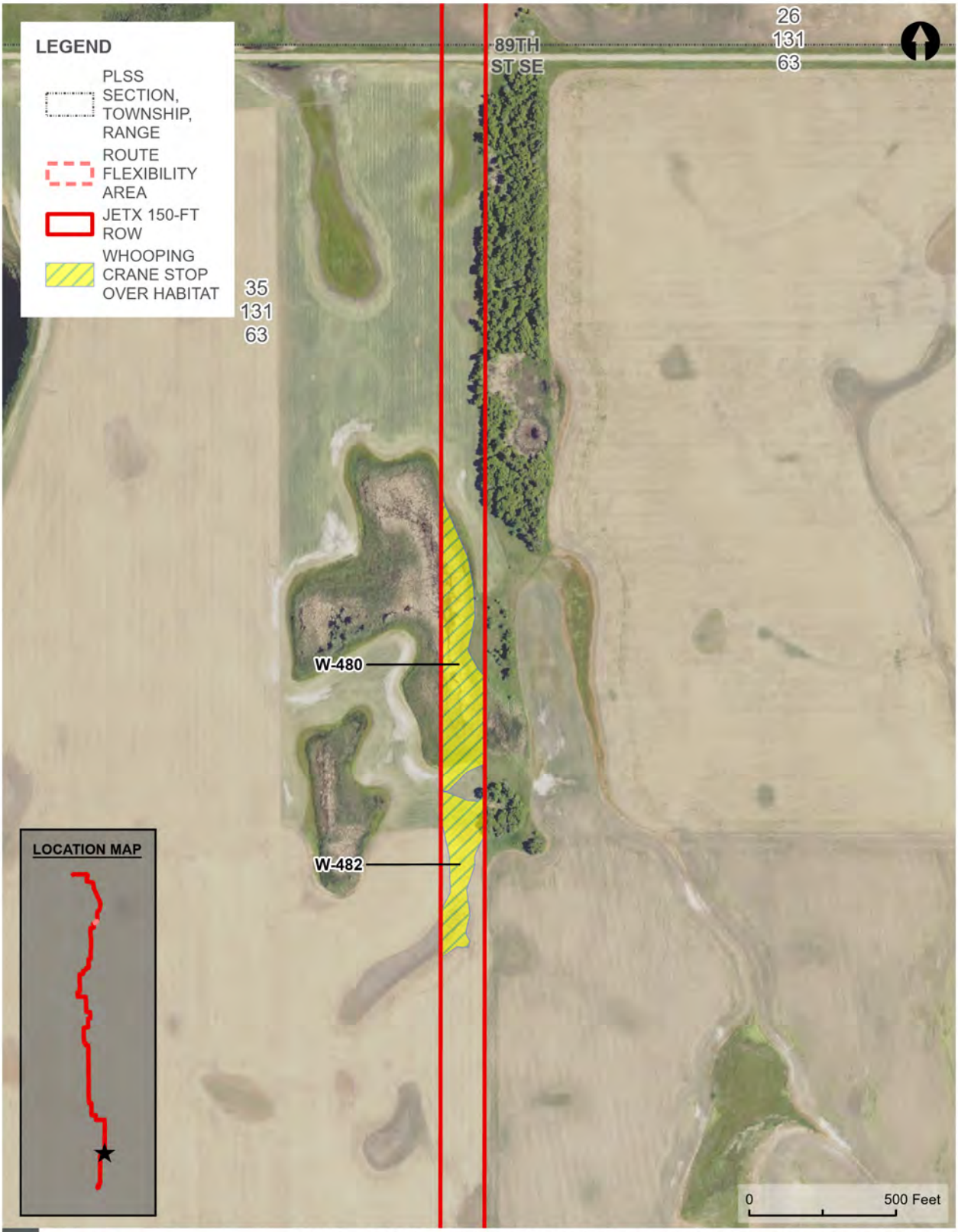
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



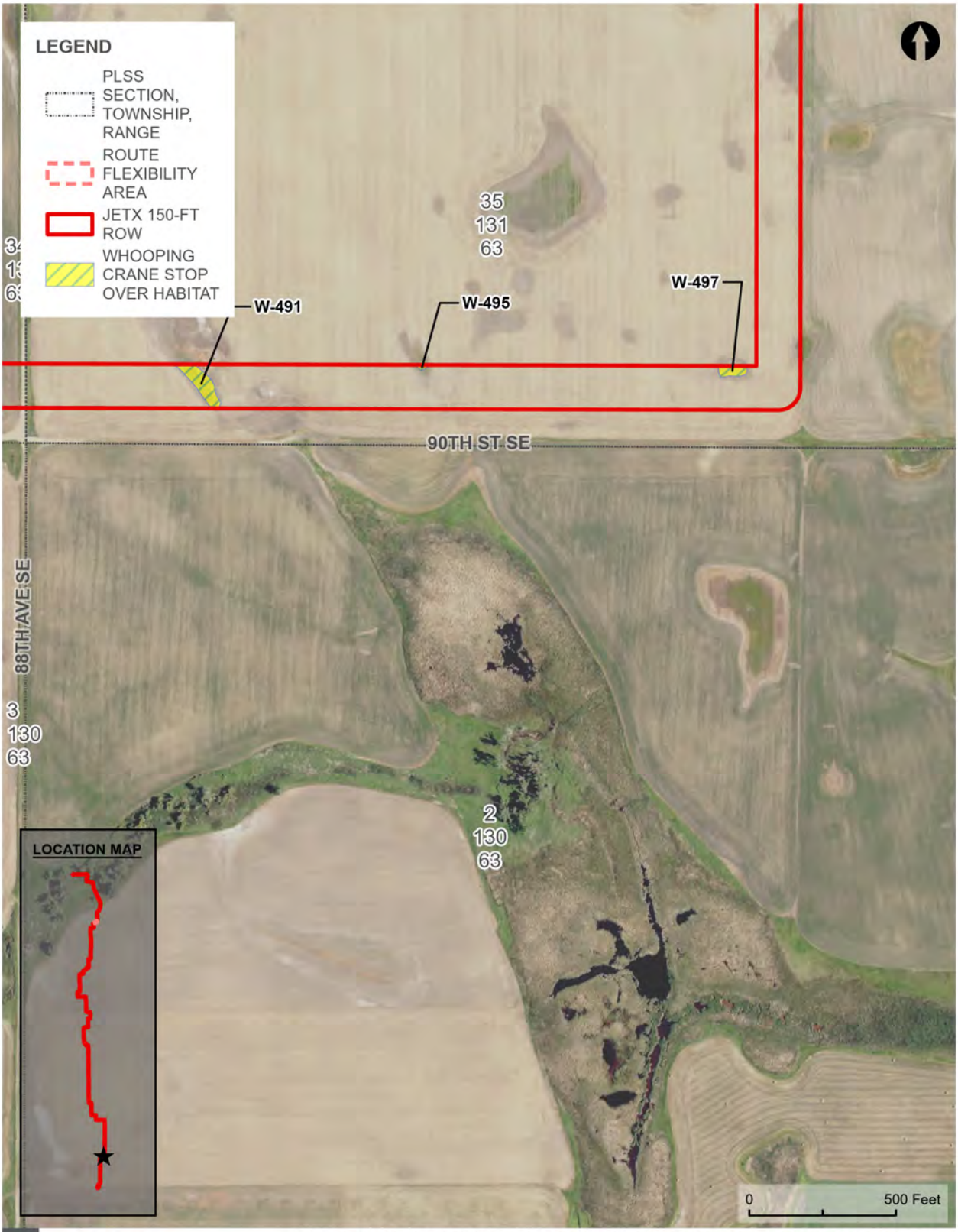
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



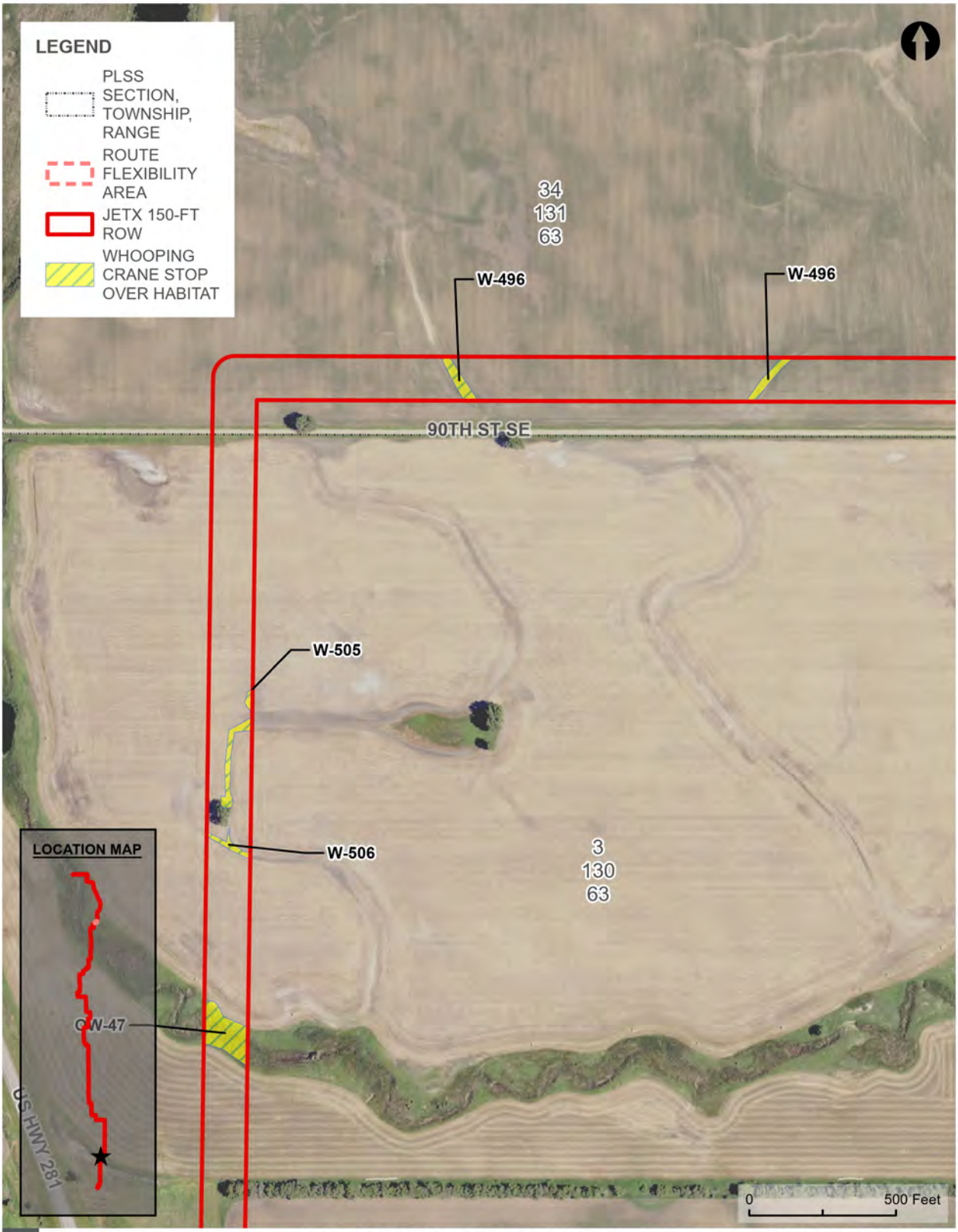
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



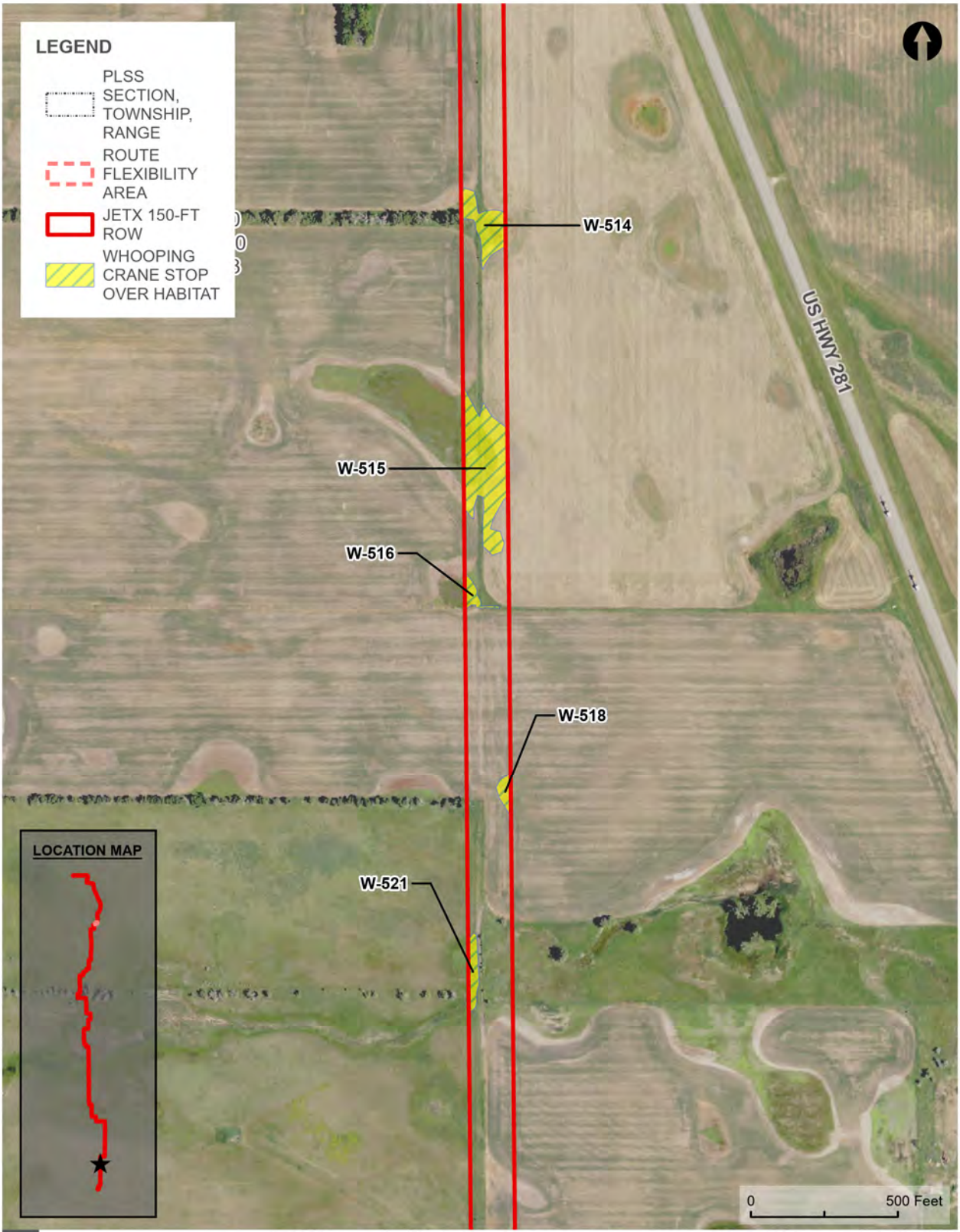
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



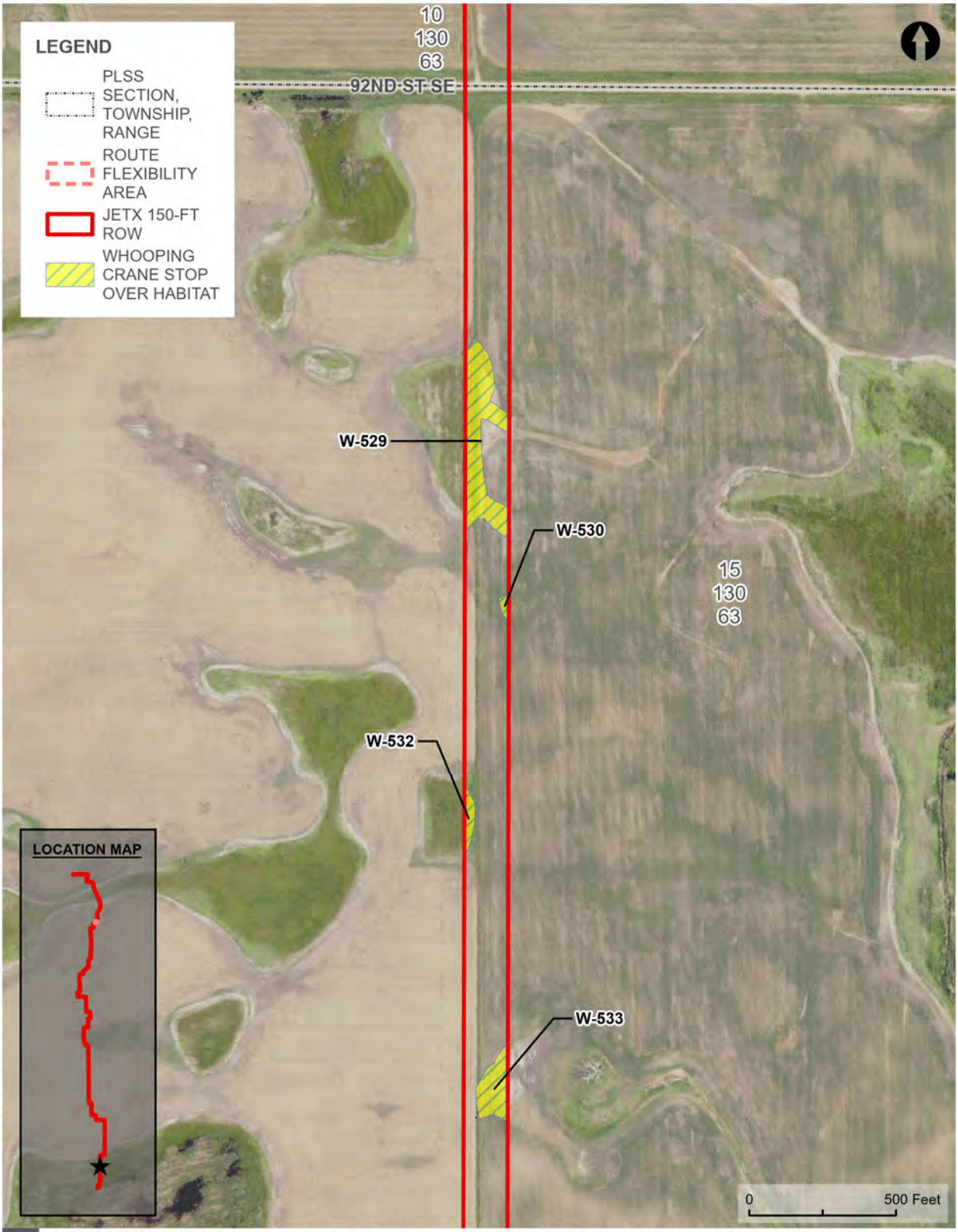
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



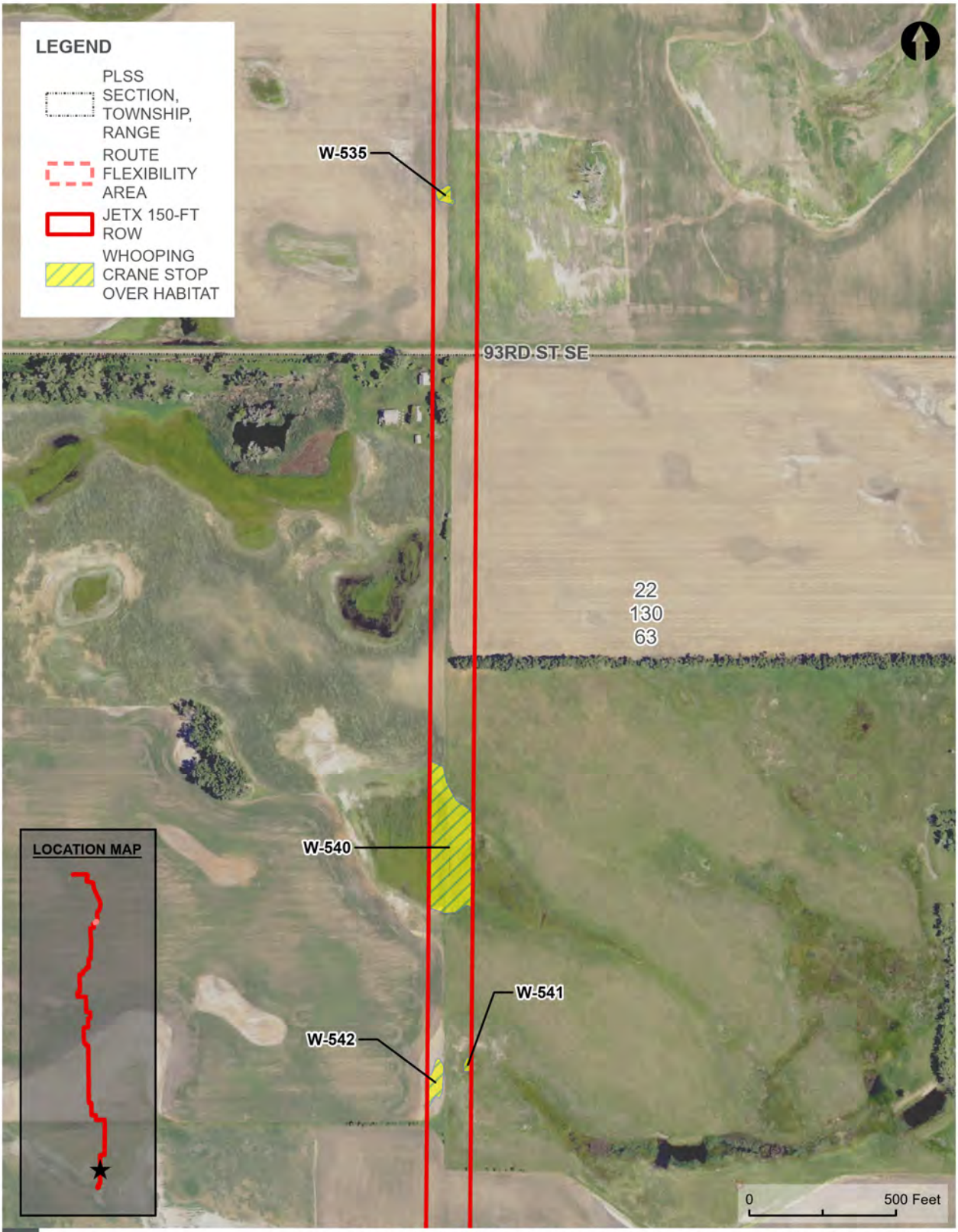
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



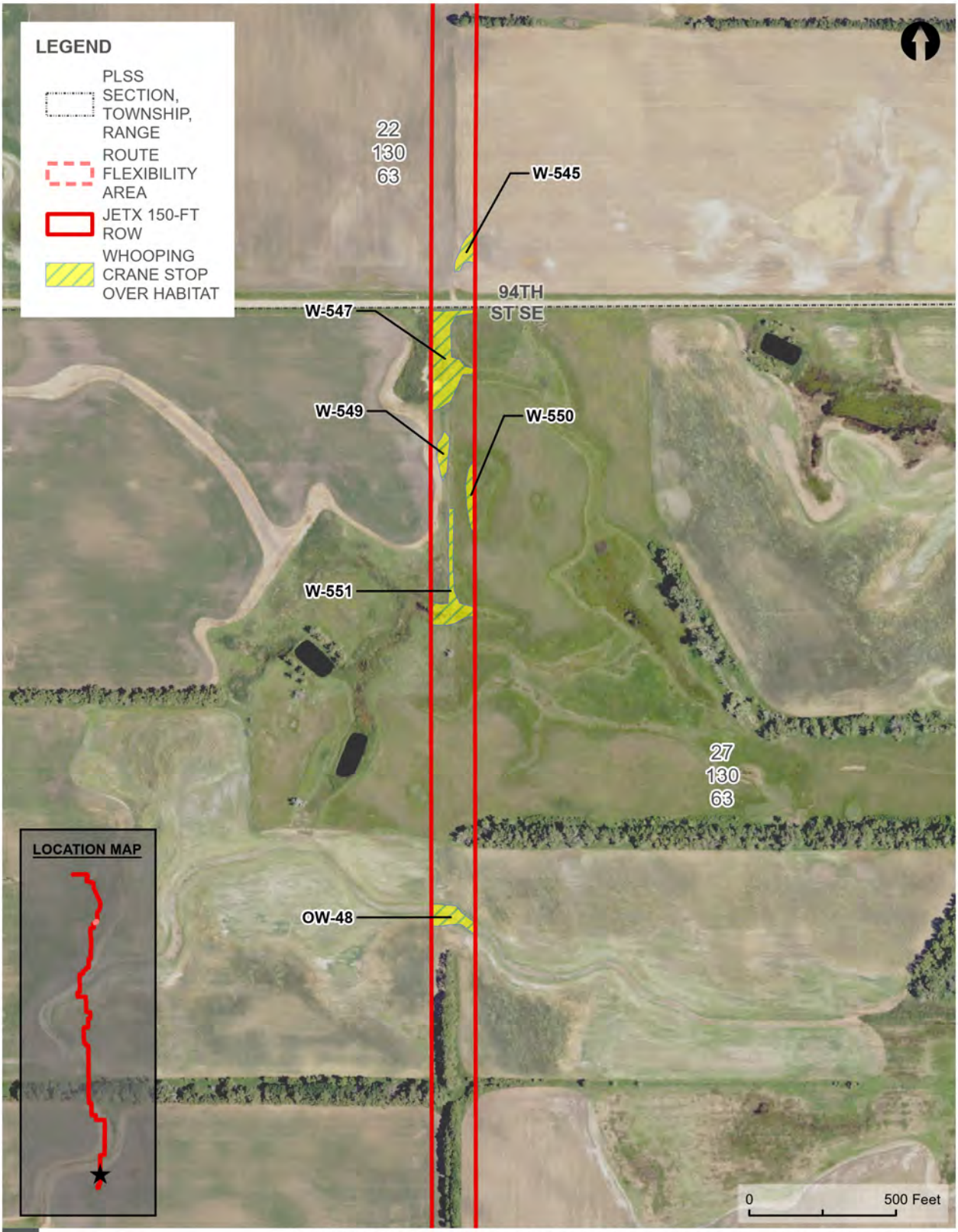
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



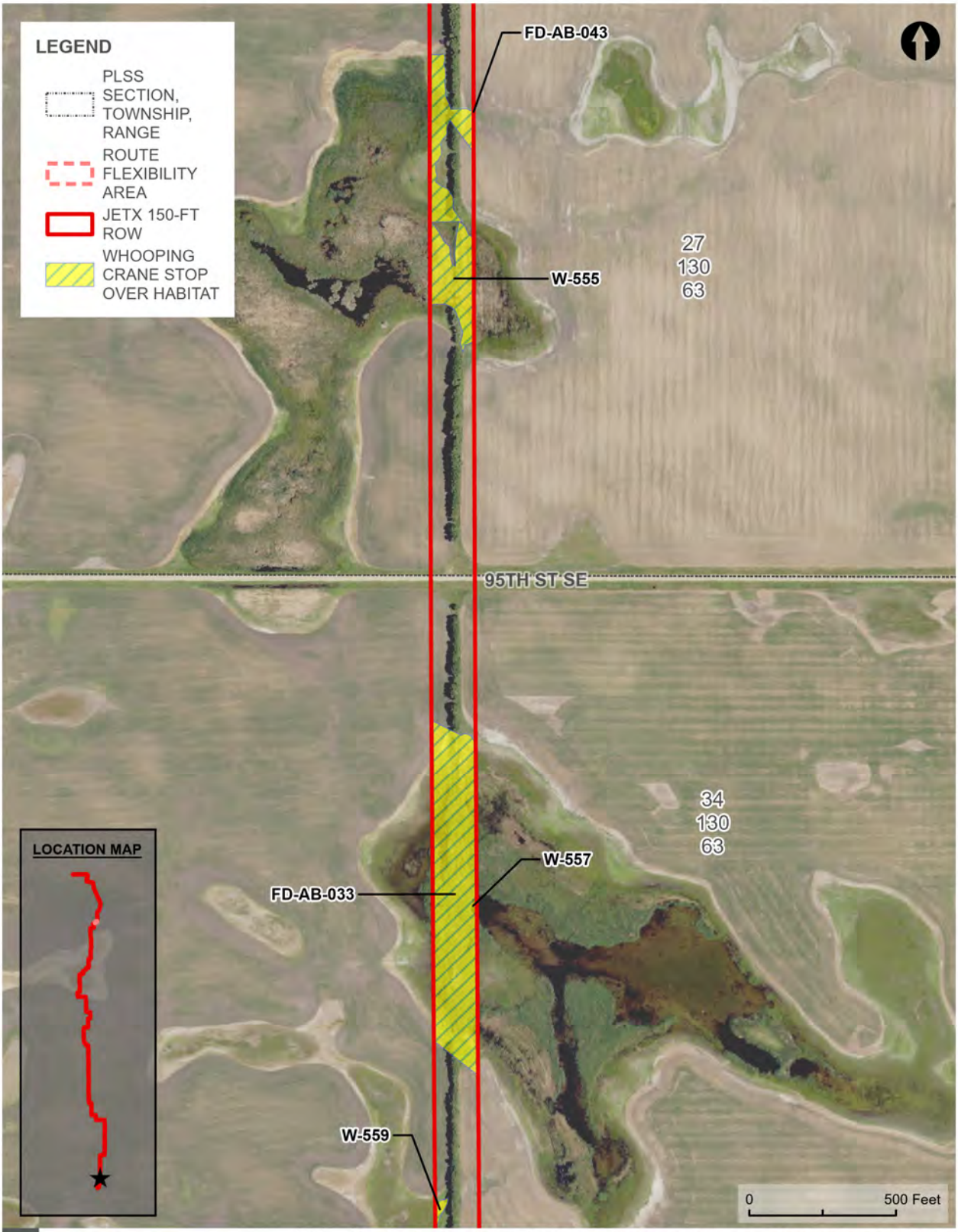
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



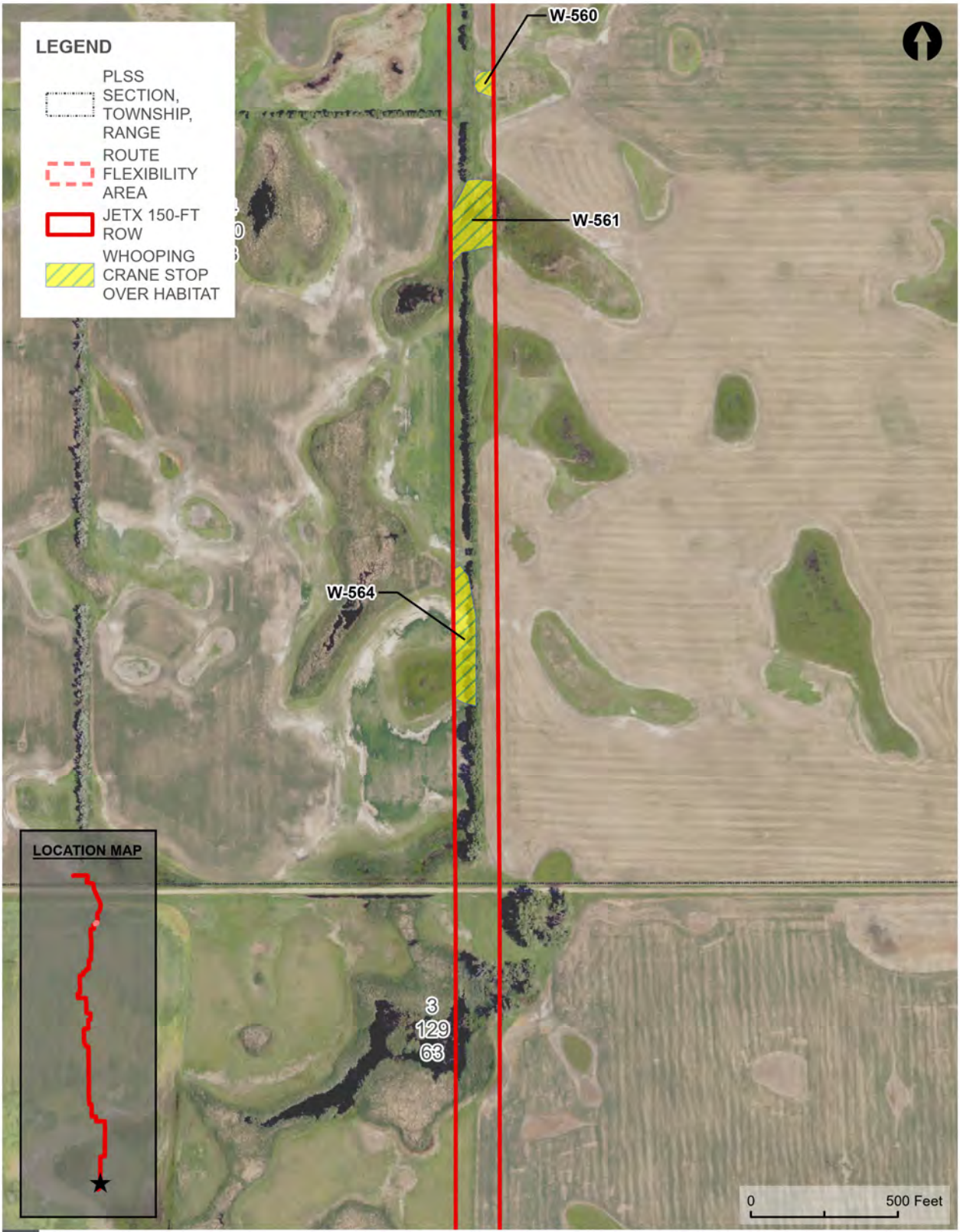
WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP



WHOOPING CRANE SUITABLE HABITAT - OVERVIEW MAP

Appendix I. Results of the Whooping crane habitat evaluation within the JETx Survey Area in Stutsman, LaMoure, and Dickey counties, North Dakota.

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(701) 353-6100

Habitat ID	Latitude	Longitude	Area (acres)
A-OW-22	46.867216	-98.570726	5.68
A-W-190	46.871072	-98.584970	0.02
A-W-009	47.029807	-98.658627	0.79
A-OW-02	47.030407	-98.620814	1.26
A-OW-03	47.030028	-98.612092	0.66
A-OW-22	46.867216	-98.570726	1.19
A-OW-29	46.856130	-98.580406	0.32
OW-15	46.712838	-98.633903	0.13
OW-16	46.685017	-98.650576	0.19
OW-24	46.531813	-98.609871	0.82
OW-28	46.458293	-98.609701	2.89
OW-29	46.455171	-98.609459	0.79
OW-31	46.420823	-98.609222	0.12
OW-32	46.390892	-98.609283	0.12
OW-33	46.385725	-98.609677	1.31
OW-38a	46.306580	-98.610027	0.10
OW-38b	46.305597	-98.609231	0.24
OW-39	46.299369	-98.609231	0.46
OW-42	46.201971	-98.534953	2.02
OW-43	46.200023	-98.535076	0.95
OW-44	46.193143	-98.534823	2.70
OW-45	46.181423	-98.535398	0.50
OW-47	46.106035	-98.557048	0.45
OW-48	46.047644	-98.557579	0.20
W-399	46.282182	-98.595269	2.30
W-401	46.282302	-98.599554	0.40
W-419	46.223401	-98.534913	10.01
W-420	46.216100	-98.535253	1.51
W-421	46.213396	-98.534394	0.31
W-422	46.211838	-98.534264	0.12
W-424	46.210687	-98.535260	0.45
W-426	46.206861	-98.534478	0.12
W-433	46.182542	-98.535183	0.22
W-434	46.180636	-98.535395	0.45
W-436	46.177405	-98.535281	0.37
W-440	46.169870	-98.535592	1.09
W-441	46.168711	-98.535467	1.58
W-442	46.166487	-98.535678	0.15
W-445	46.163557	-98.535995	0.34
W-447	46.162369	-98.534841	0.14
W-451	46.157256	-98.535816	1.58
W-469	46.133981	-98.535867	3.36
W-471	46.130729	-98.535558	0.21
W-480	46.120338	-98.536462	2.42

Habitat ID	Latitude	Longitude	Area (acres)
W-482	46.118428	-98.536334	1.23
W-491	46.112328	-98.544325	0.21
W-495	46.112318	-98.541273	0.01
W-496	46.111873	-98.551525	0.27
W-497	46.112156	-98.536998	0.08
W-505	46.108802	-98.556720	0.21
W-506	46.107885	-98.557135	0.08
W-514	46.093658	-98.557441	0.44
W-515	46.091514	-98.557568	1.29
W-516	46.090270	-98.557846	0.11
W-518	46.088338	-98.557048	0.10
W-521	46.086557	-98.557762	0.18
W-529	46.079413	-98.557682	1.33
W-530	46.077944	-98.556847	0.05
W-532	46.075929	-98.558005	0.14
W-533	46.073373	-98.556899	0.45
W-535	46.069631	-98.557676	0.06
W-540	46.063491	-98.557649	1.44
W-541	46.061504	-98.557428	0.03
W-542	46.061332	-98.557911	0.14
W-545	46.054127	-98.557558	0.13
W-547	46.053104	-98.558085	0.67
W-549	46.052225	-98.558021	0.11
W-550	46.051910	-98.557484	0.13
W-551	46.050774	-98.558098	0.35
W-555	46.041850	-98.557913	0.97
W-557	46.035794	-98.557245	0.07
W-559	46.033027	-98.558562	0.05
W-560	46.032049	-98.557452	0.11
W-561	46.030565	-98.557839	0.79
W-564	46.027477	-98.558529	0.74
W-79	46.840483	-98.597581	0.37
W-197	46.674720	-98.650393	0.01
W-212	46.650047	-98.649625	0.75
W-213	46.646770	-98.650231	0.06
W-218	46.630313	-98.623309	2.70
W-265	46.556309	-98.610712	0.35
W-274	46.544128	-98.610732	0.22
W-275	46.543499	-98.610658	0.51
W-301	46.469194	-98.609313	0.63
W-306	46.463440	-98.610436	0.18
W-326	46.395352	-98.610303	0.01
W-341	46.376844	-98.609938	0.38
W-343	46.376303	-98.609660	0.17

Habitat ID	Latitude	Longitude	Area (acres)
W-345	46.375445	-98.610229	0.03
W-347	46.373722	-98.610003	0.33
W-348	46.370902	-98.609326	0.19
W-353	46.369317	-98.609876	0.10
W-354	46.368750	-98.610008	0.04
W-355	46.366099	-98.609794	0.34
W-356	46.365705	-98.609786	0.17
FD-ab-010	46.627519	-98.620950	0.52
FD-ab-014	46.529903	-98.615583	0.28
FD-ab-015	46.529739	-98.612478	0.12
FD-ab-019	46.528239	-98.631340	0.17
FD-ab-020	46.501826	-98.631550	0.70
FD-rk-009	46.499776	-98.631608	1.84
FD-ab-021	46.495828	-98.631830	0.04
FD-rk-012	46.491787	-98.631575	2.33
FD-rk-022	46.487396	-98.631590	0.32
FD-GR-001	46.298863	-98.609384	0.12
FD-ab-024	46.248958	-98.596902	0.17
FD-GR-010	46.227019	-98.550838	2.54
FD-GR-009	46.227235	-98.562198	0.20
FD-GR-002	46.253837	-98.597096	0.22
FD-GR-003	46.247231	-98.597122	0.19
FD-GR-004	46.242894	-98.597299	0.03
FD-GR-008	46.227014	-98.576408	0.14
FD-ab-032	46.227044	-98.541405	0.63
FD-AB-029	46.227091	-98.546717	0.22
FD-AB-030	46.226993	-98.545446	0.60
FD-AB-031	46.227022	-98.544482	0.59
FD-GR-011	46.227125	-98.543056	0.03
FD-ab-043	46.042576	-98.558127	0.85
FD-ab-033	46.036124	-98.558004	3.85
FD-ab-035	46.606406	-98.619714	0.08
FD-ab-041	46.917299	-98.552047	4.98
FD-ab-042	46.912220	-98.556254	0.88
W-631	46.976548	-98.574929	2.97
W-632	46.974745	-98.573802	0.65
OW-50	46.940719	-98.551274	0.18
W-587	46.645013	-98.657981	0.50
W-592	46.638262	-98.660571	1.07
W-593	46.633714	-98.660664	0.47
W-603	46.591040	-98.619593	0.10
OW-52	46.573763	-98.600175	6.31
OW-53	46.569660	-98.600255	0.96
W-607	46.555551	-98.610860	0.04

Habitat ID	Latitude	Longitude	Area (acres)
W-608	46.552804	-98.610874	0.07
W-609	46.547340	-98.610947	0.03
W-628	46.242802	-98.594654	1.00
W-635	46.242837	-98.591062	0.32
W-629	46.242661	-98.588669	0.36
W-630	46.242746	-98.585413	0.23
Fed-ab-042	46.860922	-98.581154	0.21
W-387	46.282265	-98.604659	2.19
FD-Oct-1	46.669007	-98.648953	1.28
FD-Oct-2	46.666791	-98.648935	0.50
		Total	**112.66**

Appendix K9:
USFWS Response to Species Habitat Evaluation Report

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
North Dakota Ecological Services
3425 Miriam Avenue
Bismarck, North Dakota 58501

IN REPLY REFER TO:2025-JETX

April 8, 2025

Ms. Jennifer Hanley
Senior Environmental Project Manager
HDR Engineering, Inc.
51 North Broadway Suite 550
Fargo, North Dakota 58102

Dear Ms. Hanley:

Thank you for the opportunity to provide comments on the proposed JETx transmission line in Stutsman, Lamoure and Dickey Counties, North Dakota. The proposed Project, jointly proposed by Otter Tail Power Company and Montana-Dakota Utilities Company (Companies), would involve the construction and operation of an approximately 95 mile long 345-kilovolt (kV) line transmission line between Jamestown, ND and Ellendale, ND. The U.S. Fish and Wildlife Service (Service) recognizes there is no federal nexus associated with the proposed Project and would be under the jurisdiction of the ND Public Service Commission (PSC). The Service offers the following comments which are discretionary for you to implement in accordance with the Endangered Species Act (ESA) (16 U.S.C. 1531 *et seq*.) and the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d, 54 Stat. 250).

There are five federally listed species, and one proposed species, with the potential to occur within the Project corridor: the endangered northern long-eared bat (*Myotis septentrionalis*), the endangered whooping crane (*Grus americana*) the threatened piping plover (*Charadrius melodus*), the threatened Dakota skipper (*Hesperia dacotae*), and the threatened rufa red knot (*Calidris conutus rufus*), and the proposed monarch butterfly (*Danaus plexippus*). Through early coordination with the Service, the Companies have adhered to our field survey protocols and conducted an additional analysis focused on whooping crane stopover habitat. Effects to listed threatened and endangered species appear to have been minimized through Project design and incorporating our discretionary recommendations. Future coordination on final siting and line marking would ensure adverse effects are avoided.

The Service acknowledges that project proponents planning proposed transmission lines that do not have a federal nexus and are situated within the migratory corridor for the whooping crane may have questions and concerns regarding compliance with the Endangered Species Act (ESA). A primary focus of these concerns is the potential for collisions with whooping cranes during their migration. The Companies have demonstrated a commitment to environmental stewardship by collaborating with the Service to protect federally protected species, particularly the whooping crane, by volunteering to mark the proposed Project to reduce collision risks for whooping cranes near suitable habitat. Based on the information presented, the geographic

context of the Project as related to the whooping crane migratory corridor, and conservations measure commitments, the FWS does not expect this Project will result in the incidental take of ESA-listed fish or wildlife under Section 9 of the ESA.

We recommend that the Companies continue to maintain their commitment to avoiding suitable habitats as they finalize project routes. Additionally, it is crucial to implement the marking of power lines near whooping crane habitats to further decrease the risks of collisions and electrocutions. By following these recommendations, the Companies can contribute to the conservation of the whooping crane and ensure compliance with federal protection measures.

The FWS appreciates the opportunity to work with the Companies and the ND Public Service Commission on our shared conservation goals. Should you have any questions regarding these comments, please have your staff contact Jessica Johnson at (701) 355-8507 or at the letterhead address or contact me at (720)-793-6797.

Sincerely,

Luke Toso
Acting Field Supervisor
North and South Dakota Ecological Services

Appendix K10:
NDGFD Response to Lek Survey Memo

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From: Hanley, Jennifer
Sent: Wednesday, July 23, 2025 1:37 PM
To: Mueller, Elisha K.
Cc: Peterson, Monica; Ward, Hayley; Scheidecker, Kevin J.; McDonald, Andy; Kolar, Jesse L.; Weiers, Jason
Subject: RE: JETx NDGF Meeting Summary and Follow up Information_20240827
Attachments: LEK_Survey_Observations.zap; JETx_Proposed_Route_20250723.zap

Elisha,

Thank you for your response. I've attached a spatial file of the lek locations and also with the most up to date proposed route. My original email to you kicked back to me because of the .zip files. I have changed the to .zap, please change the file extension back to .zip and let me know that they work. With route shifts since we provided the distance data below, Leks 1-3 are closer to the proposed route.

We will continue to work with you as we develop a plan for mitigation. Here is what we have included in the application that we plan to file in the near future.

- Additional Lek surveys will be conducted in the spring prior to the start of an active construction year
- Seasonal construction restriction dates and hours will be determined in coordination with NDGFD
- The Applicants will continue to coordinate with NDGFD on use of perch deterrents as applicable

Thanks,
Jen

Jennifer Hanley, PE*
D 701.353.6139

hdrinc.com/follow-us

*MN, ND, SD, MT and TX

From: Mueller, Elisha K. <ekmueller@nd.gov>
Sent: Monday, July 21, 2025 10:40 AM
To: Hanley, Jennifer <Jennifer.Hanley@hdrinc.com>
Cc: Peterson, Monica <monica.peterson@hdrinc.com>; Ward, Hayley <Hayley.Ward@hdrinc.com>; Scheidecker, Kevin J. <kscheidecker@otpco.com>; McDonald, Andy <andy.mcdonald@mdu.com>; Kolar, Jesse L. <jlkolar@nd.gov>
Subject: RE: JETx NDGF Meeting Summary and Follow up Information_20240827

Hi Jennifer,

Apologies, I have been traveling and out in the field. I searched through my email this morning and found a message stuck in my outbox. It looks like it never sent. ---

Hi Jennifer

Jesse and I were finally able to go through the data you provided us. Thank you for the information and keeping us informed along this process. We appreciate that most of this line is in an area that poses lower risk to wildlife and wildlife habitat and are encouraged by the minimization efforts, as well as the survey efforts undergone thus far.

With that said, however, we do have some lingering concerns, specifically with leks 2 & 3 (I believe, though I can't say for certain as I do not have the spatial data of the leks and I am not positive which are which). This is one of the largest chunks of grassland along the corridor, and the location of the line along this parcel will likely lead to impacts to both leks, which are 0.424 and 0.525 miles away respectively. We recommend considering adding bird perch deterrents on vertical structures within a 1-mile radius of those 2 leks specifically. This will likely lead to the greatest conservation value for the birds, beyond timing restrictions.

Thanks again and let me know if you have any questions!

Elisha

From: Hanley, Jennifer <Jennifer.Hanley@hdrinc.com>
Sent: Friday, July 18, 2025 9:33 AM
To: Mueller, Elisha K. <ekmueller@nd.gov>
Cc: Peterson, Monica <monica.peterson@hdrinc.com>; Ward, Hayley <Hayley.Ward@hdrinc.com>; Scheidecker, Kevin J. <kscheidecker@otpco.com>; McDonald, Andy <andy.mcdonald@mdu.com>; Kolar, Jesse L. <jlkolar@nd.gov>
Subject: RE: JETx NDGF Meeting Summary and Follow up Information_20240827

Good morning Elisha,

I'm pulling this back to the top of your inbox. We are starting to finalize our permit application and want to check again if NDGF has any additional response for the Jamestown to Ellendale 345 kV transmission line project for us to include. Please let me know if you need me to resend information to you.

Thank you,

Jen

Jennifer Hanley, PE*
D 701.353.6139

hdrinc.com/follow-us

*MN, ND, SD, MT and TX

From: Hanley, Jennifer <Jennifer.Hanley@hdrinc.com>
Sent: Monday, July 14, 2025 4:04 PM
To: Mueller, Elisha K. <ekmueller@nd.gov>
Cc: Peterson, Monica <monica.peterson@hdrinc.com>; Ward, Hayley <Hayley.Ward@hdrinc.com>; Scheidecker, Kevin J. <kscheidecker@otpco.com>; McDonald, Andy <andy.mcdonald@mdu.com>; Kolar, Jesse L. <jlkolar@nd.gov>
Subject: RE: JETx NDGF Meeting Summary and Follow up Information_20240827

Good afternoon Elisha,

We are preparing to file the Jamestown to Ellendale 345-kV transmission line route permit application to the ND PSC within the next few weeks. We are going through our correspondence one final time and see that we did not get a response from ND Game & Fish on our lek survey performed in 2024 (see last correspondence below). Do you have a response in your files that I am missing in mine? If not, could NDGF provide a response?

Let me know if I need to resend you any information.

Thank you,
Jen

Jennifer Hanley, PE*
D 701.353.6139

hdrinc.com/follow-us

*MN, ND, SD, MT and TX

From: Mueller, Elisha K. <ekmueller@nd.gov>
Sent: Wednesday, September 18, 2024 4:31 PM
To: Hanley, Jennifer <Jennifer.Hanley@hdrinc.com>
Subject: RE: JETx NDGF Meeting Summary and Follow up Information_20240827

Hi Jennifer,

Sorry for the delay on this. I was able to rename the files & get it to work... Thank you for providing the lek information as well! I will connect with Jesse and let you know as soon as possible if we have any further comments or concerns.

Elisha

From: Hanley, Jennifer <Jennifer.Hanley@hdrinc.com>
Sent: Wednesday, September 11, 2024 12:23 PM
To: Mueller, Elisha K. <ekmueller@nd.gov>
Cc: Kolar, Jesse L. <jlkolar@nd.gov>; Scheidecker, Kevin J. <kscheidecker@otpco.com>; Peterson, Monica <monica.peterson@hdrinc.com>; Brazeal, Alex <Alex.Brazeal@hdrinc.com>; Flege, Adam <Adam.Flege@hdrinc.com>; Huck, Chelsea <Chelsea.Huck@hdrinc.com>
Subject: RE: JETx NDGF Meeting Summary and Follow up Information_20240827

Elisha,

The email I sent kicked back to me I think because of the .zip files. I changed the extension to .zap. Let me know if this didn't work.

Jennifer Hanley, PE*
D 701.353.6139

hdrinc.com/follow-us

*MN, ND, SD, MT and TX

From: Hanley, Jennifer
Sent: Wednesday, September 11, 2024 12:19 PM
To: Mueller, Elisha K. <ekmueller@nd.gov>
Cc: Kolar, Jesse L. <jlkolar@nd.gov>; Scheidecker, Kevin J. <kscheidecker@otpco.com>; Peterson, Monica <monica.peterson@hdrinc.com>; Brazeal, Alex <Alex.Brazeal@hdrinc.com>; Flege, Adam <Adam.Flege@hdrinc.com>; Huck, Chelsea <Chelsea.Huck@hdrinc.com>
Subject: JETx NDGF Meeting Summary and Follow up Information_20240827

Elisha,

Thank you for taking the time to meet with us on 8/27/2024.

Attached and below is the follow up information that was requested.

Distance from Leks (starting at the northern most lek to the southern most lek)

Report_ID	Distance in Miles
Lek-01	0.403
Lek-02	0.424
Lek-03	0.525
Lek-04	1.068
Lek-05	1.284
Lek-06	0.656

The data source of the unbroken grasslands for our impact calculations is the ND Game & Fish data from 2022 that you provided to us. We are currently showing approximately 0.19 acre of permanent impact to unbroken grasslands.

Jennifer Hanley, PE*
Senior Environmental Project Manager

HDR
51 North Broadway, Suite 550
Fargo, ND 58102
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