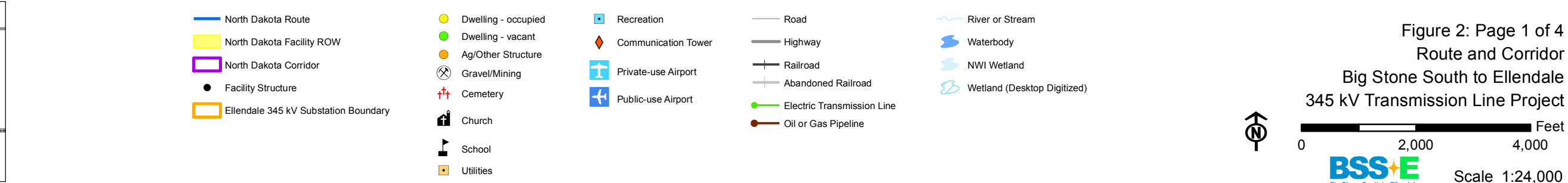
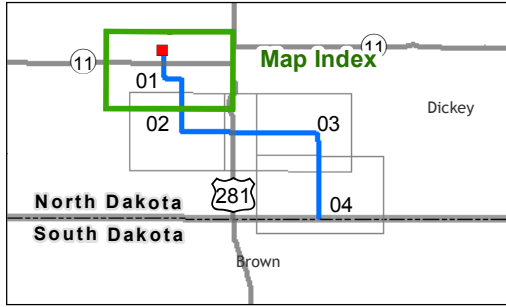
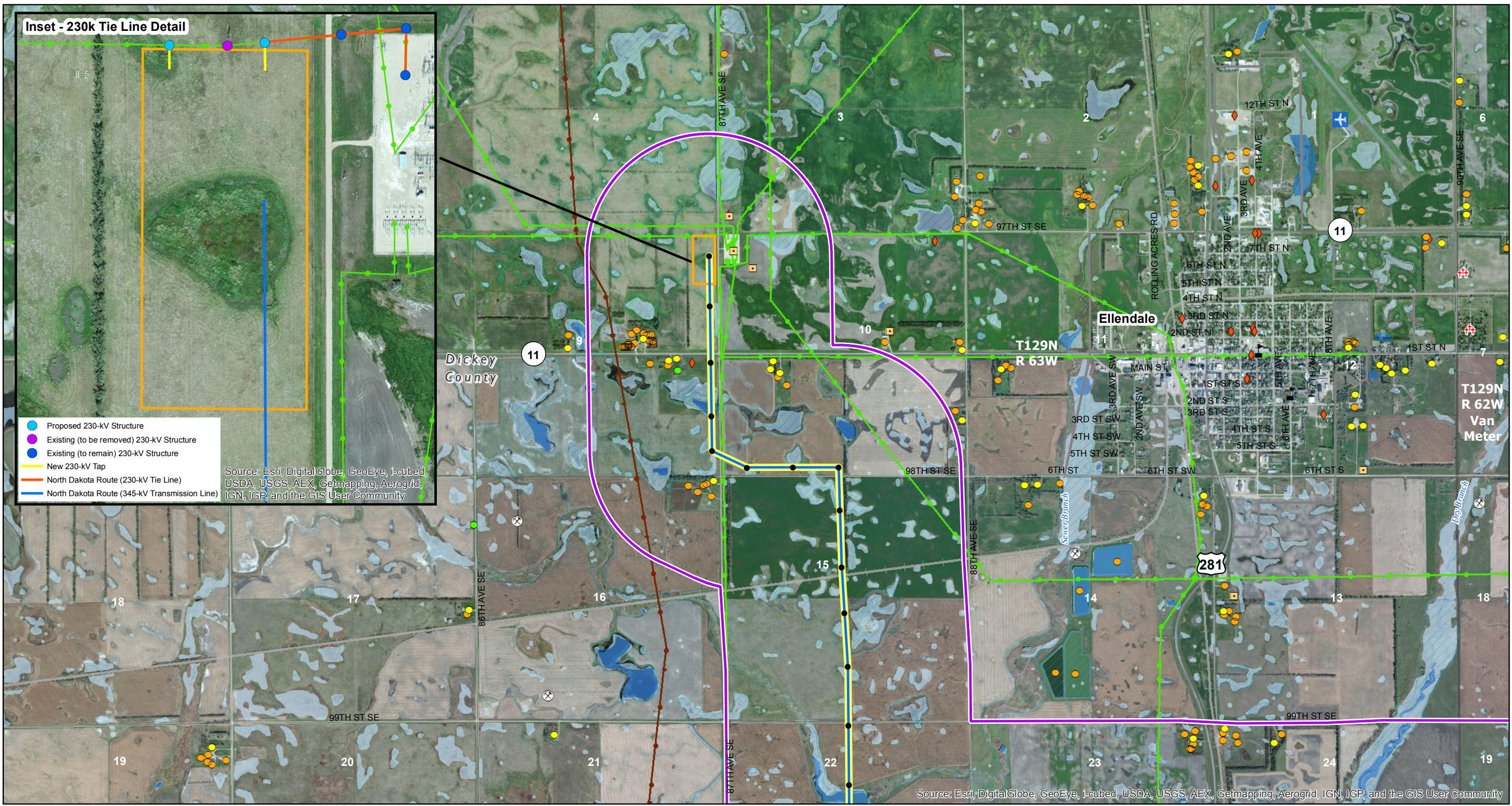
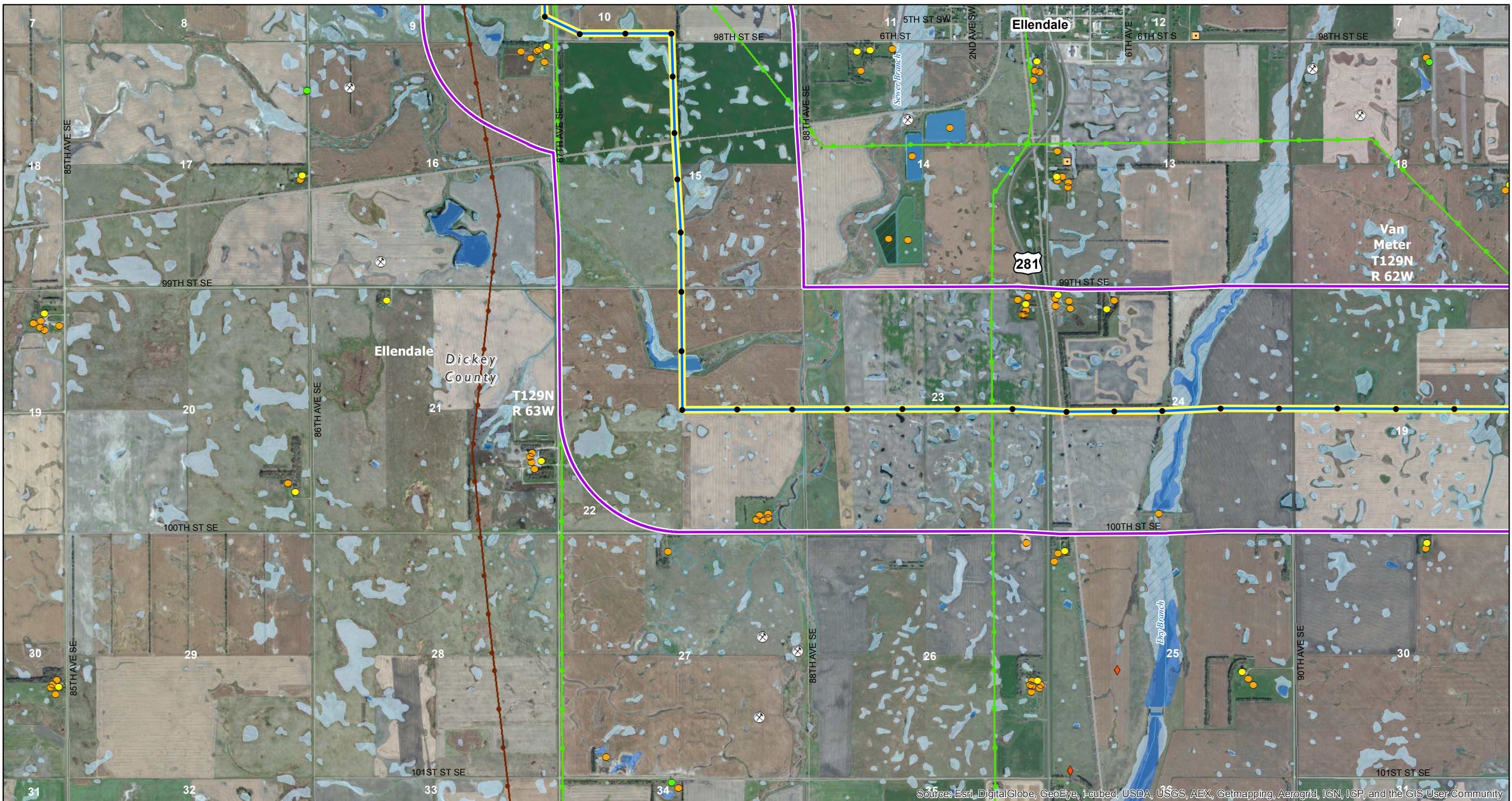


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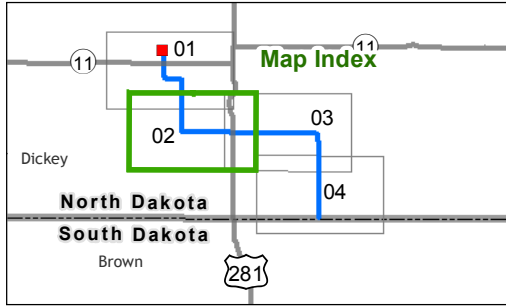
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Date: 10/17/2013
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Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community



- | | | | | |
|--------------------------------------|---------------------|---------------------|----------------------------|-----------------------------|
| North Dakota Route | Dwelling - occupied | Recreation | Road | River or Stream |
| North Dakota Facility ROW | Dwelling - vacant | Communication Tower | Highway | Waterbody |
| North Dakota Corridor | Ag/Other Structure | Private-use Airport | Railroad | NWI Wetland |
| Facility Structure | Gravel/Mining | Public-use Airport | Abandoned Railroad | Wetland (Desktop Digitized) |
| Ellendale 345 kV Substation Boundary | Cemetery | Church | Electric Transmission Line | Oil or Gas Pipeline |
| | School | | | |
| | Utilities | | | |

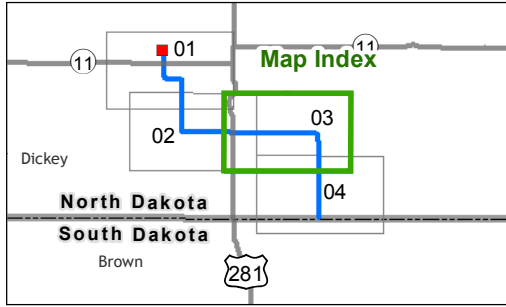
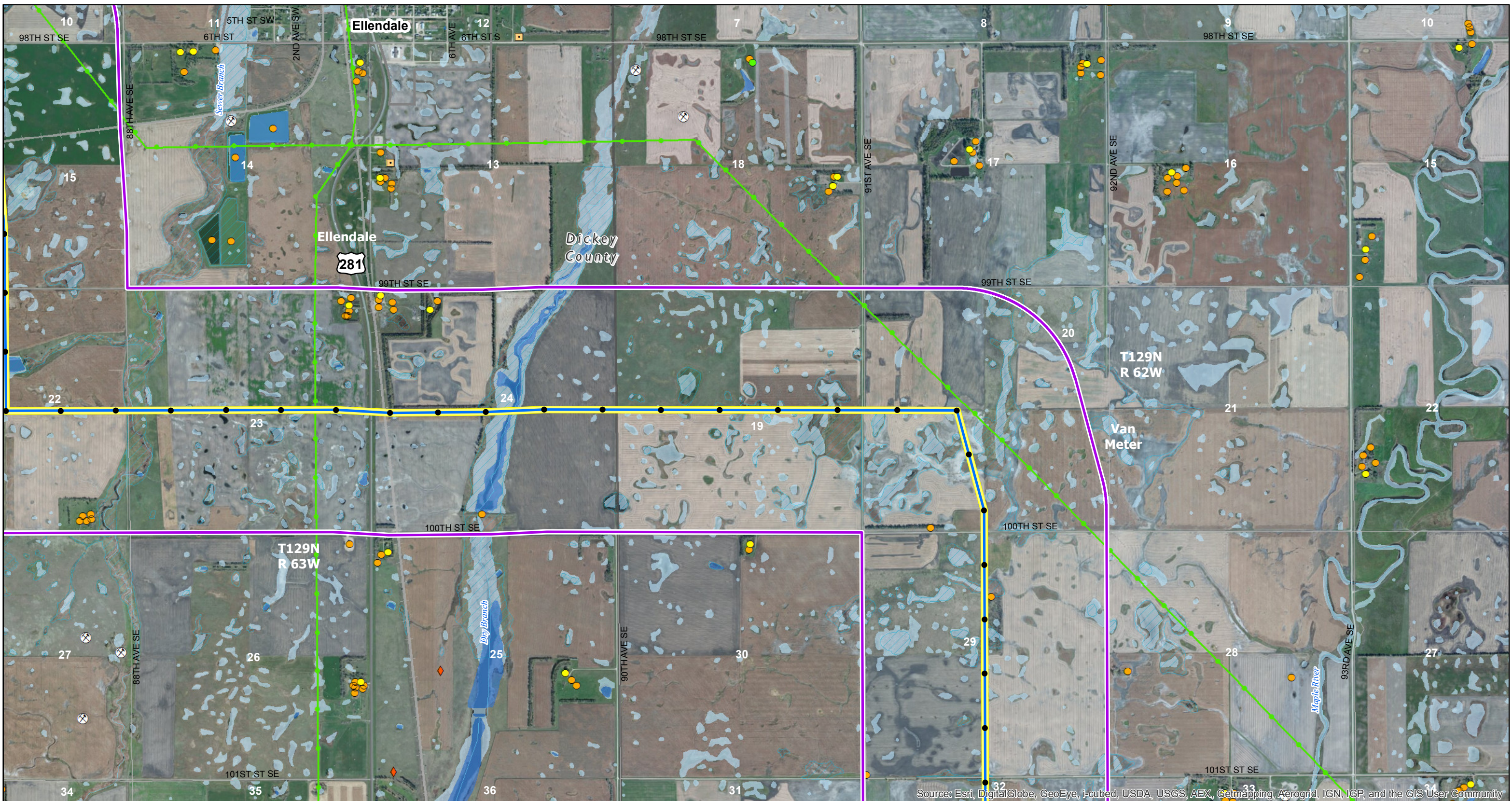
Figure 2: Page 2 of 4
Route and Corridor
Big Stone South to Ellendale
345 kV Transmission Line Project

0 2,000 4,000 Feet

BSS
Big Stone South to Ellendale

Scale 1:24,000

Date: 10/17/2013
 Path: \\msps-gis-1\GIS\Proj\range\MDU_O\PI\186675\map_docs\Permits\ND-PSC\RoutePermit\Map\Figure02_Pag2-3_Route and Corridor_11x17_ND.mxd



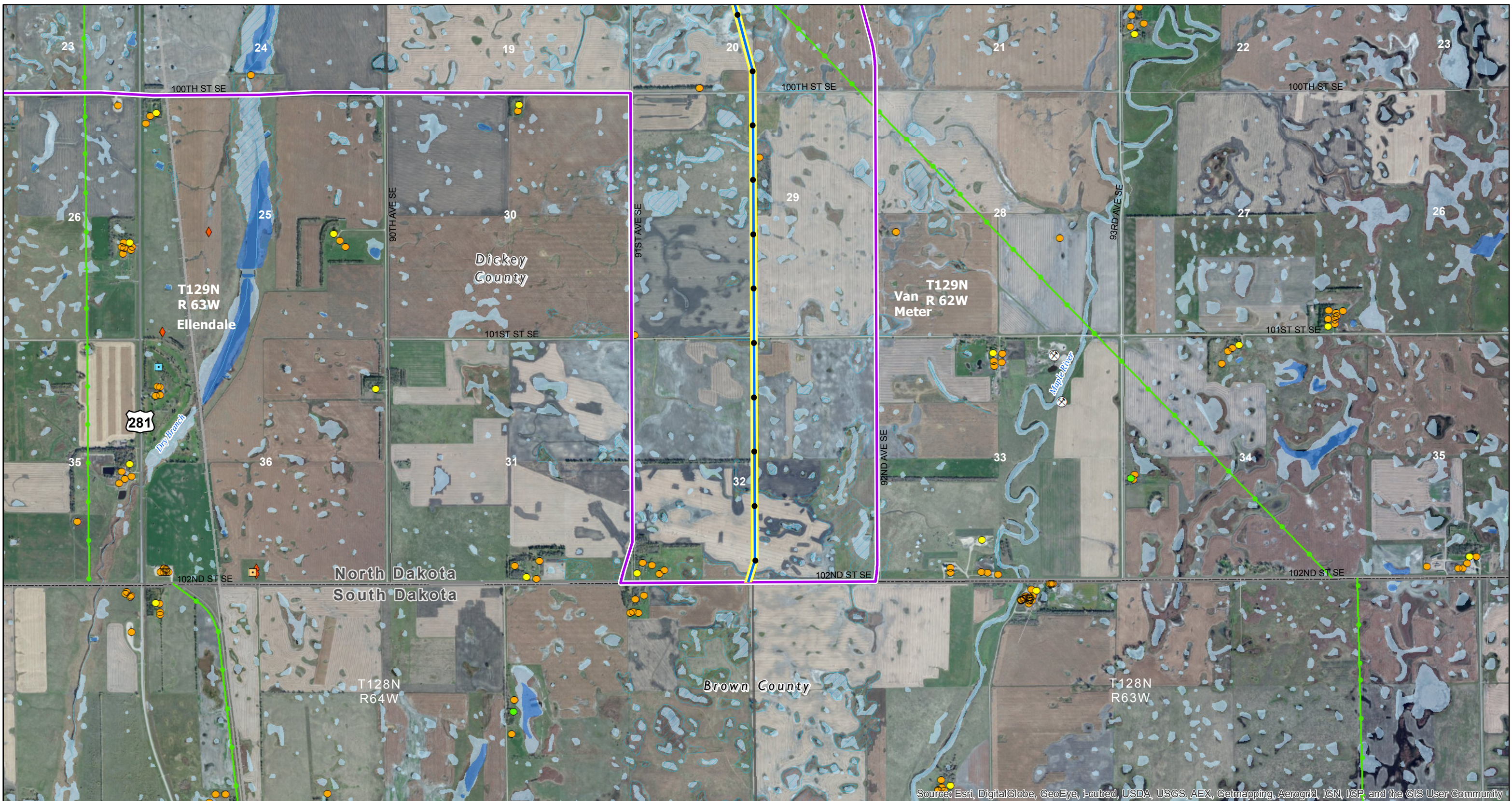
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|--------------------------------------|---------------------|---------------------|----------------------------|-----------------------------|
| North Dakota Route | Dwelling - occupied | Recreation | Road | River or Stream |
| North Dakota Facility ROW | Dwelling - vacant | Communication Tower | Highway | Waterbody |
| North Dakota Corridor | Ag/Other Structure | Private-use Airport | Railroad | NWI Wetland |
| Facility Structure | Gravel/Mining | Public-use Airport | Abandoned Railroad | Wetland (Desktop Digitized) |
| Ellendale 345 kV Substation Boundary | Cemetery | Church | Electric Transmission Line | |
| | School | School | Oil or Gas Pipeline | |
| | Utilities | | | |

Figure 2: Page 3 of 4
 Route and Corridor
 Big Stone South to Ellendale
 345 kV Transmission Line Project

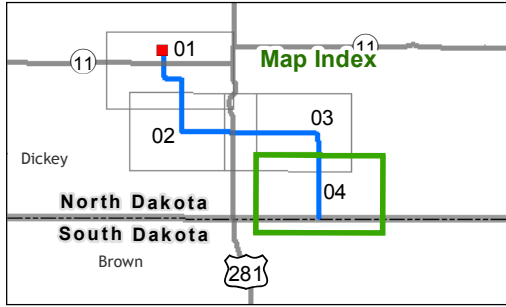
0 2,000 4,000 Feet

BSS+E
 Big Stone South to Ellendale
 Scale 1:24,000

Date: 10/17/2013
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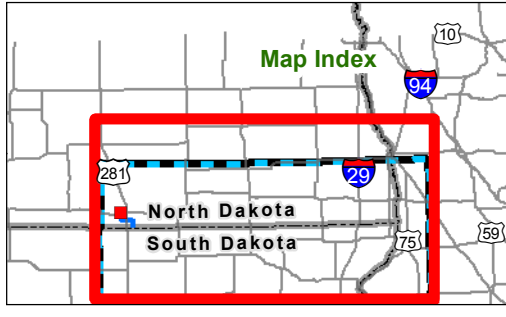
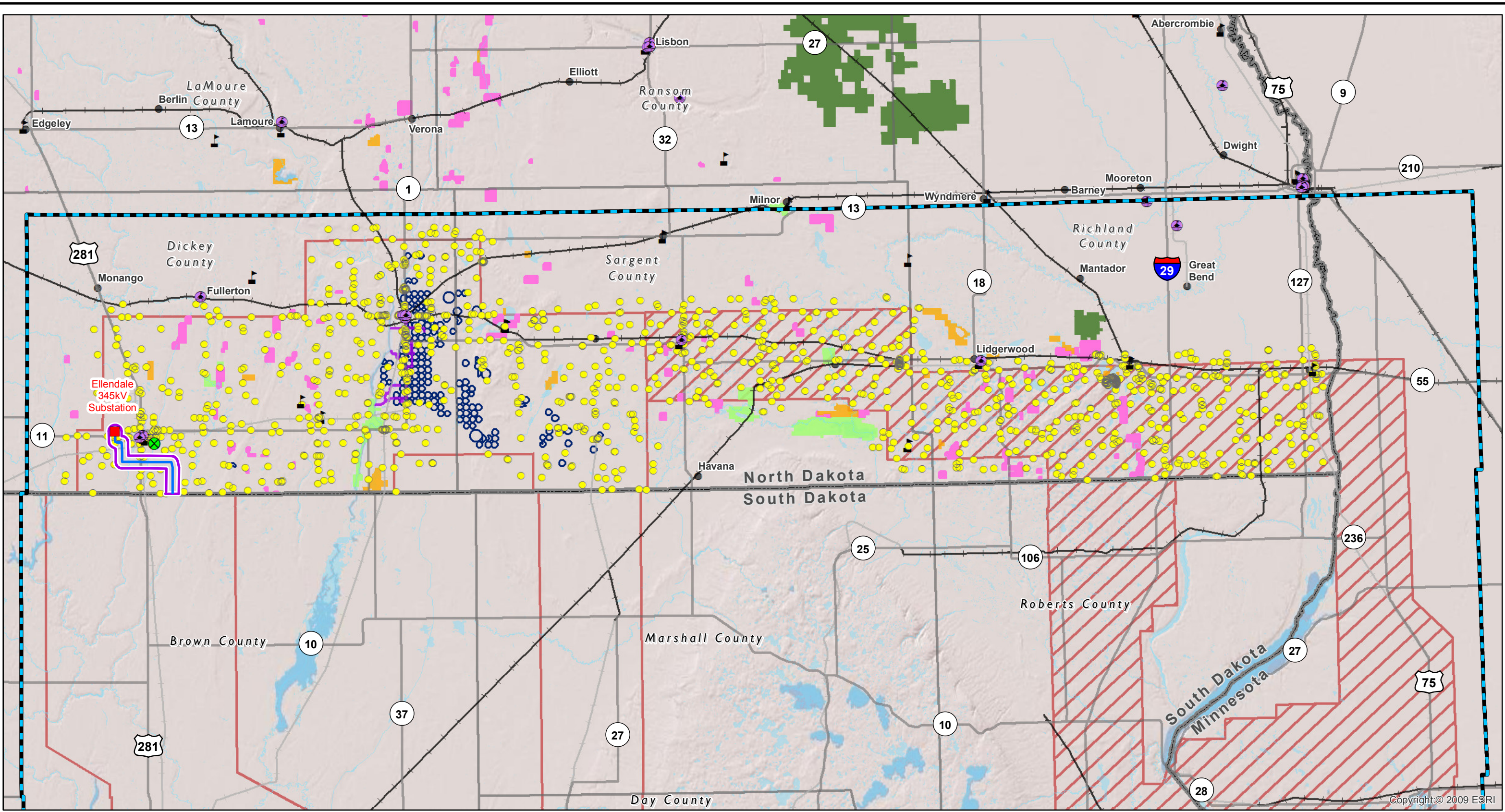
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community



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|--------------------------------------|---------------------|---------------------|----------------------------|-----------------------------|
| North Dakota Route | Dwelling - occupied | Recreation | Road | River or Stream |
| North Dakota Facility ROW | Dwelling - vacant | Communication Tower | Highway | Waterbody |
| North Dakota Corridor | Ag/Other Structure | Gravel/Mining | Railroad | NWI Wetland |
| Facility Structure | Cemetery | Private-use Airport | Abandoned Railroad | Wetland (Desktop Digitized) |
| Ellendale 345 kV Substation Boundary | Church | Public-use Airport | Electric Transmission Line | |
| | School | Oil or Gas Pipeline | | |
| | Utilities | | | |

Figure 2: Page 4 of 4
Route and Corridor
Big Stone South to Ellendale
345 kV Transmission Line Project

0 2,000 4,000 Feet
Scale 1:24,000



Exclusion Areas

- NRHP Listed Properties
- State Park

Avoidance Areas

- Dwelling - occupied
- School
- Municipal Water Supplies
- Center Pivot
- State Lands (WMA/GPA)
- Waterfowl Production Area
- Bureau of Reclamation Lands
- Sheyenne National Grasslands
- National Wildlife Refuge

Project Data

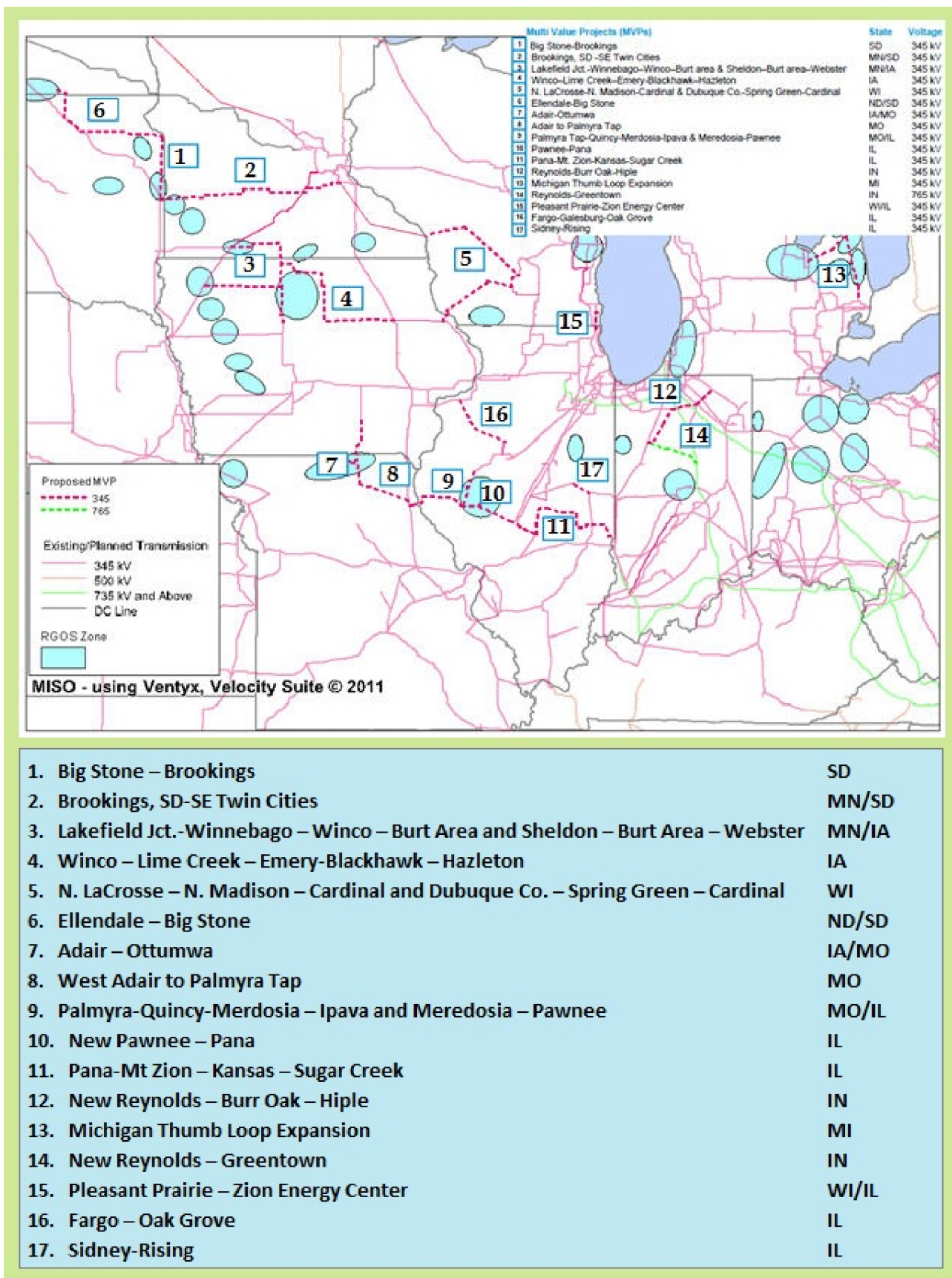
- Project End Point
- North Dakota Route
- North Dakota Corridor
- Study Corridors
- Corridors Not Currently Under Consideration
- Study Area
- Waterbody
- River or Stream
- Highway
- Railroad
- Abandoned Railroad
- City
- County Boundary
- State Boundary

Figure 3
 Study Area and Study Corridors
 with Exclusion and Avoidance Areas
 Big Stone South to Ellendale
 345 kV Transmission Line Project

0 2 4 6 8 10 Miles

BSS+E
 Big Stone South to Ellendale

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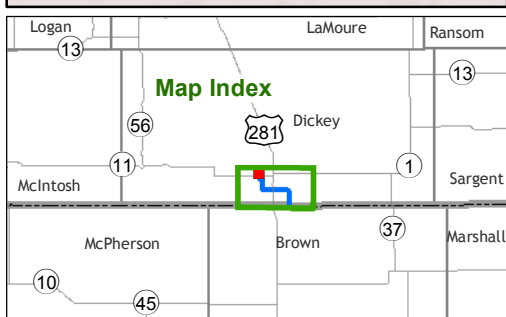
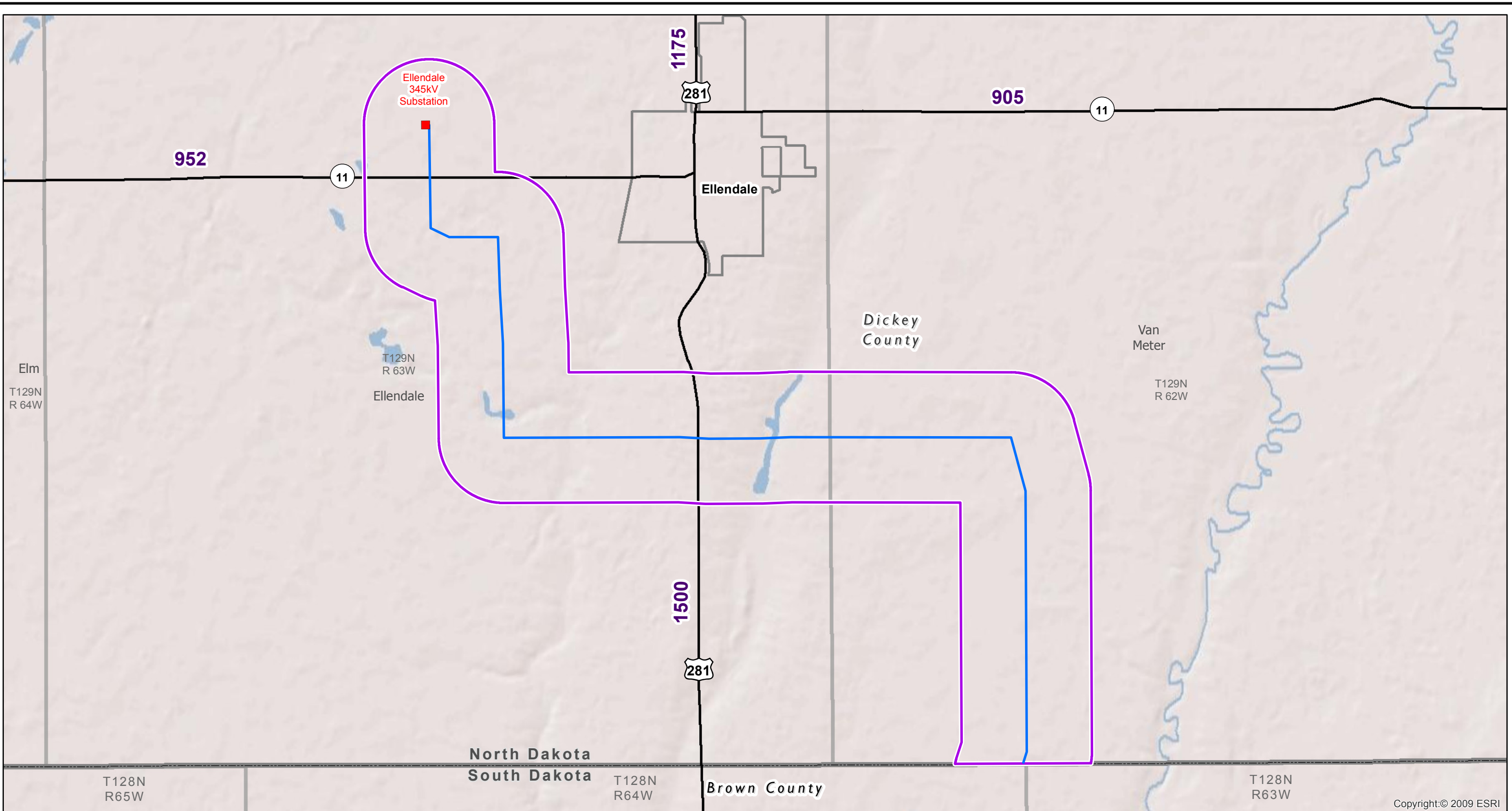
- | | |
|-----------------------------------------------------------------------------------|-------|
| 1. Big Stone – Brookings | SD |
| 2. Brookings, SD-SE Twin Cities | MN/SD |
| 3. Lakefield Jct.-Winnebago – Winco – Burt Area and Sheldon – Burt Area – Webster | MN/IA |
| 4. Winco – Lime Creek – Emery-Blackhawk – Hazleton | IA |
| 5. N. LaCrosse – N. Madison – Cardinal and Dubuque Co. – Spring Green – Cardinal | WI |
| 6. Ellendale – Big Stone | ND/SD |
| 7. Adair – Ottumwa | IA/MO |
| 8. West Adair to Palmyra Tap | MO |
| 9. Palmyra-Quincy-Merdosia – Ipava and Merdosia – Pawnee | MO/IL |
| 10. New Pawnee – Pana | IL |
| 11. Pana-Mt Zion – Kansas – Sugar Creek | IL |
| 12. New Reynolds – Burr Oak – Hiple | IN |
| 13. Michigan Thumb Loop Expansion | MI |
| 14. New Reynolds – Greentown | IN |
| 15. Pleasant Prairie – Zion Energy Center | WI/IL |
| 16. Fargo – Oak Grove | IL |
| 17. Sidney-Rising | IL |

Figure 4
MISO MVP Project Map
Big Stone South to Ellendale
345 kV Transmission Line Project



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Date: 10/7/2013
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Data Source: NDDOT 2012

- North Dakota Route
- North Dakota Corridor
- Project End Point
- Highway

AADT (Average Annual Daily Traffic) - **1175**

THE TRAFFIC FIGURES ARE THE TOTAL AT THE CLOSEST HIGHWAY INTERSECTION OR TOWN

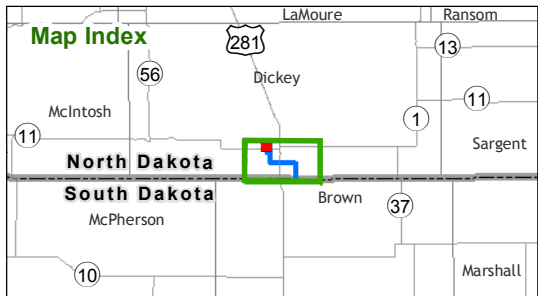
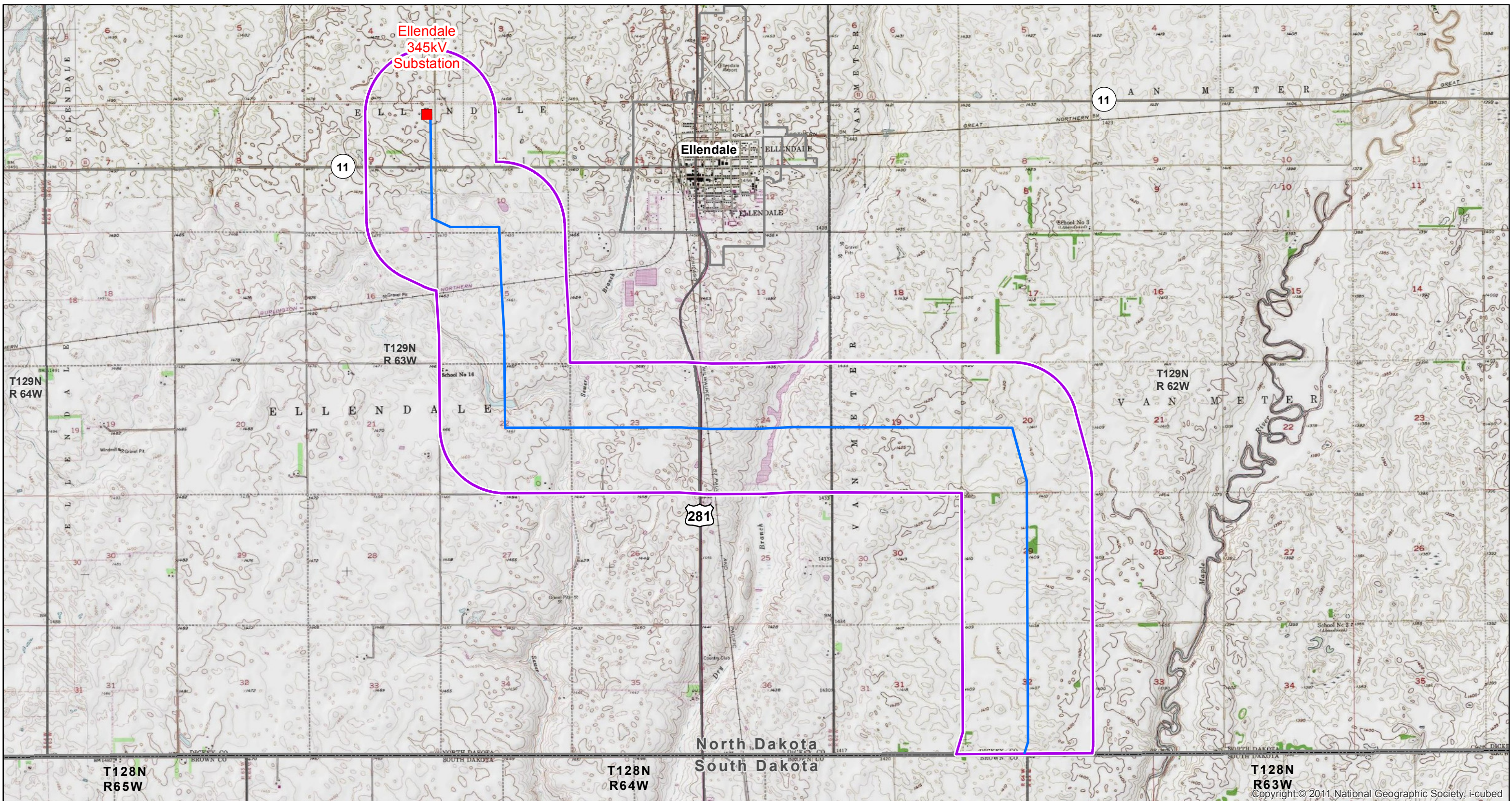
Figure 5
Average Annual Daily Traffic
Big Stone South to Ellendale
345 kV Transmission Line Project

BSS+E
Big Stone South to Ellendale

Scale 1:45,000

Copyright:© 2009 ESRI

Path: \\mspe-gis-file\GIS\Proj\Large\MDU_OTP\186675\map_docs\Permits\ND_PSC\RoutePermitApplication\Figure06_Topography_Maps_11X17_ND.mxd Date: 10/7/2013



- Project End Point
- North Dakota Route
- North Dakota Corridor

Data Source : USGS, National Geographic Society.

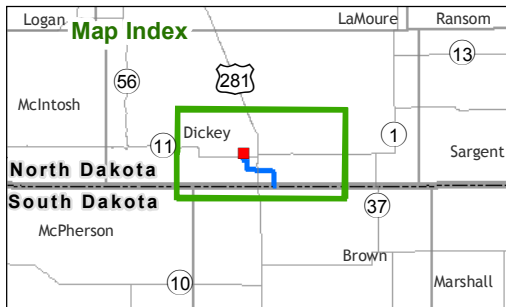
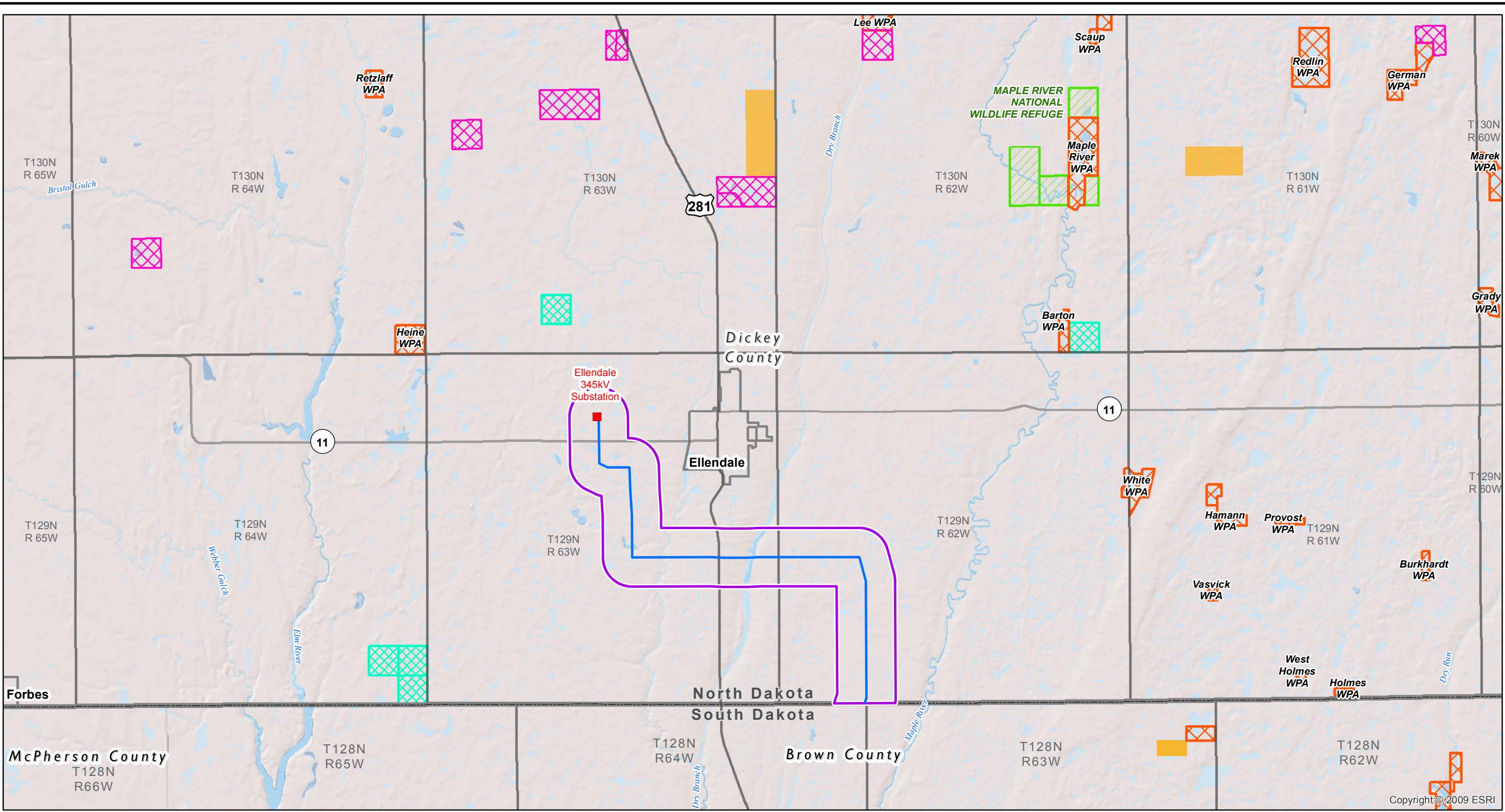
Figure 6
 Topography (USGS Map)
 Big Stone South to Ellendale
 345 kV Transmission Line Project

0 0.5 1 Miles

BSS+E
 Big Stone South to Ellendale

Scale 1:45,000

Path: \\mspe-gis-file\GIS\Proj\Large\MDU_OTP\186675\map_docs\Permits\ND_PSC\Router\PermitApplication\Archive\maps_archive_current\zoom\Figure07_ManagedResourceLands_Maps_11X17_ND.mxd Date: 10/18/2013



Data Source : NDGF, USFWS, NDSL.D.

- North Dakota Route
- North Dakota Corridor
- Project End Point
- PLOT Lands
- Waterfowl Production Area
- State Trust Lands
- State Lands (WMA/Parks)
- National Wildlife Refuge (NWR)

Figure 7
Managed Resource Lands
Big Stone South to Ellendale
345 kV Transmission Line Project

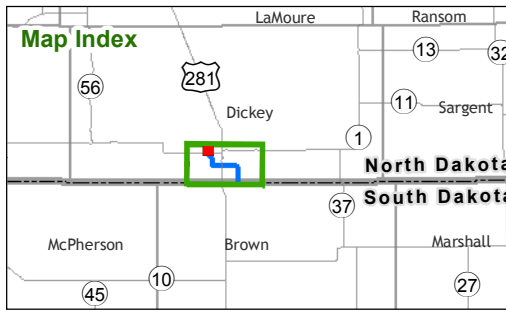
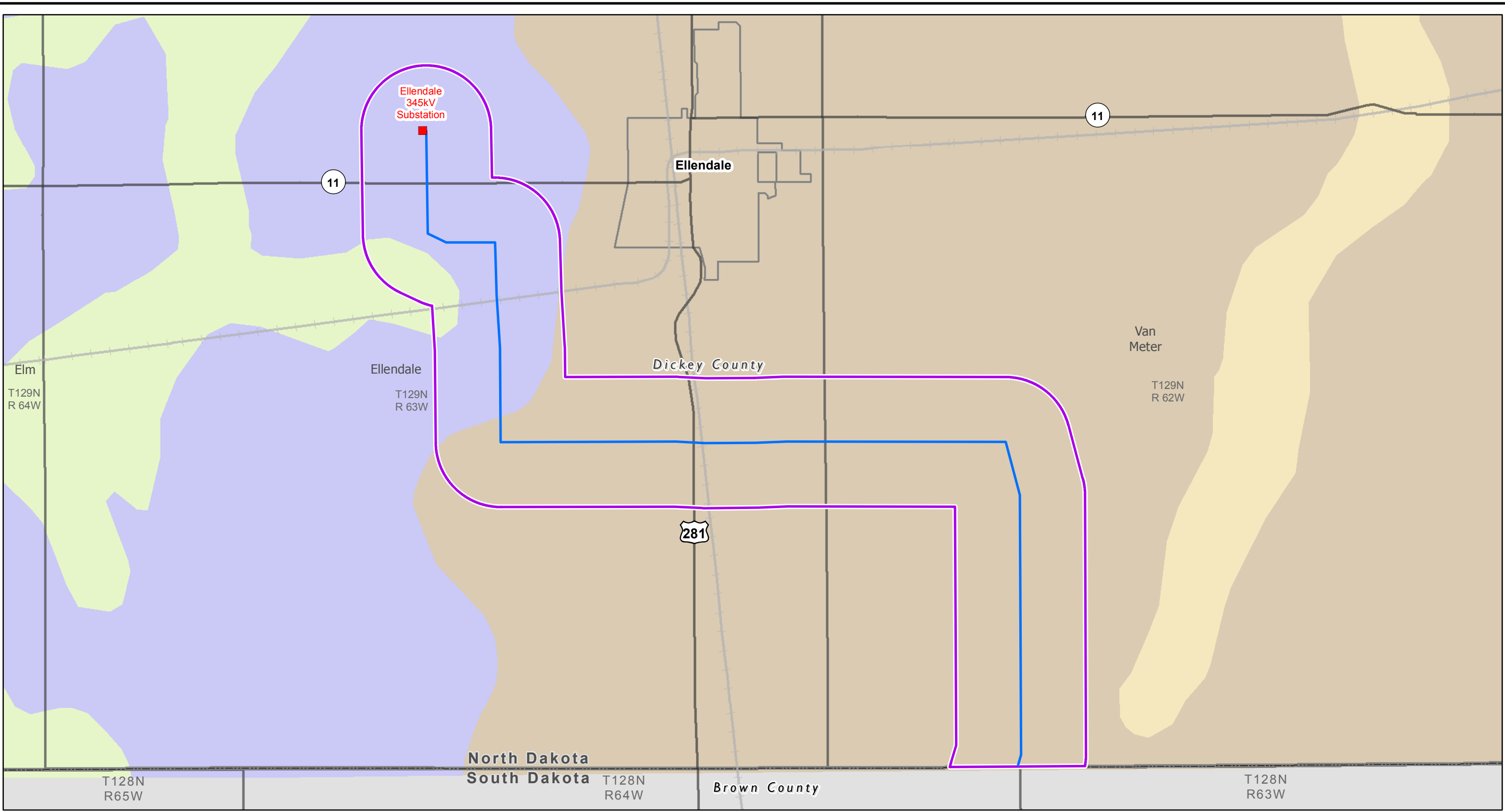
0 2 Miles

BSS+E
 Big Stone South to Ellendale

Scale 1:100,000

Copyright © 2009 ESRI

Path: \\mspe-gis-file\GIS\Proj\Large\MDU_OTP\186675\map_docs\Permits\ND_PSC\Route\PermitApplication\Figure08_Soils_STATSGO_11X17_ND.mxd Date: 10/7/2013



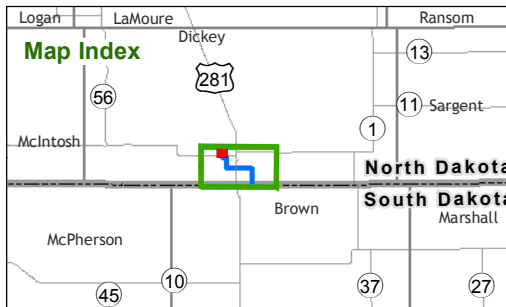
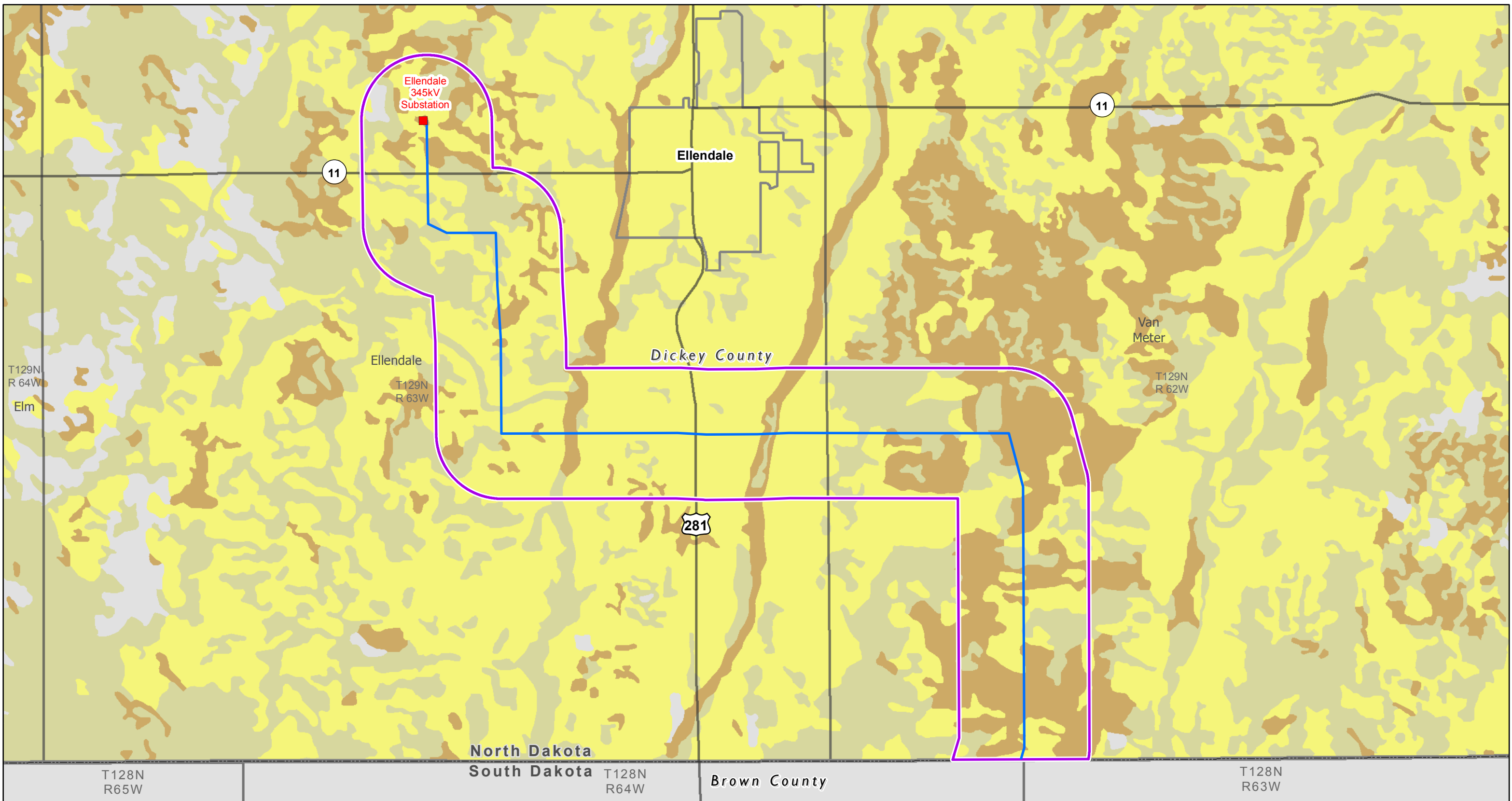
Data Source: USDA, NRCS.

- North Dakota Route
 - North Dakota Corridor
 - Project End Point
 - Railroad
 - Abandoned Railroad
 - Highway
- STATSGO Soil Association**
- BARNES-SVEA-TONKA (ND045)
 - CAVOUR-SVEA-BARNES (ND052)
 - LA PRAIRIE-FAIRDALE-GARDENA (ND066)
 - SWENODA-BARNES-TIFFANY (ND014)

Figure 8
State Soils Association (STATSGO)
Big Stone South to Ellendale
345 kV Transmission Line Project

Scale 1:45,000

Path: \\msps-gis-file\GIS\Proj\Large\MDU_OTP\186675\map_docs\Permits\ND-FSC\RoutePermitApplication\Figure09_Soils_SSURGO_PrintFarmland_11X17_ND.mxd Date: 10/17/2013



Data Source: USDA, NRCS.

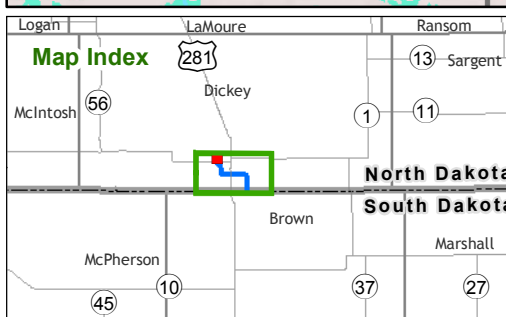
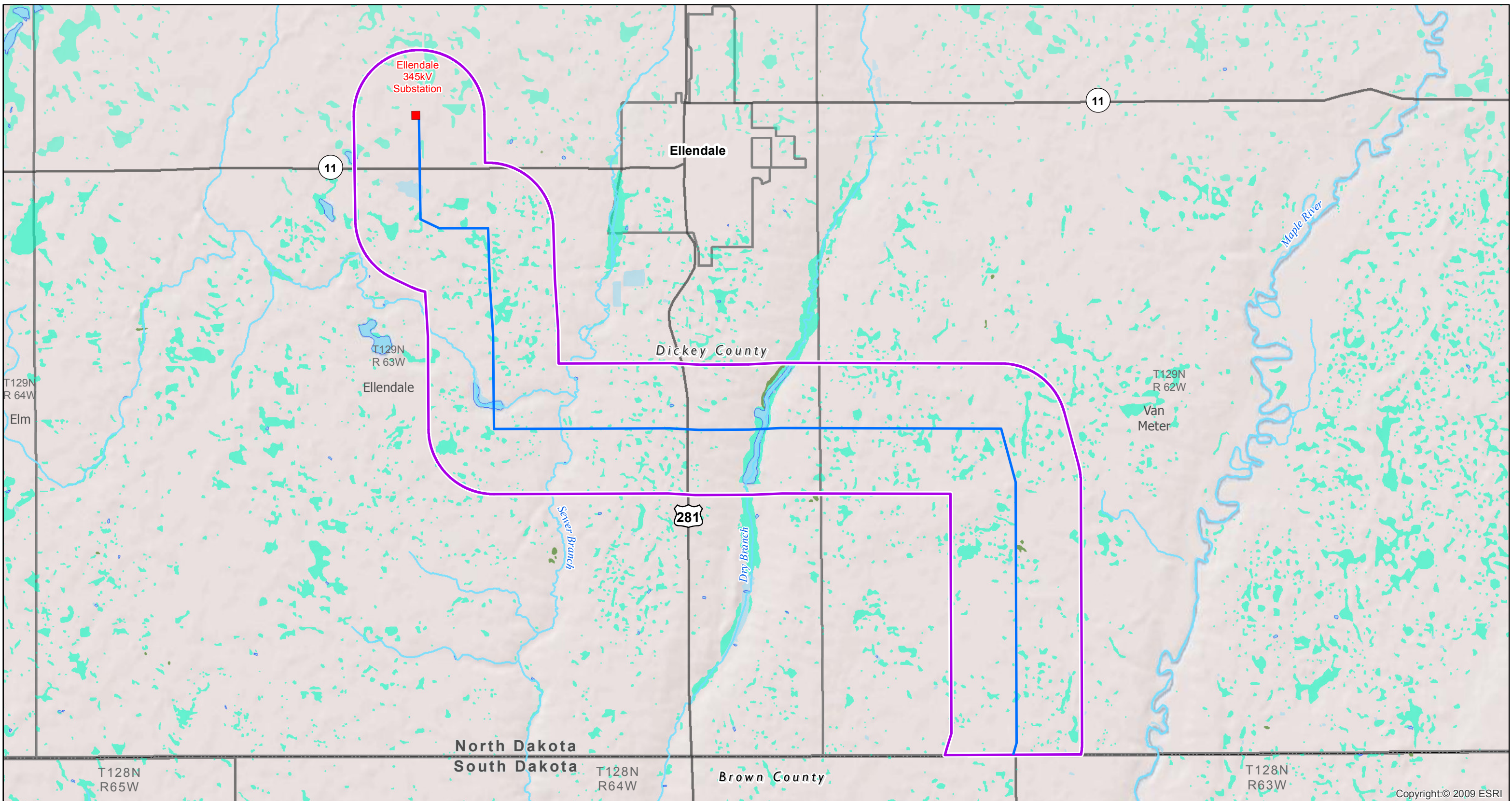
- North Dakota Route
- North Dakota Corridor
- Project End Point
- All areas are prime farmland
- Prime farmland if drained
- Not prime farmland
- No Data

Figure 9
 Prime Farmland and Soil Distribution (SSURGO)
 Big Stone South to Ellendale
 345 kV Transmission Line Project

Miles
 Scale 1:45,000

Big Stone South to Ellendale

Date: 10/7/2013
Path: \\insp-eis-file\GIS\Profile\large\MDU_OTP\188675\map_docs\Permits\ND-PSC\RoutePermit\Application\Figure10 - Water - 11x17_ND.mxd



Data Source: USGS, NDSWC, USFWS.

- North Dakota Route
 - North Dakota Corridor
 - Project End Point
- NWI Wetlands
- Freshwater Pond; Lake; Riverine
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
- ~ Streams
 - Waterbodies

Figure 10
Surface Waters and Wetlands
Big Stone South to Ellendale
345 kV Transmission Line Project

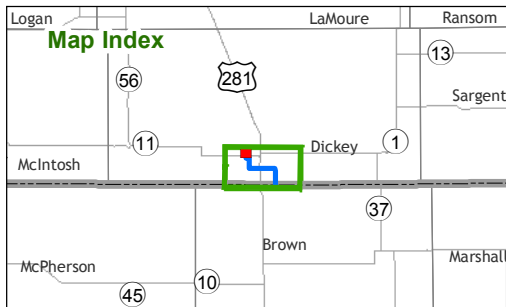
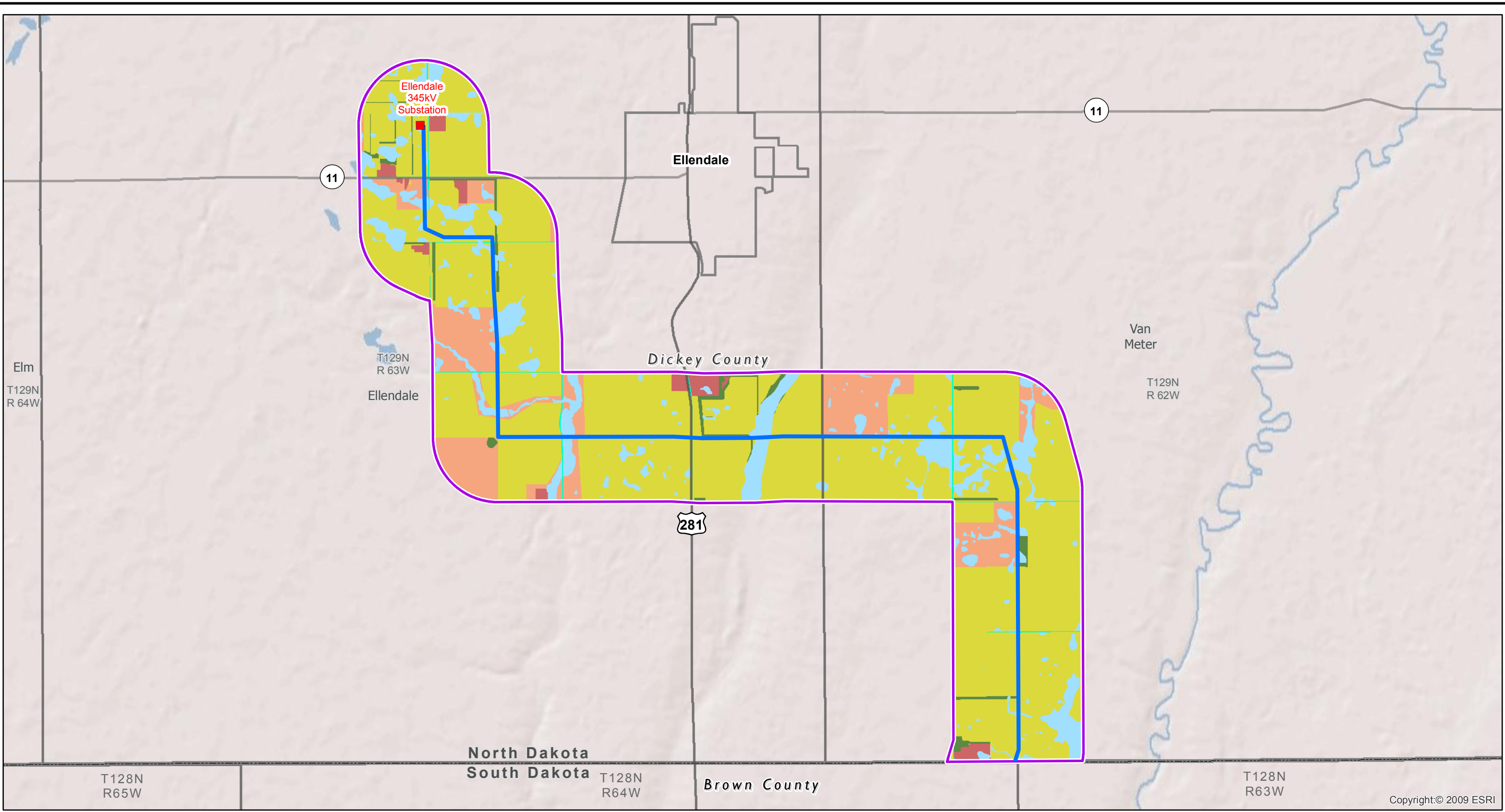
Copyright: © 2009 ESRI

Miles
0 0.5 1

BSS+E
Big Stone South to Ellendale

Scale 1:45,000

Path: \\mspe-gis\file\GIS\Projects\Large\MDU_O\TP\186675\map_docs\Permits\ND\FSC\Route\Permit\Application\Figure11_LandCover_Digitized_11X17_ND.mxd Date: 10/18/2013



Data Source: HDR, Land Cover digitized based on World Imagery 2010 and Field Surveys.

- North Dakota Route
 - North Dakota Corridor
 - Project End Point
- Land Cover**
- Cultivated
 - Developed Open Space (Road)
 - Developed (Buildings, farmsteads, substations)
 - Pasture/Hay
 - Trees
 - Wetland (Desktop Digitized)

Figure11
Land Cover
Big Stone South to Ellendale
345 kV Transmission Line Project

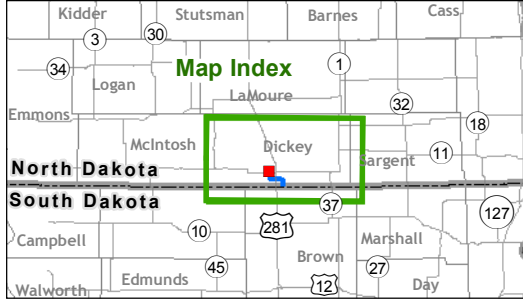
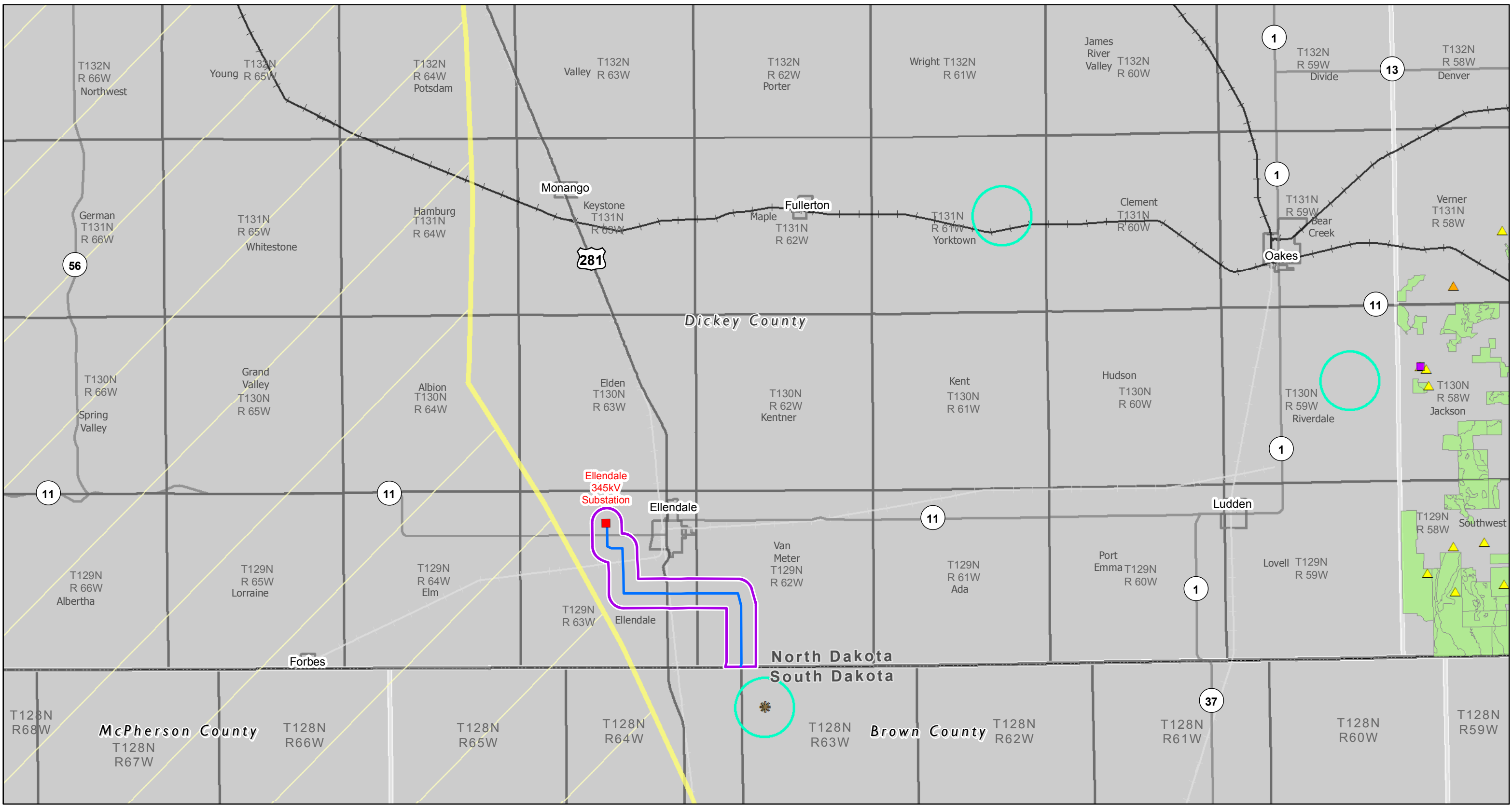
Miles
0 0.5 1

BSS+E
Big Stone South to Ellendale

Scale 1:45,000

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Date: 10/7/2013
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Data Source: NDPRD, NDGF.

Sensitive information has been redacted from this Figure.

- North Dakota Route
- North Dakota Corridor
- Project End Point
- ✱ Eagle Nest-field verified
- Eagle Location (1 mile buffer)
- 95% Whooping Crane Migration Corridor
- ▲ Endangered Species (State)
- ▲ Threatened Species (State)
- ▲ Federal candidate species (Federal)
- ▲ Federally threatened species (Federal)
- Impaired or Vulnerable Terrestrial Community
- Railroad
- Abandoned Railroad
- Highway

Figure 12
Sensitive Natural Resources
Big Stone South to Ellendale
345 kV Transmission Line Project

Miles
0 2 4

BSS+E
Big Stone South to Ellendale

Scale 1:200,000