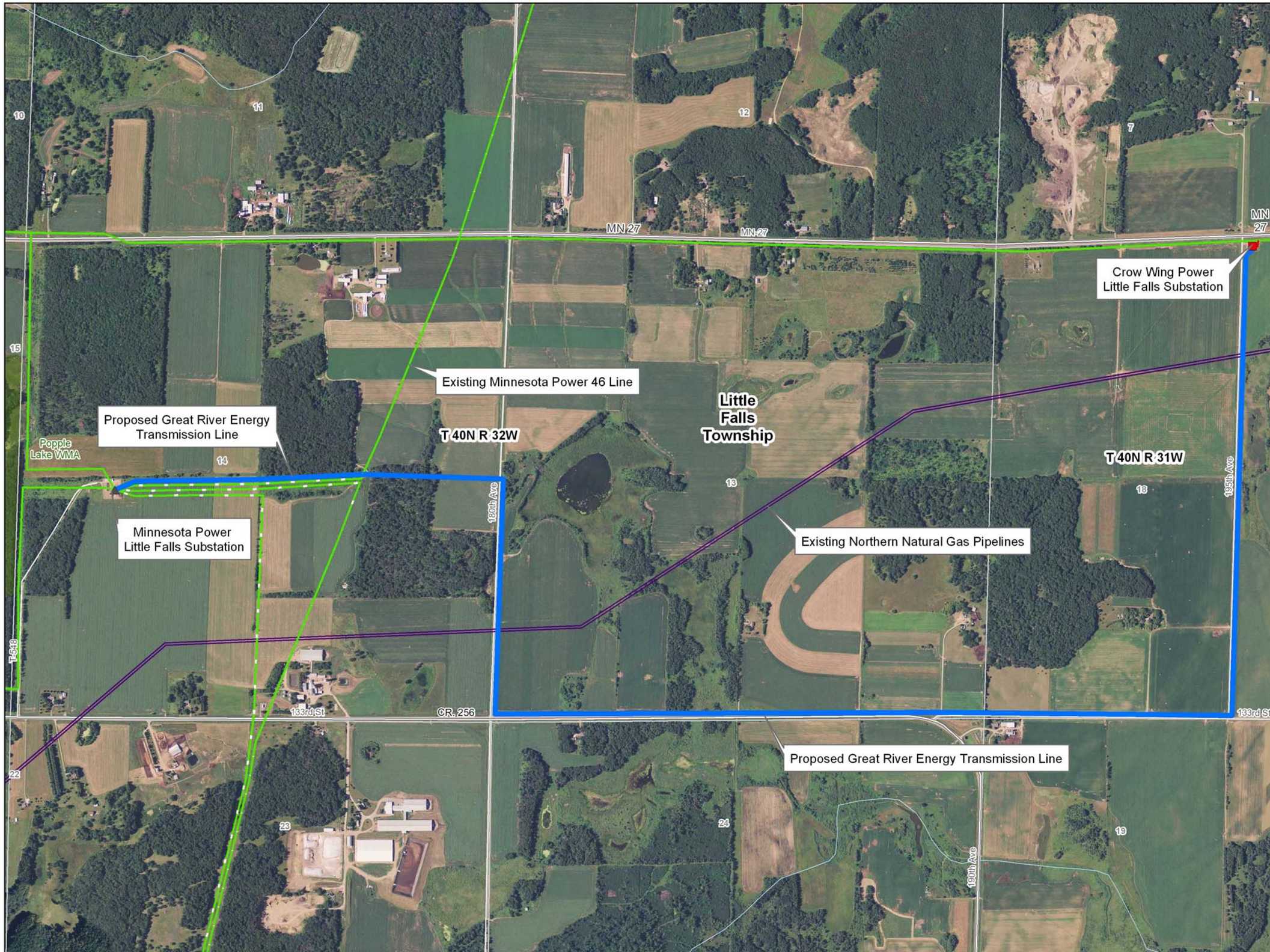
Appendix B
Maps



MINNESOTA DEPARTMENT OF COMMERCE

Existing Crow Wing Power (CWP)
- Distribution Substation
- New 115 kV Transmission Line

Existing Minnesota Power (MP)
- Transmission Substation
- 34.5 kV Transmission Line
- 115 kV Transmission Line

Existing Northern Natural Gas
- Gas Pipeline

0 500 1,000 Feet

N

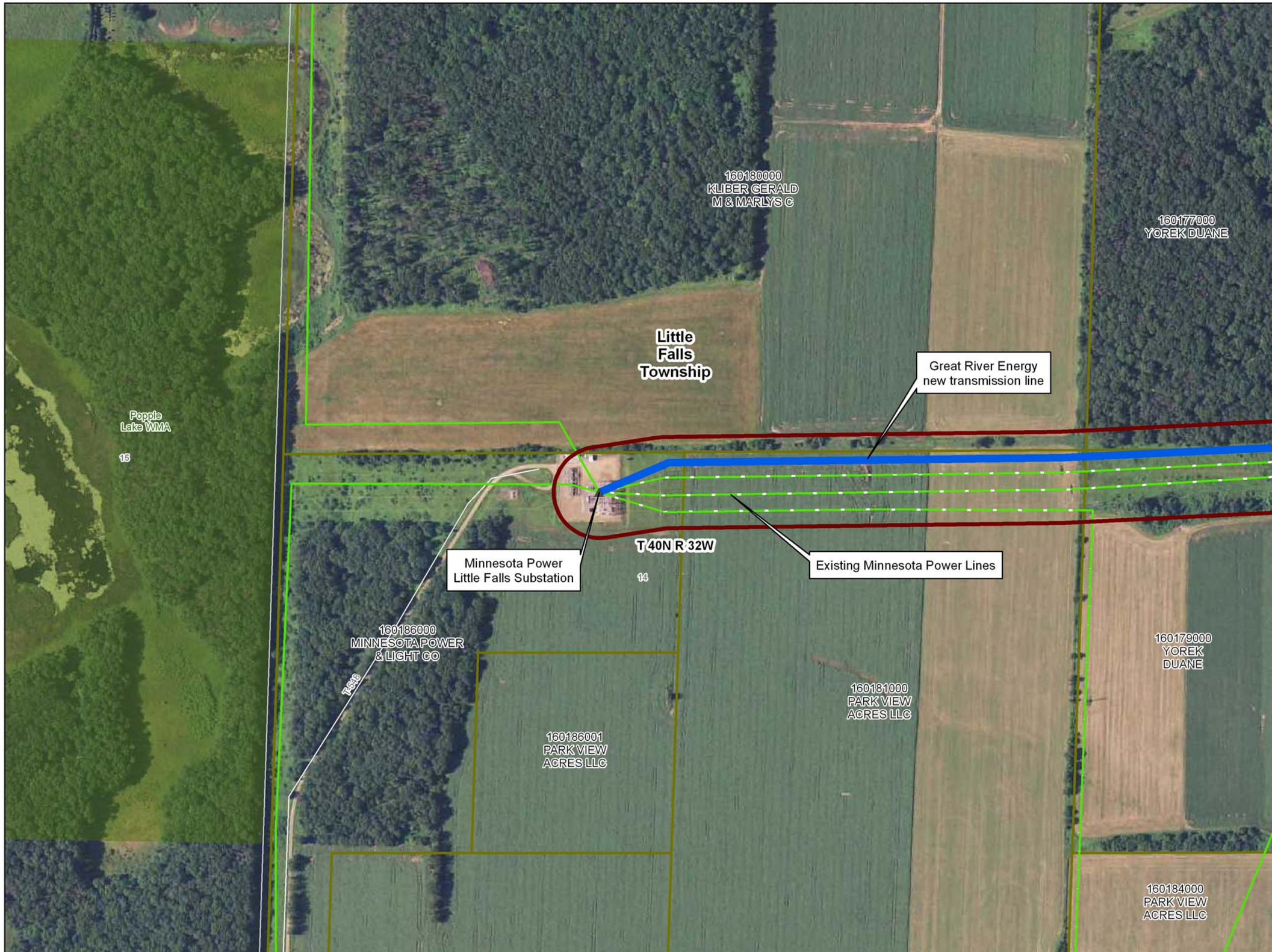
Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy. 2010 Color Orthophotos from Farm Services Administration.

Map Projection:
UTM, NAD83, Zone15, Meters

Little Falls 115 kV Project Figure B-1

General Vicinity Map

Updated: 12/21/2011



MINNESOTA DEPARTMENT OF COMMERCE

Existing Crow Wing Power (CWP)
- **Distribution Substation**
- **New 115 kV Transmission Line**

Existing Great River Energy
- 34.5 kV Transmission Line

Existing Minnesota Power (MP)
- **Transmission Substation**
- **34.5 kV Transmission Line**
- **115 kV Transmission Line**

Existing Northern Natural Gas
- Gas Pipeline

Residential / Commercial
- Location Point
- 300 foot Route Width
- 150 foot route width for access to substation

0 100 200 Feet

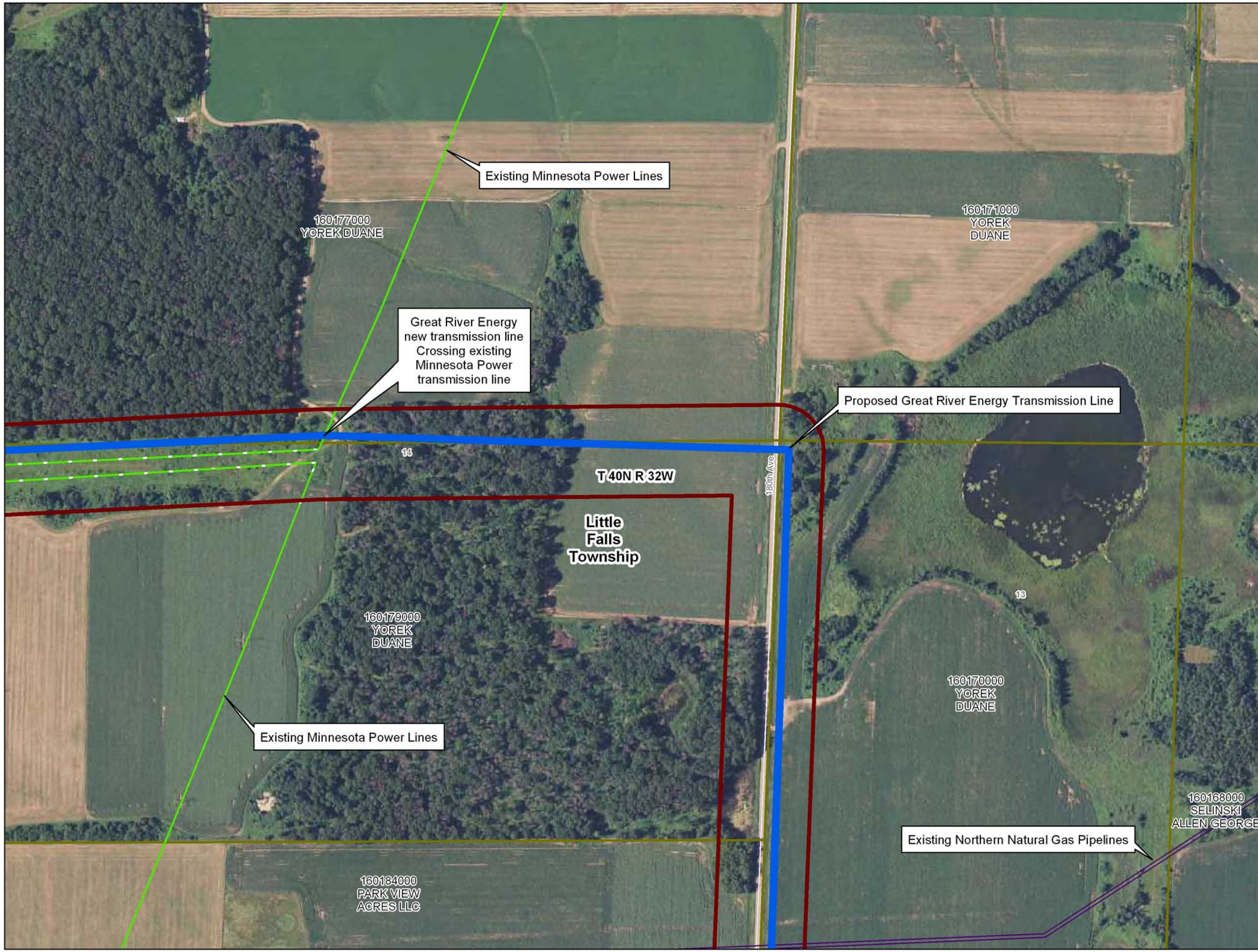
N

Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy.
2010 Color Orthophotos from Farm Services Administration.
Parcel Data from Morrison County GIS.
Map Projection:
UTM, NAD83, Zone15, Meters

Little Falls 115 kV Project Figure B-2

Proposed Route Map 1

Updated: 12/21/2011



MINNESOTA DEPARTMENT OF COMMERCE

Existing Crow Wing Power (CWP)
- **Distribution Substation**
- **New 115 kV Transmission Line**

Existing Great River Energy
- 34.5 kV Transmission Line

Existing Minnesota Power (MP)
- **Transmission Substation**
- **34.5 kV Transmission Line**
- **115 kV Transmission Line**

Existing Northern Natural Gas
- Gas Pipeline

Residential / Commercial
- Location Point
- 300 foot Route Width
- 150 foot route width for access to substation

0 100 200 Feet

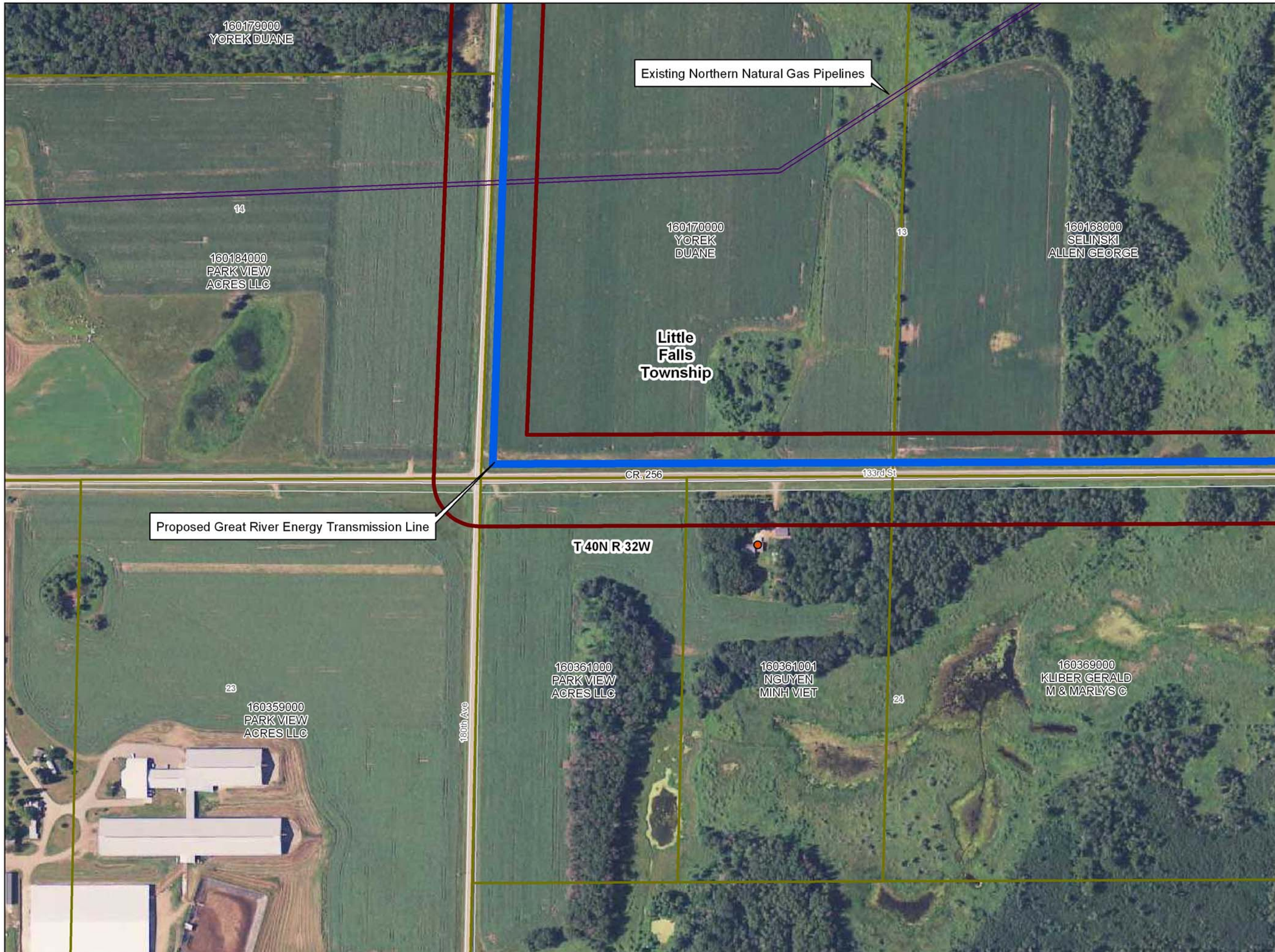
N

Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy.
2010 Color Orthophotos from Farm Services Administration.
Parcel Data from Morrison County GIS.
Map Projection:
UTM, NAD83, Zone15, Meters

Little Falls 115 kV Project Figure B-3

Proposed Route Map 2

Updated: 12/21/2011



MINNESOTA DEPARTMENT OF COMMERCE

Existing Crow Wing Power (CWP)
- **Distribution Substation**
- **New 115 kV Transmission Line**

Existing Great River Energy
- 34.5 kV Transmission Line

Existing Minnesota Power (MP)
- **Transmission Substation**
- **34.5 kV Transmission Line**
- **115 kV Transmission Line**

Existing Northern Natural Gas
- Gas Pipeline

Residential / Commercial
- Location Point
- 300 foot Route Width
- 150 foot route width for access to substation

0 100 200 Feet

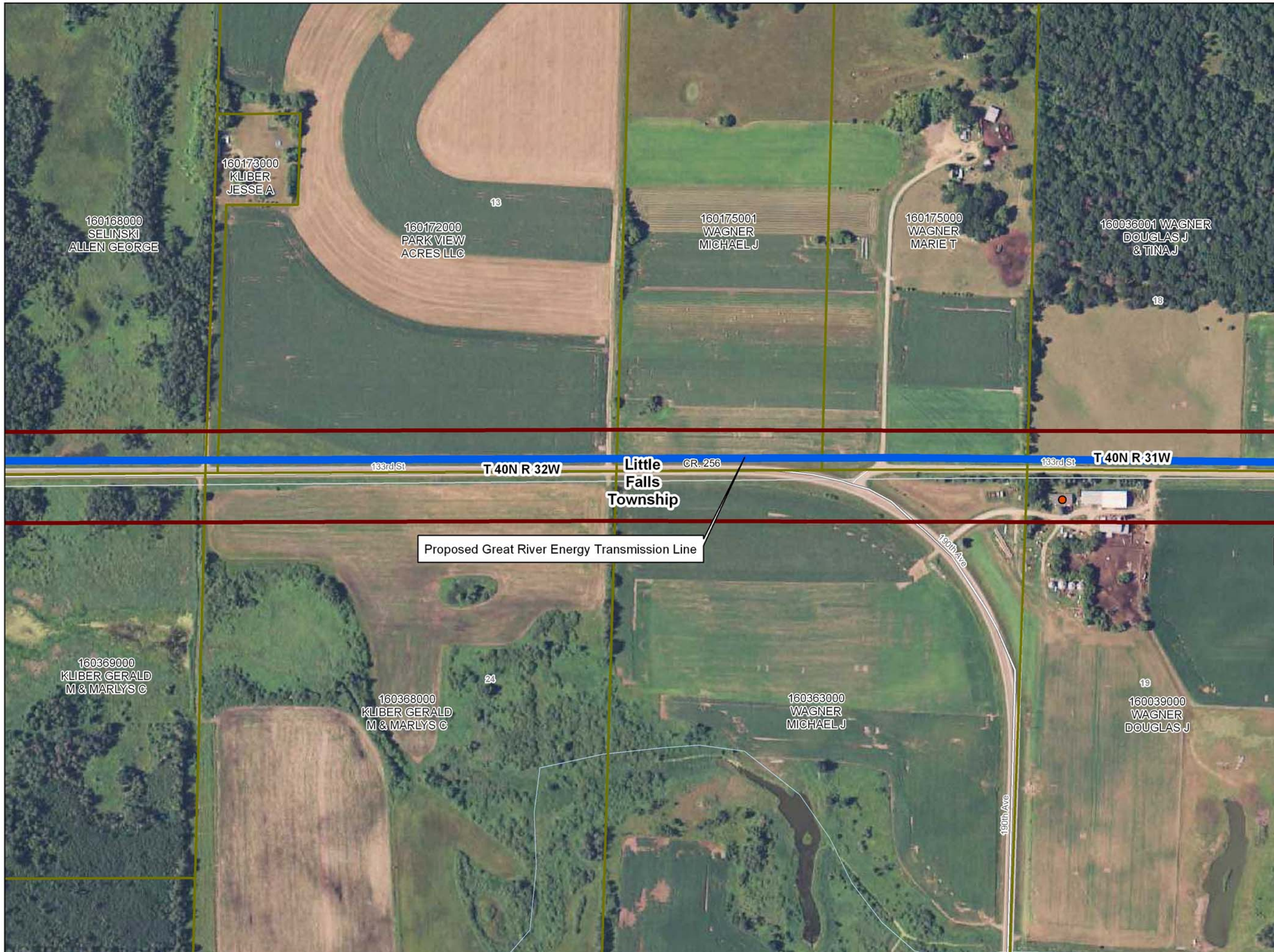
N

Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy.
2010 Color Orthophotos from Farm Services Administration.
Parcel Data from Morrison County GIS.
Map Projection:
UTM, NAD83, Zone15, Meters

Little Falls 115 kV Project Figure B-4

Proposed Route Map 3

Updated: 12/21/2011



MINNESOTA DEPARTMENT OF COMMERCE

Existing Crow Wing Power (CWP)
- **Distribution Substation**
- **New 115 kV Transmission Line**

Existing Great River Energy
- 34.5 kV Transmission Line

Existing Minnesota Power (MP)
- **Transmission Substation**
- **34.5 kV Transmission Line**
- **115 kV Transmission Line**

Existing Northern Natural Gas
- Gas Pipeline

Residential / Commercial
- Location Point
- 300 foot Route Width
- 150 foot route width for access to substation

0 100 200 Feet

N

Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy.
2010 Color Orthophotos from Farm Services Administration.
Parcel Data from Morrison County GIS.
Map Projection:
UTM, NAD83, Zone15, Meters

Little Falls 115 kV Project Figure B-5

Proposed Route Map 4

Updated: 12/21/2011

MINNESOTA DEPARTMENT OF COMMERCE

Existing Crow Wing Power (CWP)
- **Distribution Substation**
- **New 115 kV Transmission Line**

Existing Great River Energy
- 34.5 kV Transmission Line

Existing Minnesota Power (MP)
- **Transmission Substation**
- **34.5 kV Transmission Line**
- **115 kV Transmission Line**

Existing Northern Natural Gas
- Gas Pipeline

Residential / Commercial
- Location Point
- 300 foot Route Width
- 150 foot route width for access to substation

0 100 200 Feet

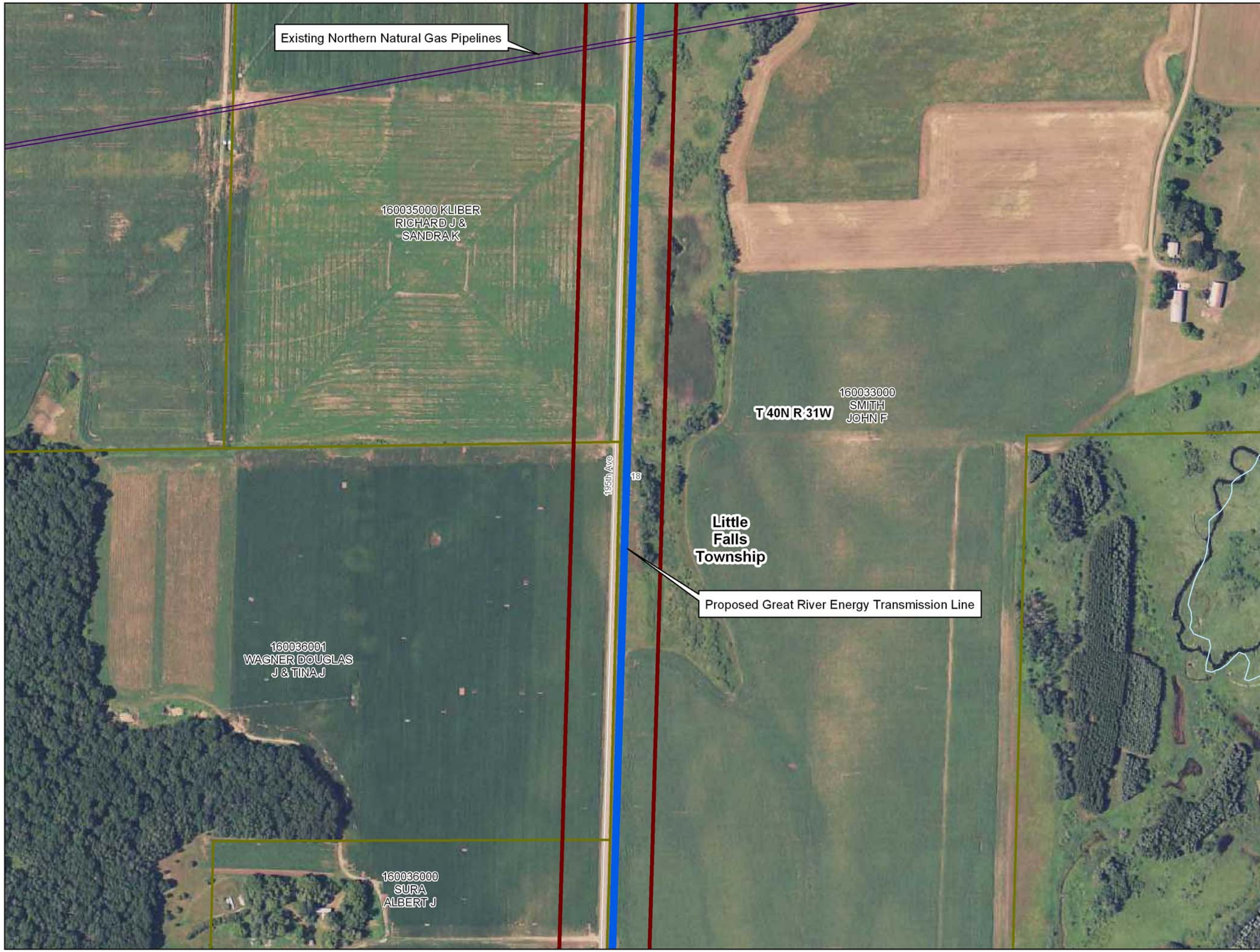
N

Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy.
2010 Color Orthophotos from Farm Services Administration.
Parcel Data from Morrison County GIS.
Map Projection:
UTM, NAD83, Zone15, Meters

Little Falls 115 kV Project Figure B-6

Proposed Route Map 5

Updated: 12/21/2011



MINNESOTA DEPARTMENT OF COMMERCE

Existing Crow Wing Power (CWP)
- **Distribution Substation**
- **New 115 kV Transmission Line**

Existing Great River Energy
- 34.5 kV Transmission Line

Existing Minnesota Power (MP)
- **Transmission Substation**
- **34.5 kV Transmission Line**
- **115 kV Transmission Line**

Existing Northern Natural Gas
- Gas Pipeline

Residential / Commercial
- Location Point
- 300 foot Route Width
- 150 foot route width for access to substation

N

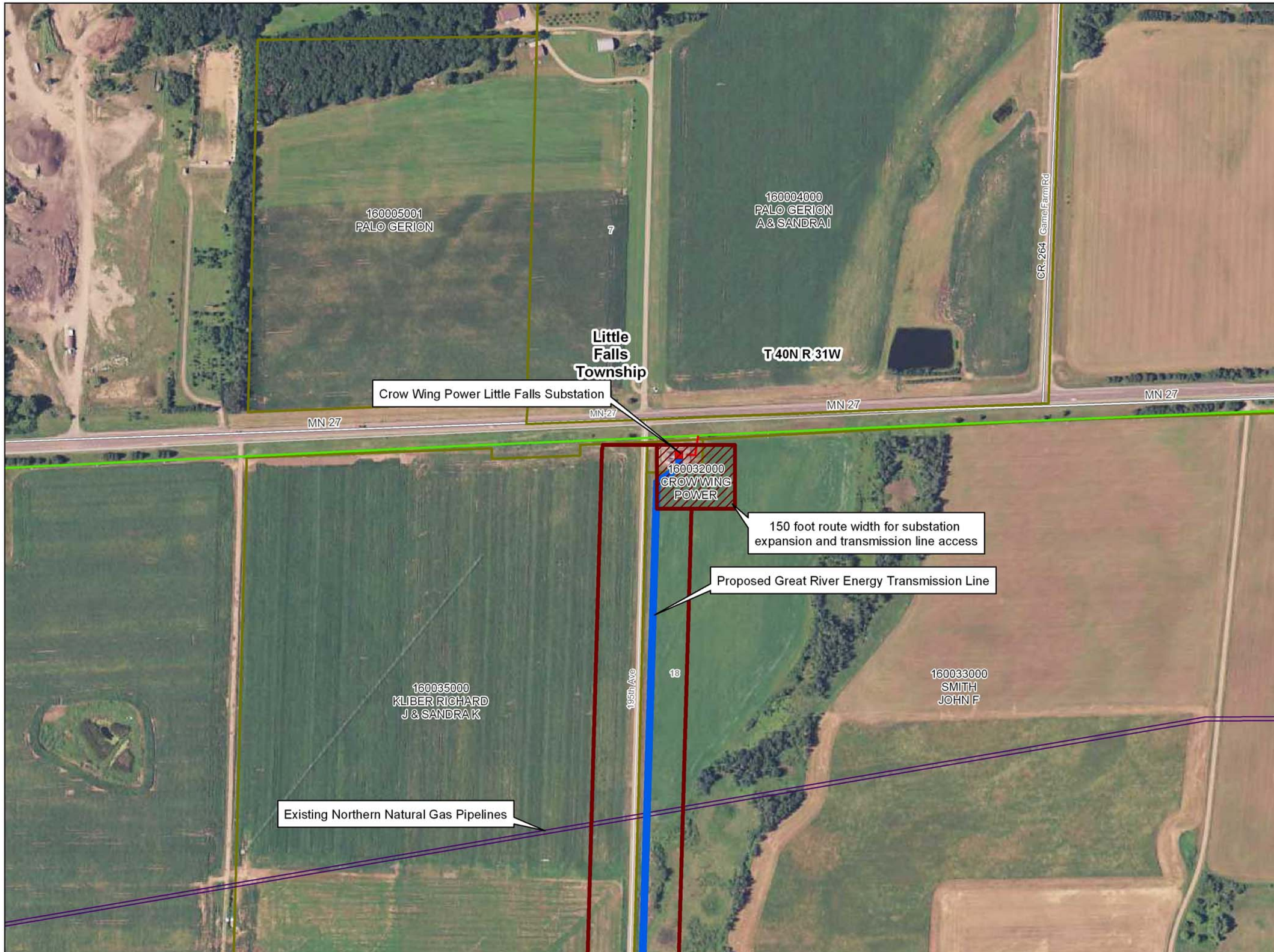
0 100 200 Feet

Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy.
2010 Color Orthophotos from Farm Services Administration.
Parcel Data from Morrison County GIS.
Map Projection:
UTM, NAD83, Zone15, Meters

Little Falls 115 kV Project Figure B-7

Proposed Route Map 6

Updated: 12/21/2011



MINNESOTA DEPARTMENT OF COMMERCE

Existing Crow Wing Power (CWP)
- **Distribution Substation**
- **New 115 kV Transmission Line**

Existing Great River Energy
- 34.5 kV Transmission Line

Existing Minnesota Power (MP)
- **Transmission Substation**
- **34.5 kV Transmission Line**
- **115 kV Transmission Line**

Existing Northern Natural Gas
- Gas Pipeline

Residential / Commercial
- Location Point
- 300 foot Route Width
- 150 foot route width for access to substation

N

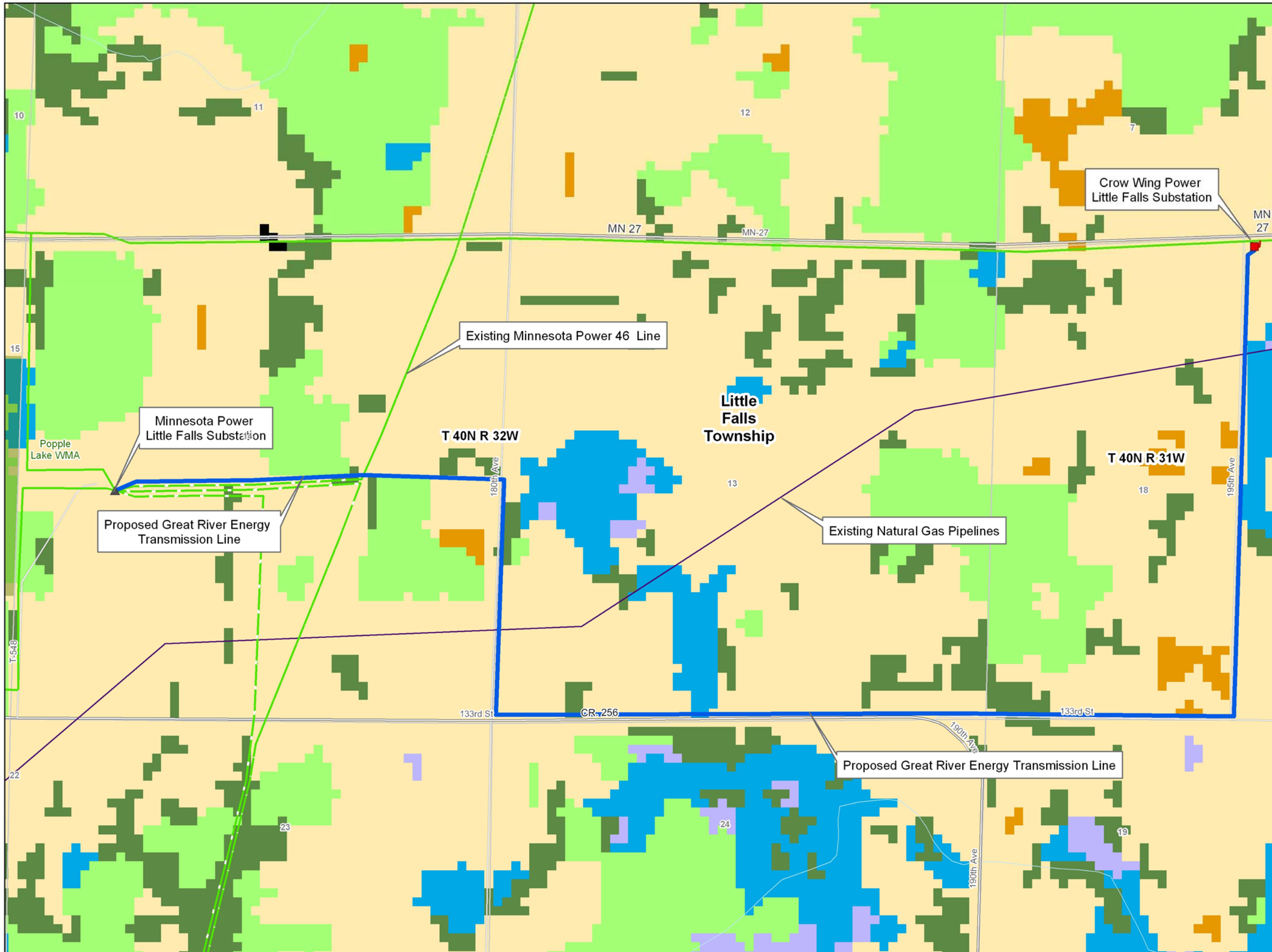
0 100 200 Feet

Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy.
2010 Color Orthophotos from Farm Services Administration.
Parcel Data from Morrison County GIS.
Map Projection:
UTM, NAD83, Zone15, Meters

Little Falls 115 kV Project Figure B-8

Proposed Route Map 7

Updated: 12/21/2011



MINNESOTA DEPARTMENT OF COMMERCE

Existing Crow Wing Power (CWP)
- Distribution Substation
- New 115 kV Transmission Line

Existing Minnesota Power (MP)
- Transmission Substation
- 34.5 kV Transmission Line
- 115 kV Transmission Line

Existing Natural Gas Lines
- Northern Natural Gas
- Viking Gas

GAP Land Cover
- Forested Area
- Shrub Land
- Barren
- Water/Wetlands
- Cropland
- Grassland
- Urban
- Transportation
- National Wildlife Refuge
- FWS Trails

0 1,000 Feet

N

Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy.
GAP Land Cover data downloaded from MNDNR.
Map Projection:
UTM, NAD83, Zone15, Meters

Little Falls 115 kV Project

Figure B-9 Land Use Map

Updated: 12/21/2011

MINNESOTA DEPARTMENT OF COMMERCE

Existing Crow Wing Power (CWP)
- Distribution Substation
- New 115 kV Transmission Line

Existing Minnesota Power (MP)
- Transmission Substation
- 34.5 kV Transmission Line
- 115 kV Transmission Line

Existing Northern Natural Gas
- Gas Pipeline

NWI Wetlands
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub
- Freshwater Pond
- Riverine

PWI LAKES
- Public Water Basin
- Public Water Wetland
- PWI River

Impaired Waters
- Impaired Lakes
- Impaired Streams
- 100 year flood plain

0 1,000 2,000 Feet

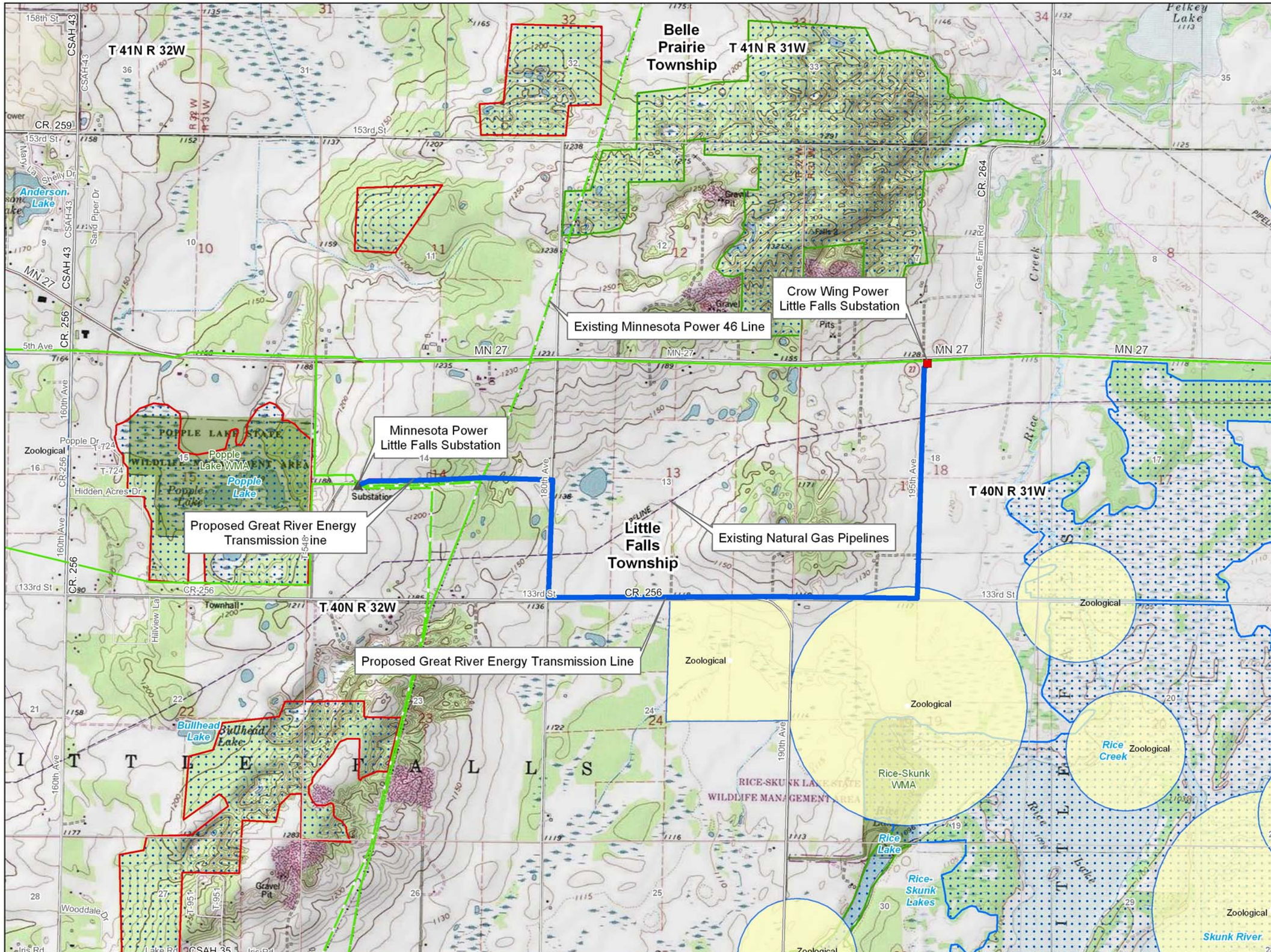
N

MNDOT, MNDNR, MNGEO &Great River Energy.
NWI Wetlands, flood plaine & PWI from MNDNR.
Impaired Waters from MN Pollution Control Agency (MPCA).
2010 Color Orthophotos from Farm Services Administration (FSA)
Map Projection:
UTM, NAD83, Zone15, Meters

Little Falls 115 kV Project

Figure B-10 Hydrologic Features

Updated: 12/21/2011



Existing Crow Wing Power (CWP)
- Distribution Substation
- New 115 kV Transmission Line

Proposed Minnesota Power (MP)
- 115 kV Transmission Line

Existing Minnesota Power (MP)
- Transmission Substation
- 34.5 kV Transmission Line
- 115 kV Transmission Line

Existing Natural Gas Lines
- Northern Natural Gas
- Viking Gas

Rare Natural Features Polygons
- Botanical
- Ecological
- Zoological

Sites of Biodiversity Significance
- Outstanding
- High
- Moderate
- Below
- Native Plant Community

0 1,000 2,000 Feet

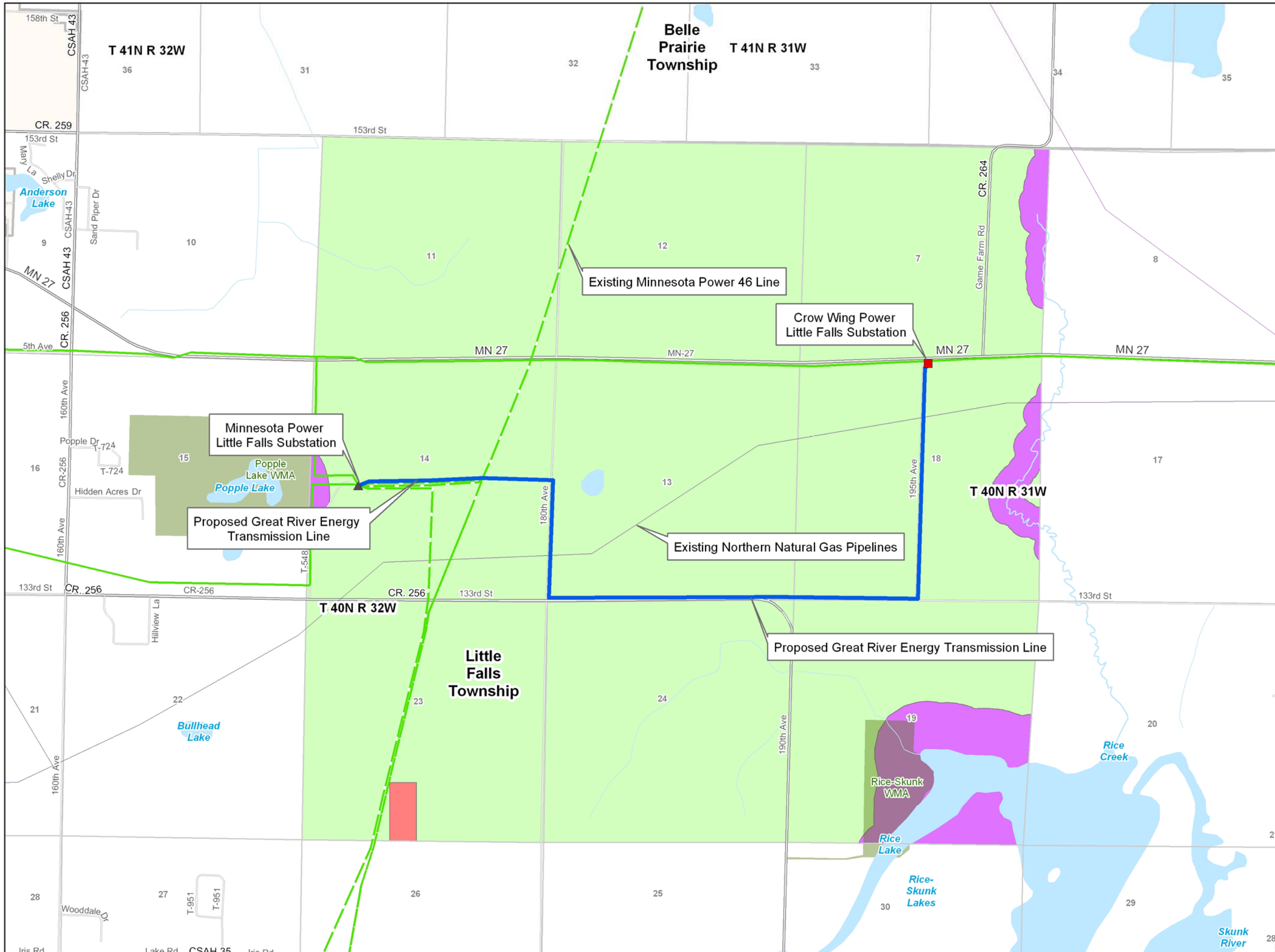
N

Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy.
2009 Heritage Data from MNDNR
Topographic Maps from ESRI Basemap &National Geographic Society.
Map Projection:
UTM, NAD83, Zone15, Meters

Little Falls 115 kV Project

Figure B-11 Rare Features

Updated: 12/21/2011



Existing Crow Wing Power (CWP)
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Existing Minnesota Power (MP)
- Transmission Substation
- 34.5 kV Transmission Line
- 115 kV Transmission Line

Existing Natural Gas Lines
- Northern Natural Gas
- Viking Gas

Morrison County Zoning
- Manufacturing and Industrial (MI) zone
- Agricultural (Ag) Zone
- Shoreland (SL) Zone

0 1,000 2,000 Feet

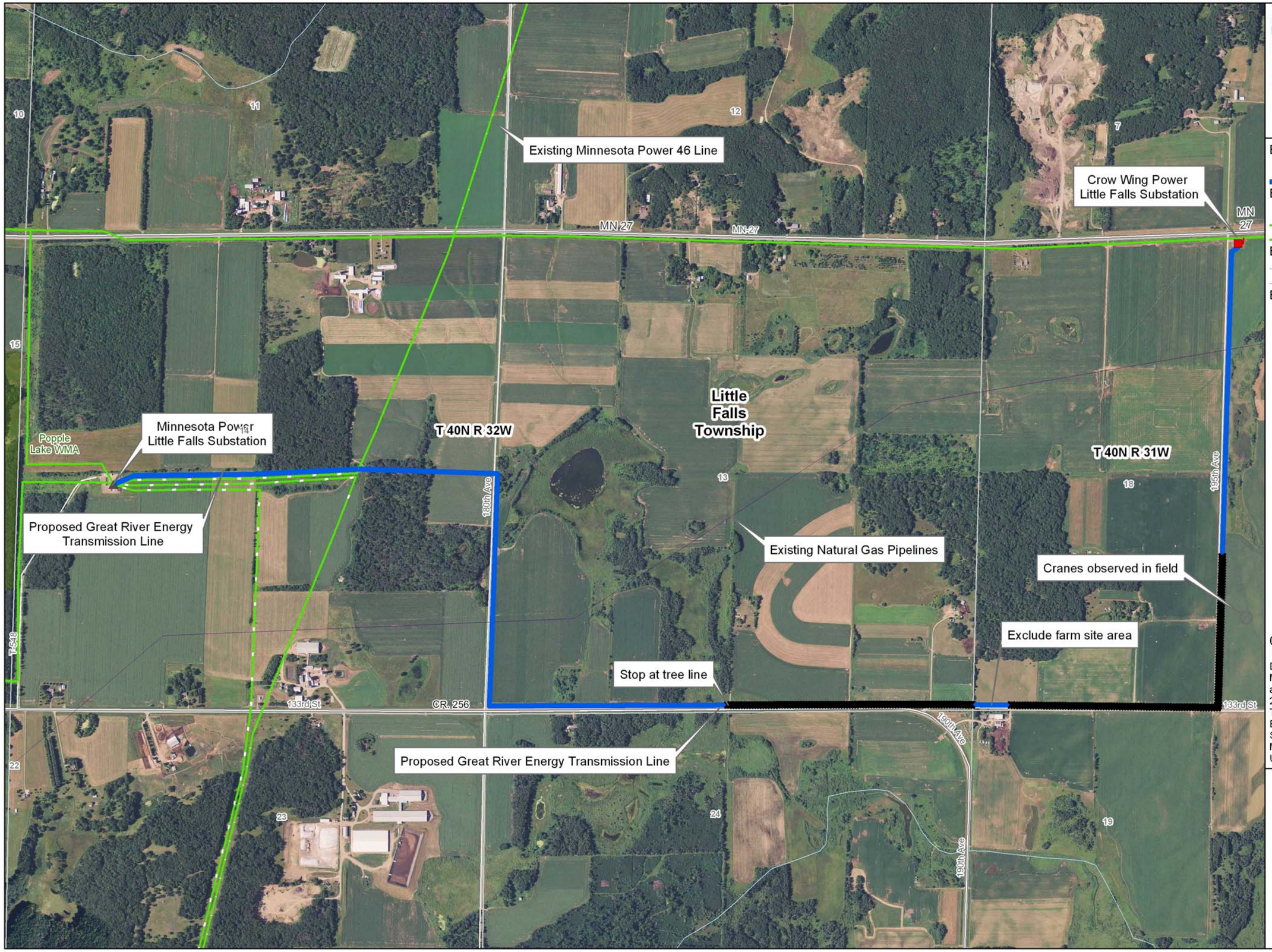
N

Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy.
Zoning Data from Morrison County.
2010 Color Orthophotos from Farm Services Administration.
Map Projection:
UTM, NAD83, Zone15, Meters

Little Falls 115 kV Project

Figure B-12 Zoning Map

Updated: 12/22/2011



MINNESOTA DEPARTMENT OF COMMERCE

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Existing Minnesota Power (MP)
- Transmission Substation
- 34.5 kV Transmission Line
- 115 kV Transmission Line

Existing Natural Gas Lines
- Northern Natural Gas
- Viking Gas

Bird Diverters (10 meters apart)
- placed on the shield wire

0 500 1,000 Feet

N

Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy.
2009 Heritage Data from MNDNR
Topographic Maps from ESRI Basemap &National Geographic Society.
Map Projection:
UTM, NAD83, Zone15, Meters

Little Falls 115 kV Project Figure B-13

Proposed Bird Diverter Locations

Updated: 1/3/2012