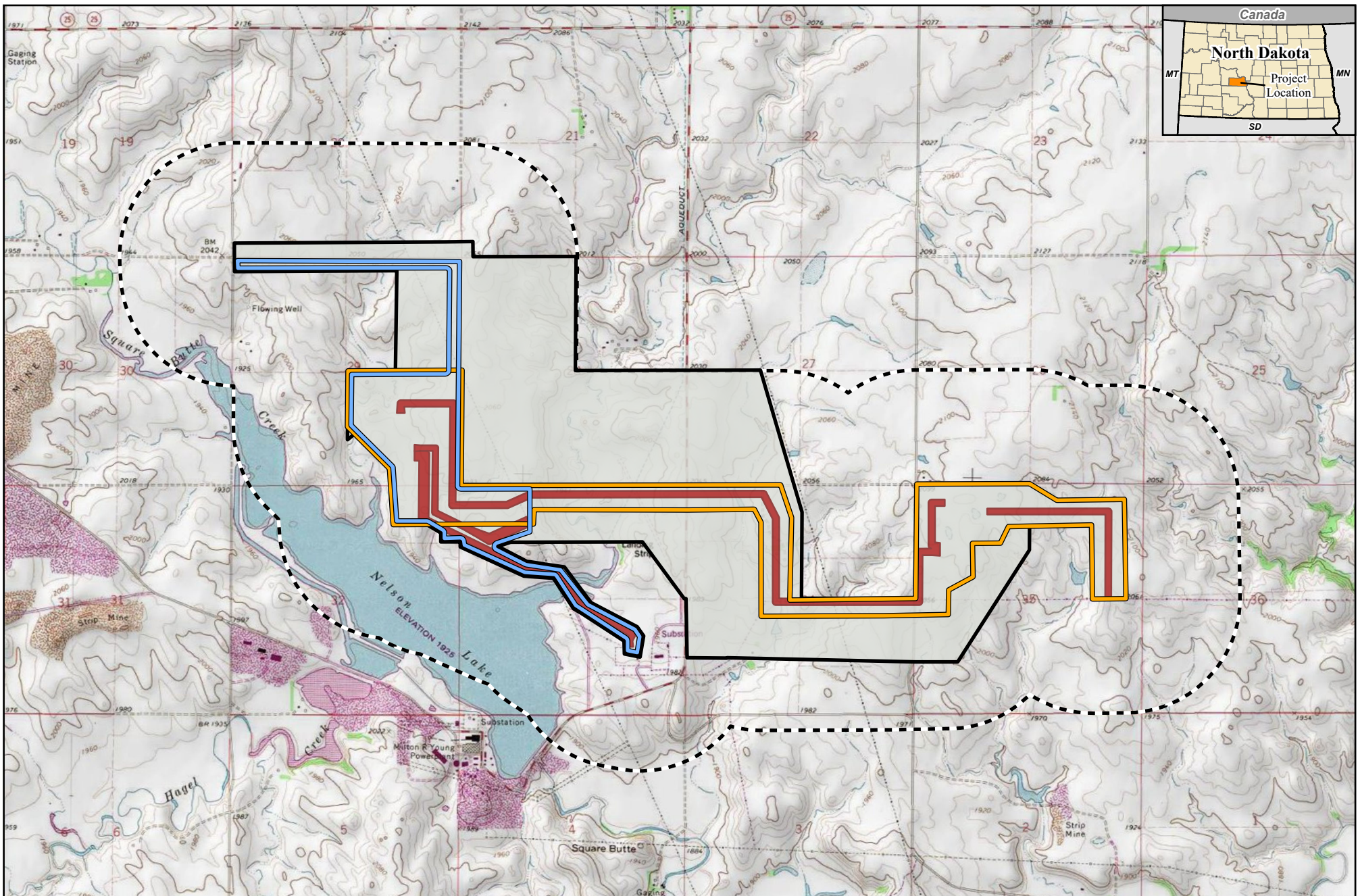


APPENDIX A

Maps








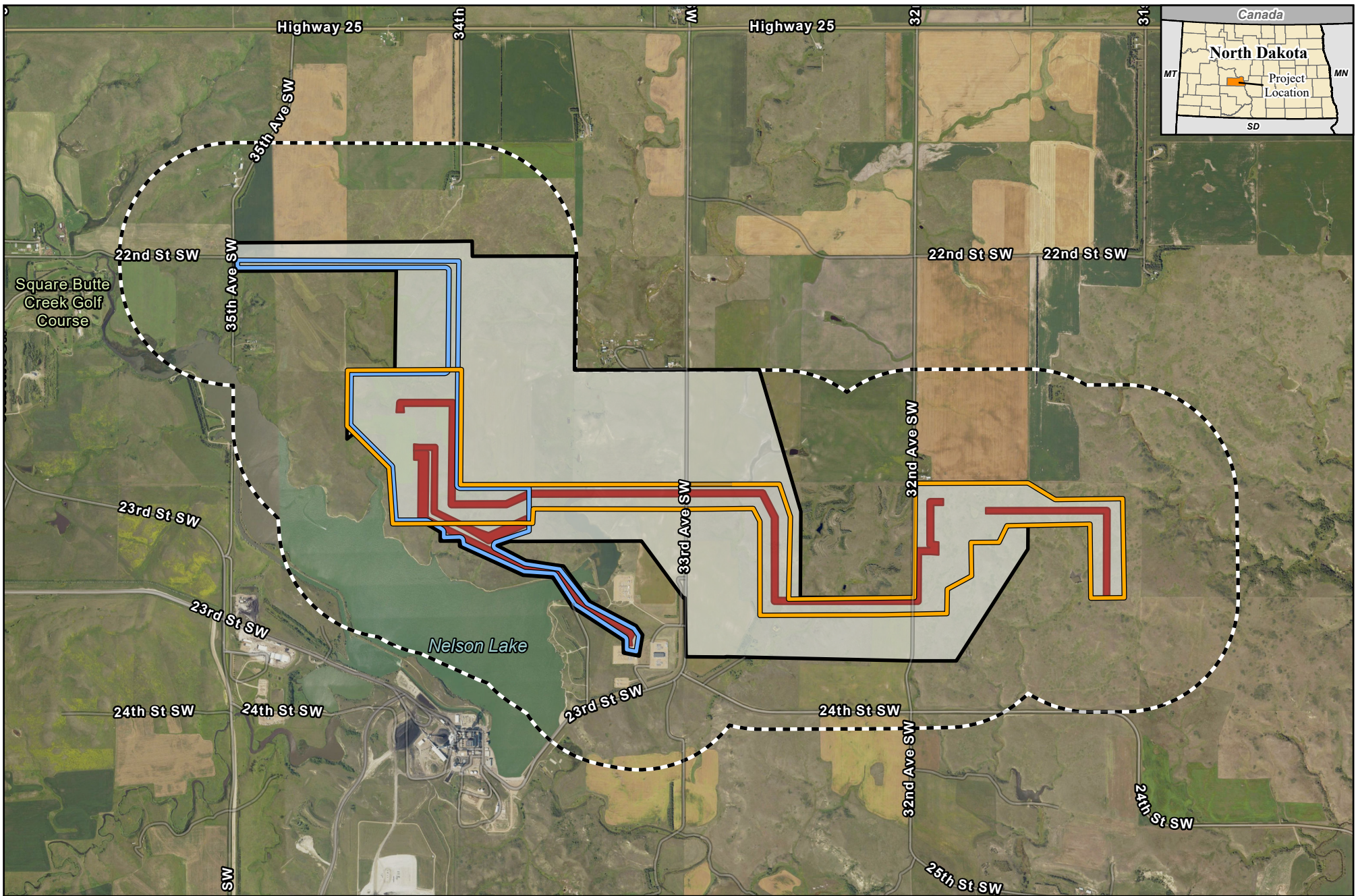
0 3,000
Feet
1 inch = 3,000 feet



For Environmental Review Purposes Only

Map 1a: Project Location (Topographic) **HVDC Modernization Project** **Oliver County, North Dakota**

-  Project Corridor - Phase 1
-  Project Corridor - Phase 2
-  Project Study Area
-  Project Survey Area
-  Project ROW



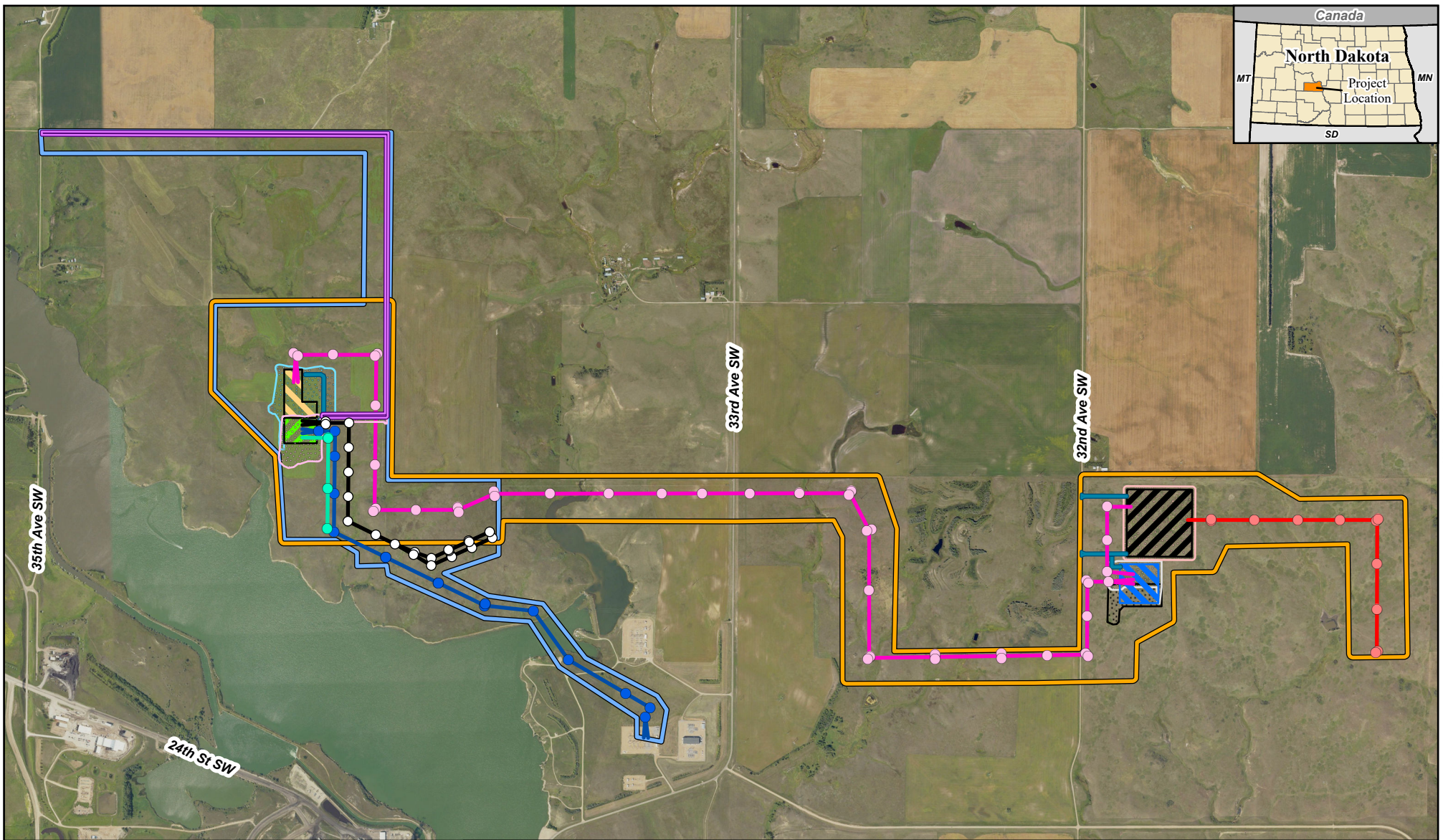
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1 inch = 3,000 feet



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Map 1b: Project Location (Aerial) **HVDC Modernization Project** **Oliver County, North Dakota**

- Project Study Area
- Project Survey Area
- Project ROW
- Project Corridor - Phase 1
- Project Corridor - Phase 2



Map 2a: Proposed Project Facilities HVDC Modernization Project Oliver County, North Dakota

0 2,000
Feet
1 inch = 2,000 feet



For Environmental Review Purposes Only

- Project Corridor - Phase 1
- Project Corridor - Phase 2

Phase I

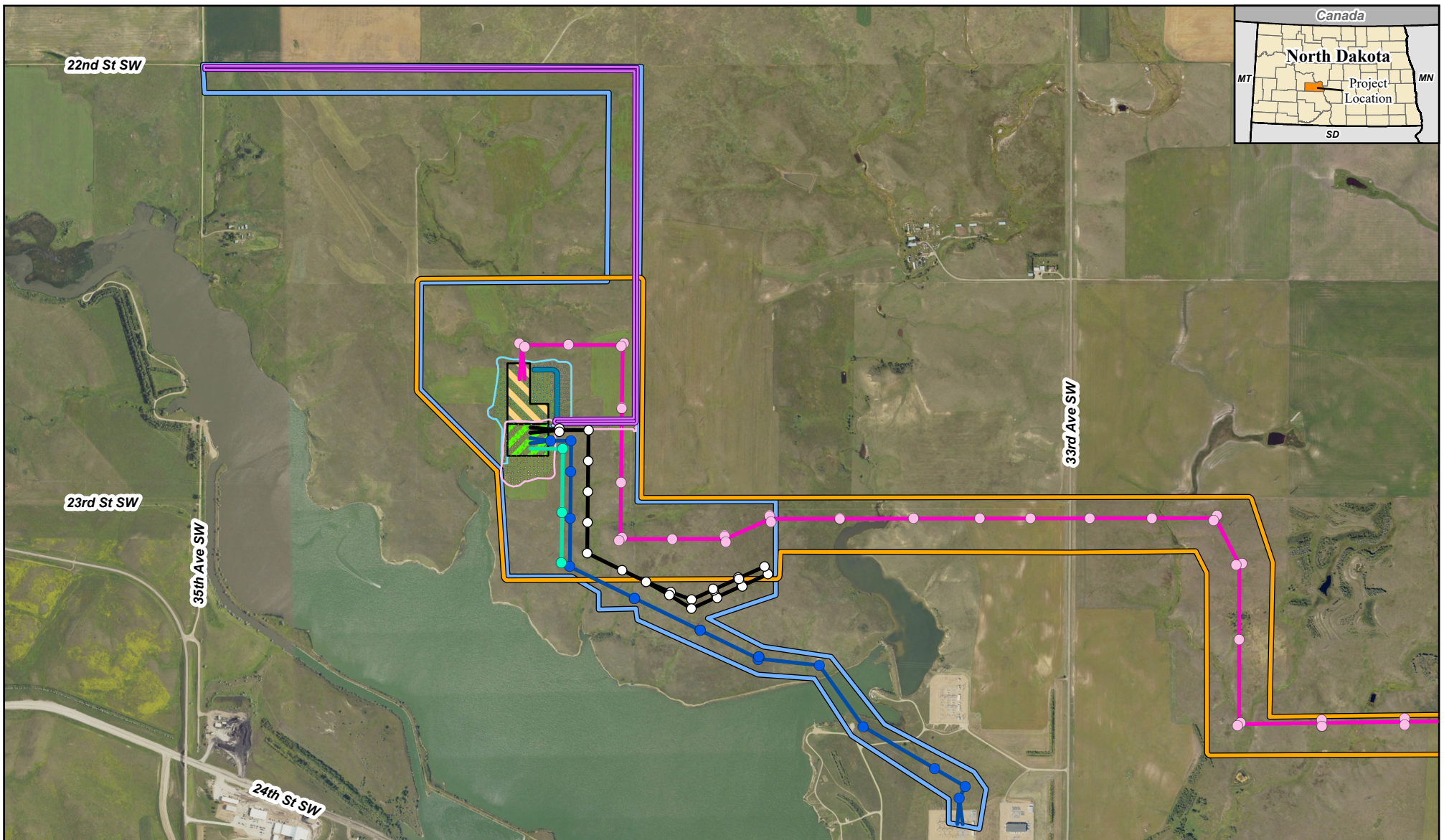
- Proposed Single-Circuit 230 kV - Minnesota Power
- Proposed Double-Circuit 230 kV - Minnesota Power
- Proposed 230 kV AC Line Structure - Great River Energy
- Proposed Route - Single-Circuit 230 kV - Minnesota Power

- Proposed Route - Double-Circuit 230 kV - Minnesota Power
- Proposed Route - 230 kV AC Line - Great River Energy
- Proposed Access Road
- Proposed Nelson Lake Substation 230 kV Yard Construction Extents
- Proposed Nelson Lake Substation 230 kV Yard

Phase 2

- Proposed 250 kV HVDC Line Reroute Structure
- Proposed 345 kV AC Line (X1) Structure
- Proposed Route - 250 kV HVDC Line Reroute
- Proposed Route - 345 kV AC Line (X1)
- Proposed East Oliver 345 kV Yard
- Proposed Access Road
- Proposed East Oliver HVDC Converter Station

- Proposed Nelson Lake Substation 345 kV Yard
- Proposed Nelson Lake Substation 345 kV Yard Construction Extents
- Proposed East Oliver HVDC Converter Station Construction Extents
- Proposed East Oliver 345 kV Yard Construction Extents, Engineering Stage 1
- Proposed East Oliver 345 kV Yard Construction Extents, Engineering Stage 2



0 2,000 Feet



Map 2b: Proposed Project Facilities - West Half HVDC Modernization Project Oliver County, North Dakota

- Project Corridor - Phase 1
- Project Corridor - Phase 2

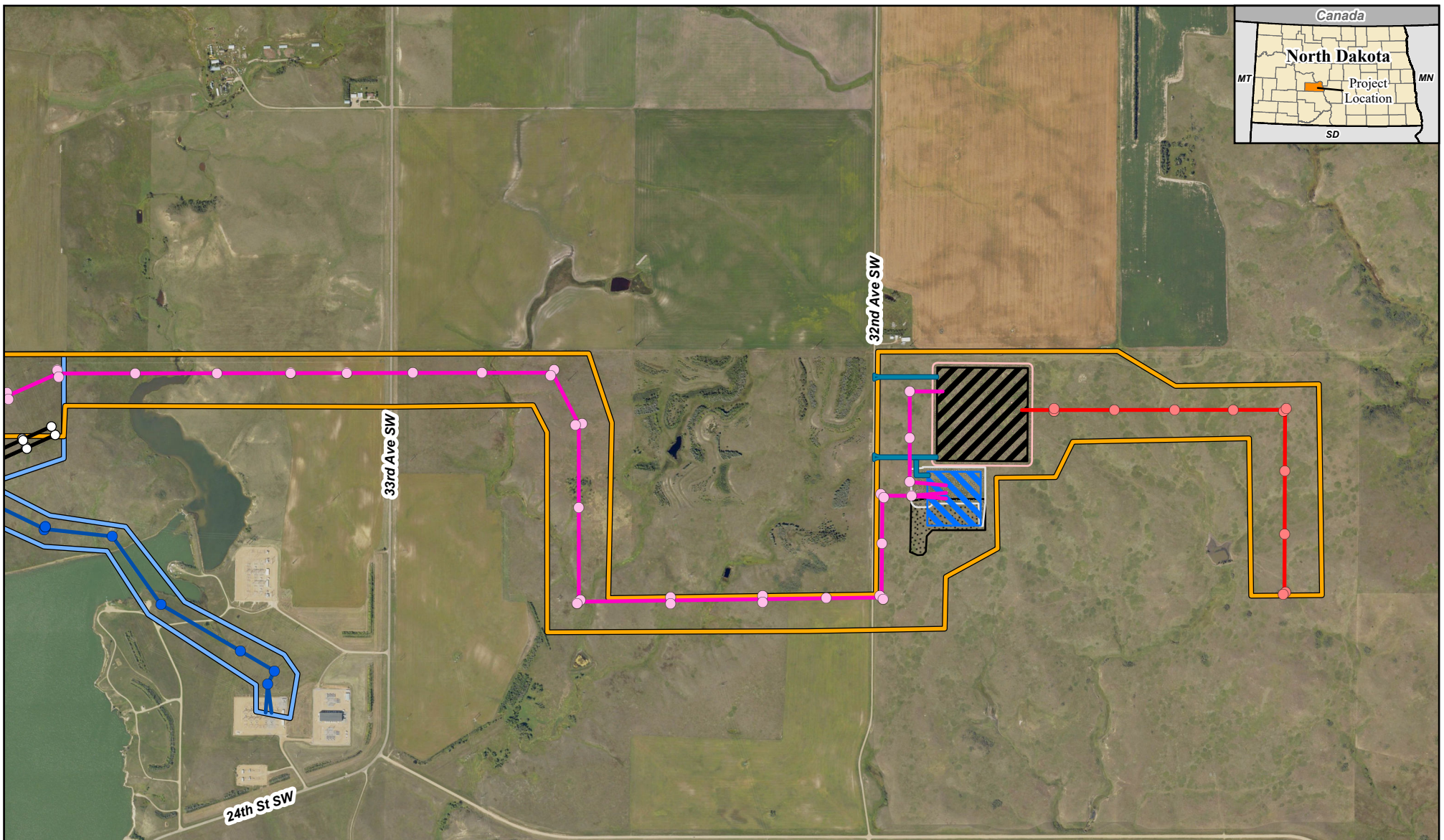
Phase 1

- Proposed Single-Circuit 230 kV - Minnesota Power
- Proposed Double-Circuit 230 kV - Minnesota Power
- Proposed 230 kV AC Line Structure - Great River Energy
- Proposed Route - Single-Circuit 230 kV - Minnesota Power

- Proposed Route - Double-Circuit 230 kV - Minnesota Power
- Proposed Route - 230 kV AC Line - Great River Energy
- Proposed Access Road
- Proposed Nelson Lake Substation 230 kV Yard Construction Extents
- Proposed Nelson Lake Substation 230 kV Yard

Phase 2

- Proposed 345 kV AC Line (X1) Structure
- Proposed Route - 345 kV AC Line (X1)
- Proposed Nelson Lake Substation 345 kV Yard
- Proposed Nelson Lake Substation 345 kV Yard Construction Extents



0 1,500
Feet
1 inch = 1,500 feet

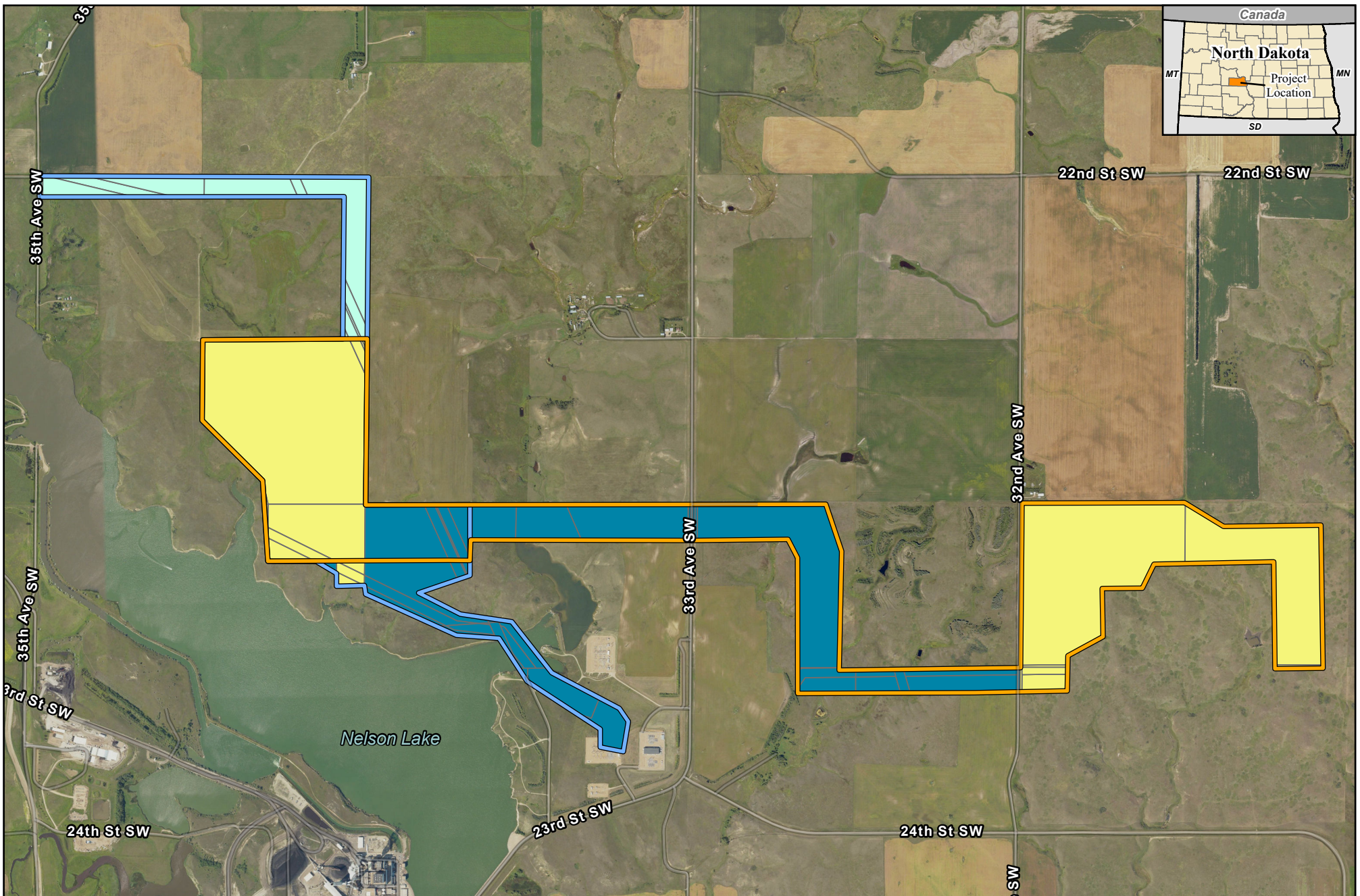




Map 2c: Proposed Project Facilities - East Half HVDC Modernization Project Oliver County, North Dakota

- Project Corridor - Phase I
- Project Corridor - Phase 2
- Phase I**
- Proposed Double-Circuit 230 kV - Minnesota Power
- Proposed 230 kV AC Line Structure - Great River Energy
- Proposed Route - Double-Circuit 230 kV - Minnesota Power
- Proposed Route - 230 kV AC Line - Great River Energy

- Phase 2**
- Proposed 250 kV HVDC Line Reroute Structure
- Proposed 345 kV AC Line (X1) Structure
- Proposed Route - 250 kV HVDC Line Reroute
- Proposed Route - 345 kV AC Line (X1)
- Proposed East Oliver 345 kV Yard
- Proposed Access Road

- Proposed East Oliver HVDC Converter Station
- Proposed East Oliver HVDC Converter Station Construction Extents
- Proposed East Oliver 345 kV Yard Construction Extents, Engineering Stage 1
- Proposed East Oliver 345 kV Yard Construction Extents, Engineering Stage 2






0
2,000


Feet


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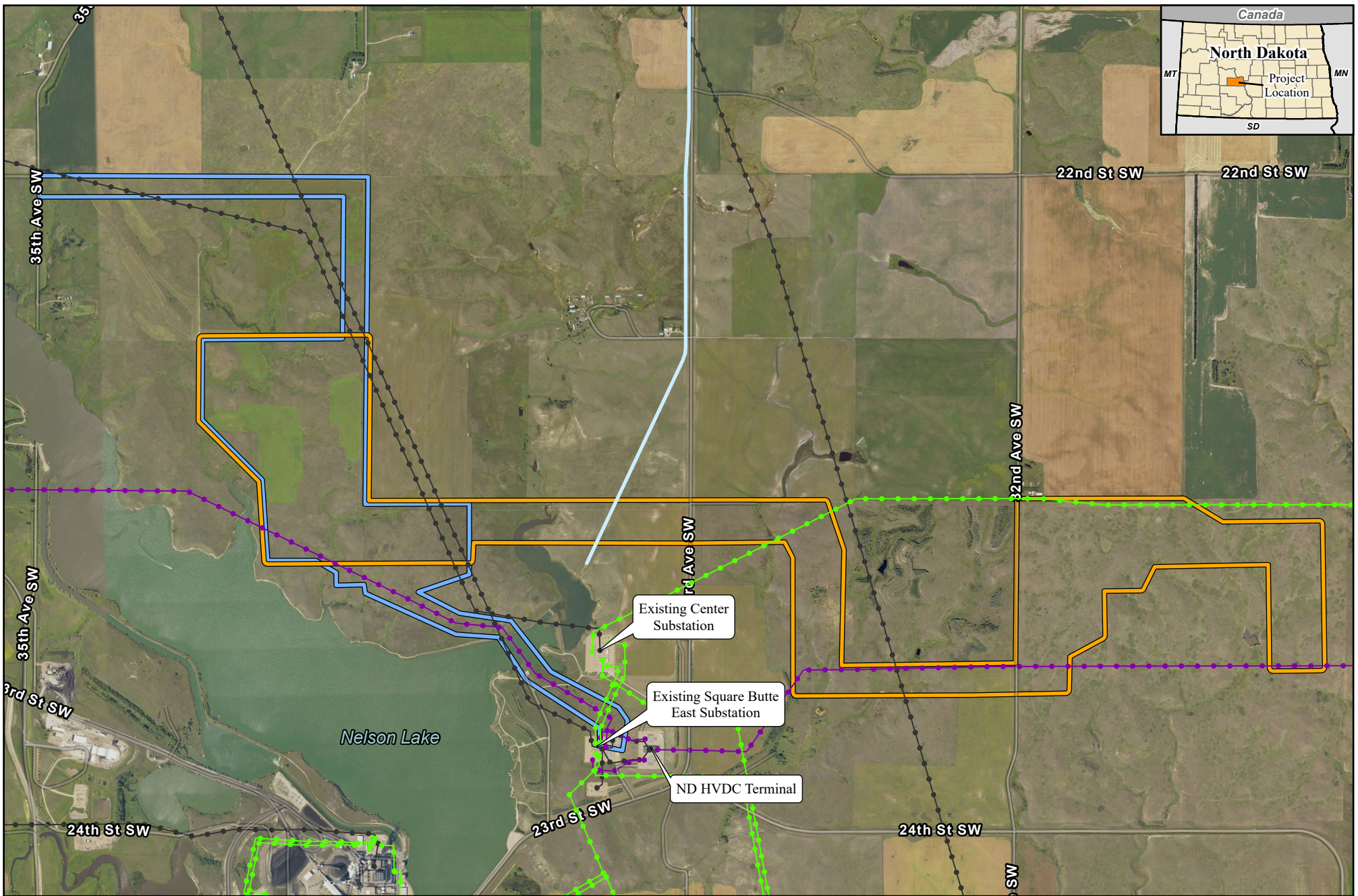
Map 3: Land Ownership HVDC Modernization Project Oliver County, North Dakota



- 


Project Corridor - Phase I
Project Corridor - Phase 2
- 



Land Owner
ALLETE
MINNKOTA POWER
VOEGELE




0 2,000

Feet

1 inch = 2,000 feet









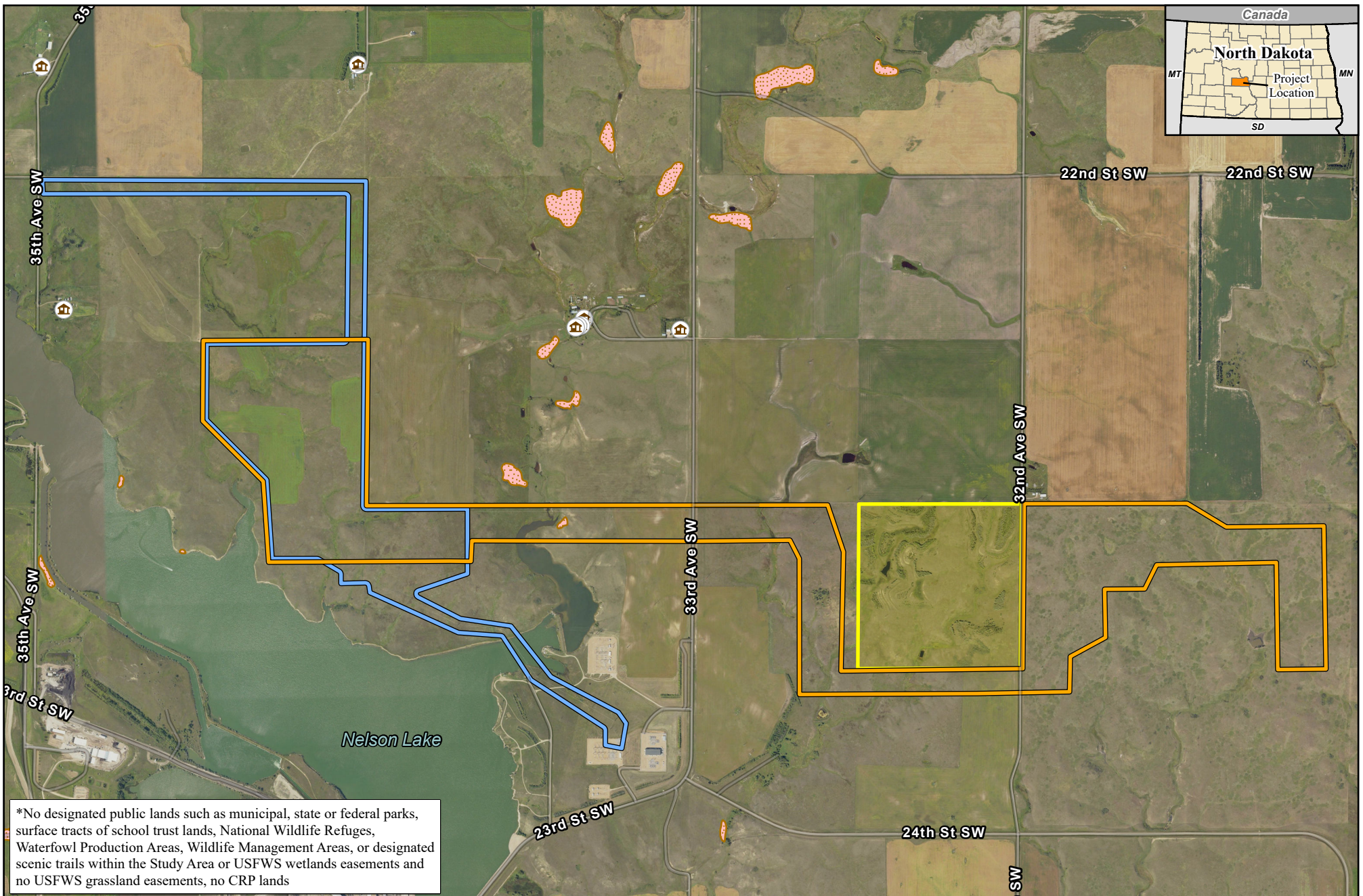
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Map 4: Associated Facilities and Existing Infrastructure



HVDC Modernization Project


Oliver County, North Dakota

- | | | | |
|---|--|---|-------------------------------------|
|  | Project Corridor - Phase I |  | Existing Transmission Line |
|  | Project Corridor - Phase 2 |  | Existing MinnKota Transmission Line |
|  | Existing Minnesota Power Transmission Line |  | Lake Nelson Water Pipeline |




*No designated public lands such as municipal, state or federal parks, surface tracts of school trust lands, National Wildlife Refuges, Waterfowl Production Areas, Wildlife Management Areas, or designated scenic trails within the Study Area or USFWS wetlands easements and no USFWS grassland easements, no CRP lands









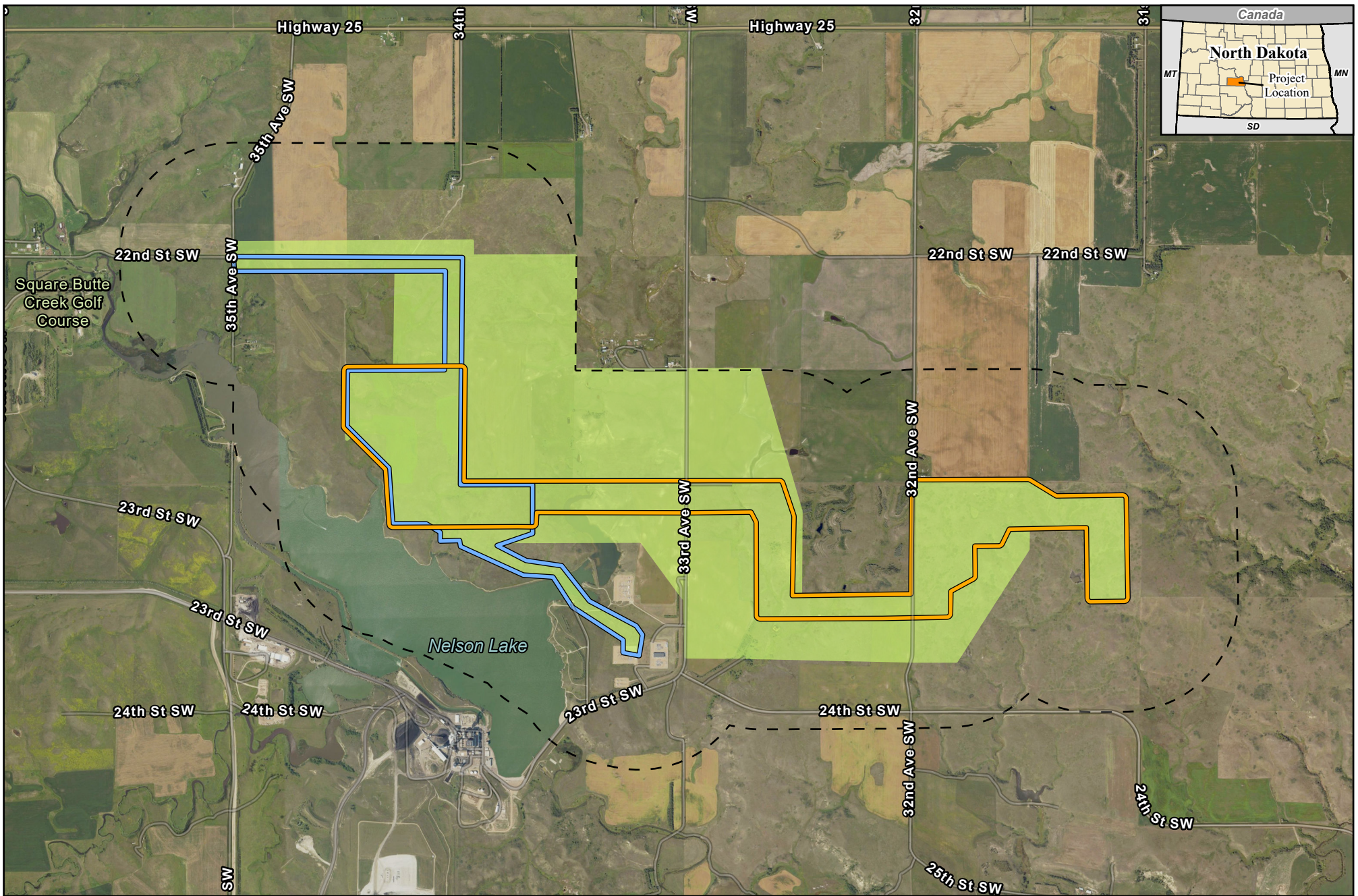


1 inch = 2,000 feet



Map 5: Exclusion and Avoidance Areas
HVDC Modernization Project
Oliver County, North Dakota

-  Residence
-  Project Corridor - Phase I
-  Project Corridor - Phase 2
-  Landslide Deposit
-  Wilbur Wildlife Management Area



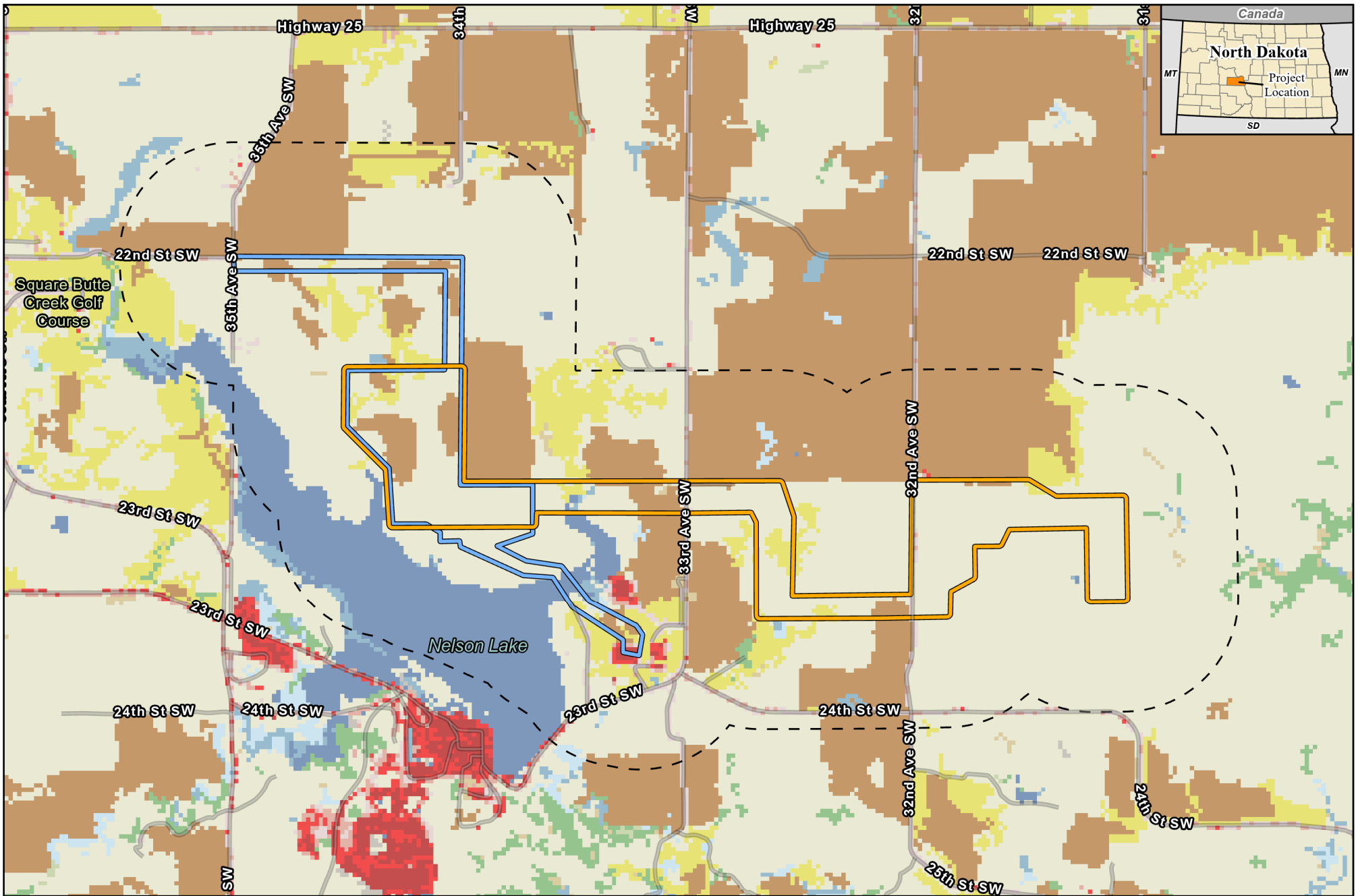
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1 inch = 3,000 feet





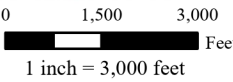

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Map 6: Cultural Resources Survey Area HVDC Modernization Project Oliver County, North Dakota

- Study Area
- Project Corridor - Phase 1
- Project Corridor - Phase 2
- Cultural Survey Coverage (Survey Complete)





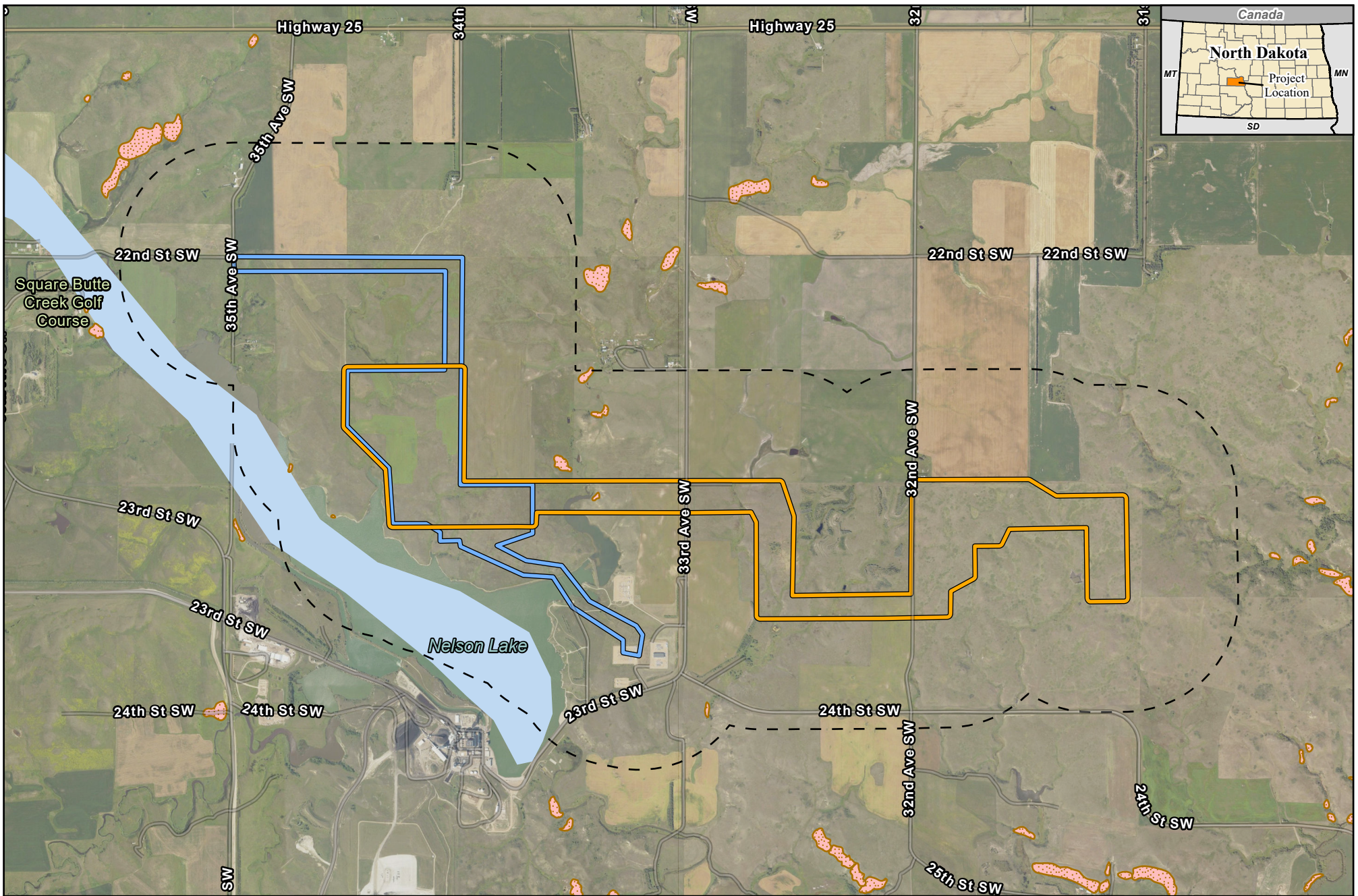



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Map 7: NLCD Land Cover HVDC Modernization Project Oliver County, North Dakota

- | | | |
|---|--|---|
| <ul style="list-style-type: none">  Study Area  Project Corridor - Phase I  Project Corridor - Phase II NLCD Land Cover*  Open Water  Developed, Open Space  Developed, Low Intensity | <ul style="list-style-type: none">  Developed, Medium Intensity  Developed, High Intensity  Barren Land  Deciduous Forest  Evergreen Forest  Mixed Forest Shrub/Scrub | <ul style="list-style-type: none">  Herbaceous  Hay/Pasture  Cultivated Crops  Woody Wetlands  Emergent Herbaceous Wetlands |
|---|--|---|



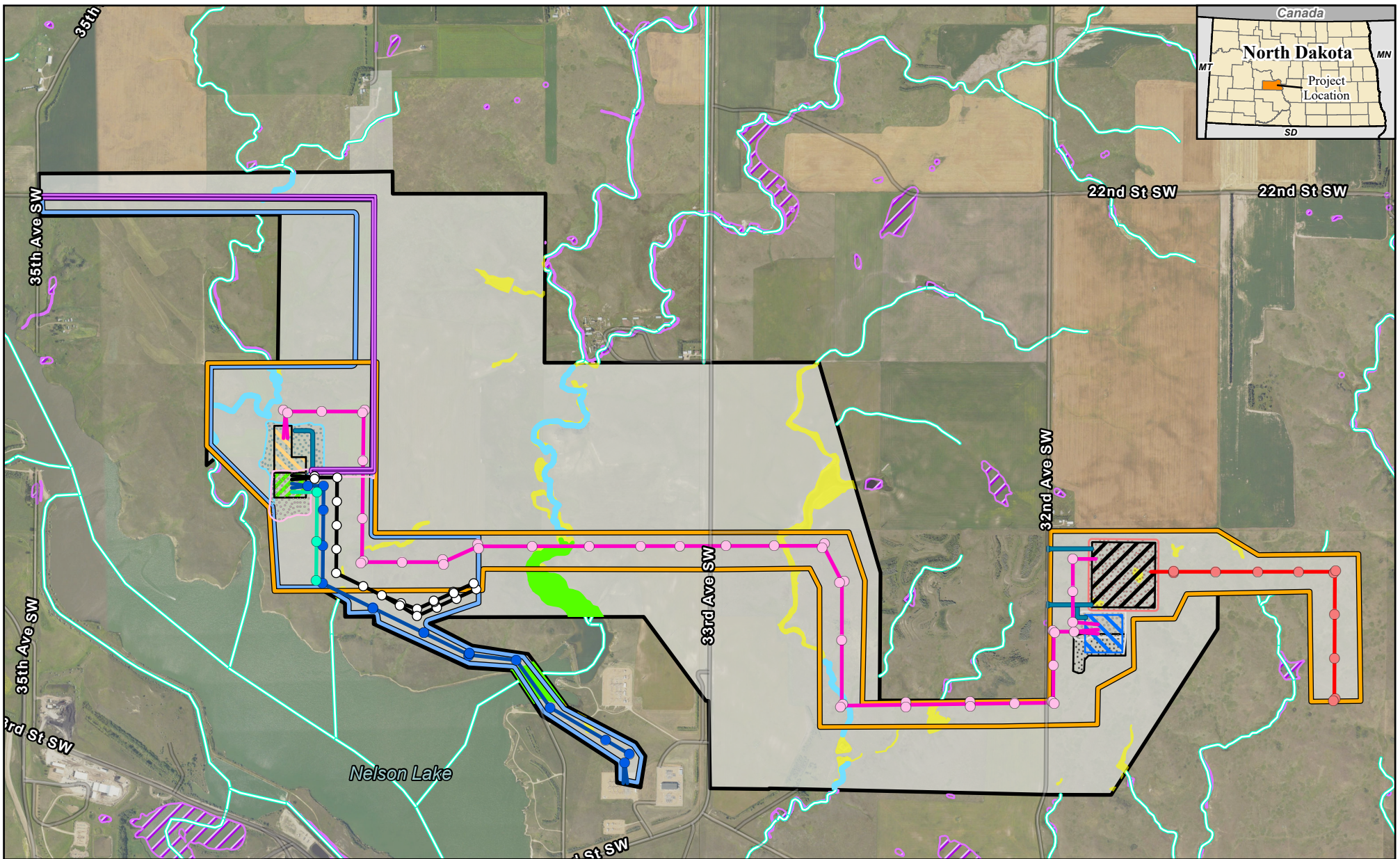
0 1,500 3,000
Feet
1 inch = 3,000 feet




For Environmental Review Purposes Only

Map 8: Geological Resources HVDC Modernization Project Oliver County, North Dakota

- Study Area
- Project Corridor - Phase I
- Project Corridor - Phase II
- Landslide Deposit
- Surficial Aquifer (Square Butte Creek)






0 2,000

Feet

1 inch = 2,000 feet



For Environmental Review Purposes Only

**Map 9: Surface Water Features
HVDC Modernization Project
Oliver County, North Dakota**

- | | | |
|--|---|--|
| <ul style="list-style-type: none"> Project Survey Area Project Corridor - Phase I Project Corridor - Phase 2 NWI Wetland NHD Waterbody Delineated Wetland Delineated Waterway Delineated Waterbody <p>Phase I</p> <ul style="list-style-type: none"> ● Proposed Single-Circuit 230 kV AC Line Structure - Minnesota Power | <ul style="list-style-type: none"> ● Proposed Double-Circuit 230 kV AC Line Structure - Minnesota Power ○ Proposed 230 kV AC Line Structure - Great River Energy — Proposed Single-Circuit 230 kV AC Line - Minnesota Power — Proposed Double-Circuit 230 kV AC Line - Minnesota Power — Proposed 230 kV AC Line - Great River Energy Proposed Access Road Proposed Nelson Lake Substation 230 kV Yard | <p>Phase 2</p> <ul style="list-style-type: none"> ● Proposed Nelson Lake Substation 230 kV Yard Construction Extents ● Proposed 250 kV HVDC Line Reroute Structure ● Proposed 345 kV AC Line (X1) Structure — Proposed 250 kV HVDC Line Reroute — Proposed 345 kV AC Line (X1) Proposed Access Road Proposed East Oliver 345 kV Yard Proposed East Oliver HVDC Converter Station |
| | | <ul style="list-style-type: none"> Proposed Nelson Lake Substation 345 kV Yard Proposed Nelson Lake Substation 345 kV Yard Construction Extents Proposed East Oliver HVDC Converter Station Construction Extents Proposed East Oliver 345 kV Yard Construction Extents, Engineering Stage 1 Proposed East Oliver 345 kV Yard Construction Extents, Engineering Stage 2 |