Appendix A Maps

Map 1 Proposed Route

Map 1a – Sheets 1-5 Proposed Route Detail

Map 2 Project Vicinity

Map 3 Alternatives

Map 4 Regions of Influence

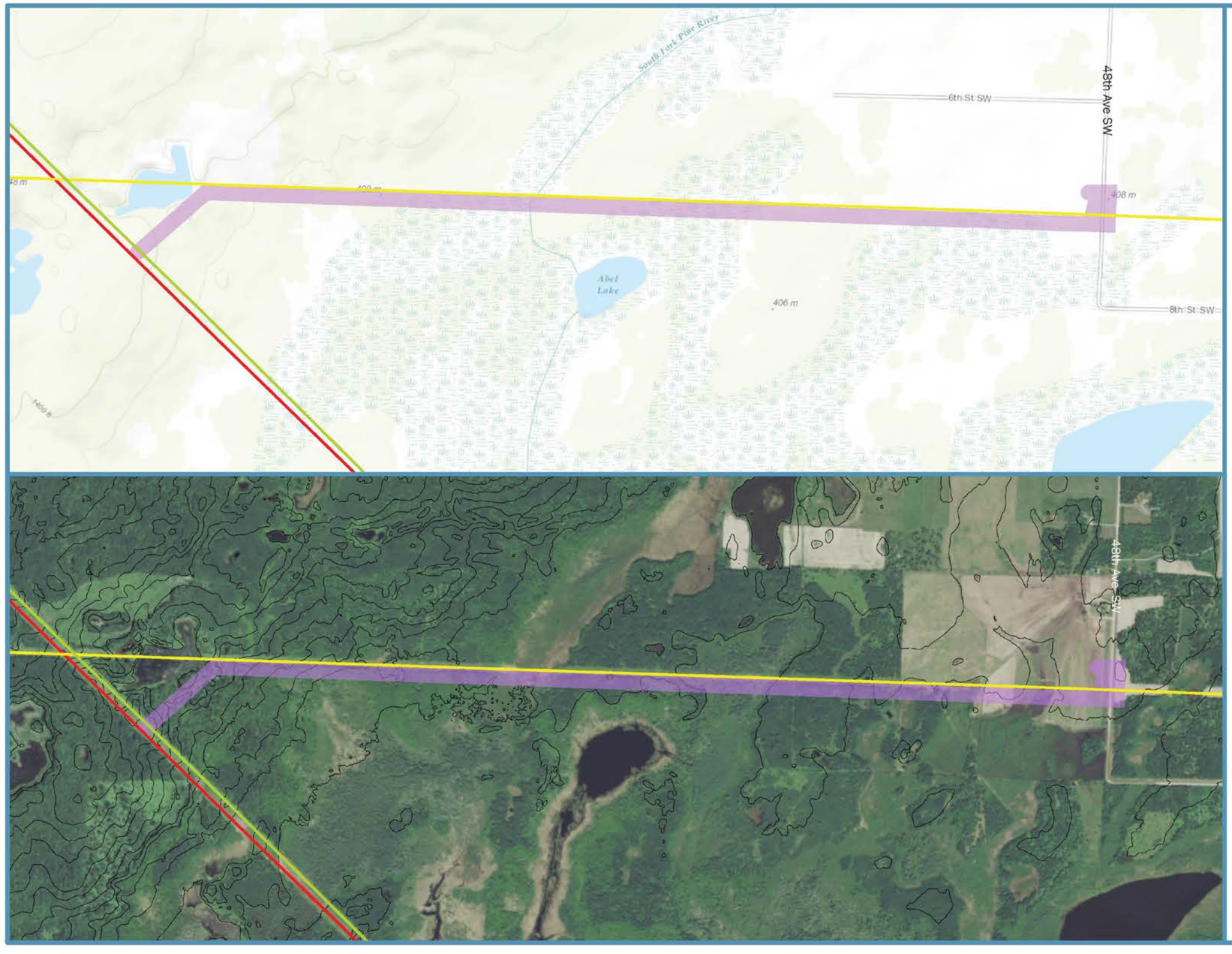
Map 5 Land Cover

Map 6 Proposed Line 3 Project

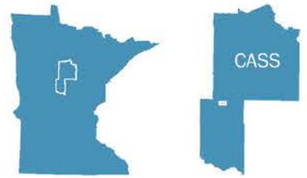
Map 7 Zoning

Map 8 Water Resources

This page intentionally left blank.



Map 1 Proposed Route



Legend

- Applicant's Proposed Route
- Existing ±250 kV DC HVTL
- Existing 115 kV HVTL
- Existing 230 kV HVTL
- Elevation Contours (10 feet)

N

MILES

0 0.25 0.5

MINNESOTA DEPARTMENT OF COMMERCE

World_Imagery: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
World_Topo_Map: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

This page intentionally left blank.

Great River Energy
- Anticipated 115 kV transmission line
- Proposed route (200 feet)

Minnesota Power
- Existing 115 kV transmission line
- Existing 230 kV transmission line
- Existing ±250 kV DC transmission line
- Anticipated pipeline

Bull Moose 115 kV Project
Appendix B - Detailed Route Maps
Map Sheet 1 of 5

N

0 50100 200 Feet

GIS Data sources include:
MNGEO, MNDNR, MNDOT, and Great River Energy.

GREAT RIVER ENERGY

Great River Energy
- Anticipated 115 kV transmission line
- Proposed route (200 feet)

Minnesota Power
- Existing ±250 kV DC transmission line
- Anticipated pipeline

Bull Moose 115 kV Project
Appendix B - Detailed Route Maps
Map Sheet 2 of 5

N

0 50100 200 Feet

GIS Data sources include:
MNGEO, MNDNR, MNDOT, and Great River Energy.

GREAT RIVER ENERGY

Great River Energy
- Anticipated 115 kV transmission line
- Proposed route (200 feet)

Minnesota Power
- Existing ±250 kV DC transmission line
- Anticipated pipeline

Bull Moose 115 kV Project
Appendix B - Detailed Route Maps
Map Sheet 3 of 5

N

0 50100 200 Feet

GIS Data sources include:
MNGEO, MNDNR, MNDOT, and Great River Energy.

GREAT RIVER ENERGY

Great River Energy
- Anticipated 115 kV transmission line
- Proposed route (200 feet)

Minnesota Power
- Existing ±250 kV DC transmission line
- Anticipated pipeline

Bull Moose 115 kV Project
Appendix B - Detailed Route Maps
Map Sheet 4 of 5

N

0 50100 200 Feet

GIS Data sources include:
MNGEO, MNDNR, MNDOT, and Great River Energy.

GREAT RIVER ENERGY

Great River Energy
- Anticipated 115 kV transmission line
- Proposed route (200 feet)

Minnesota Power
- Existing ±250 kV DC transmission line

Enbridge
- Anticipated pump station
- Anticipated pipeline

Bull Moose 115 kV Project
Appendix B - Detailed Route Maps
Map Sheet 5 of 5

N

0 50100 200 Feet

GIS Data sources include:
MNGEO, MNDNR, MNDOT, and Great River Energy.

GREAT RIVER ENERGY

This page intentionally left blank.

Map 2 Project Vicinity

Legend

- Applicant's Proposed Route
- Alternative Route Segment A

N

MILES

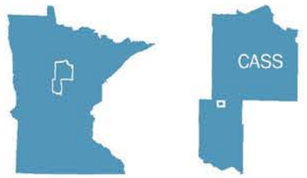
0 1 2

MINNESOTA DEPARTMENT OF COMMERCE

USGSTopo: USGS The National Map: National Boundaries Dataset, 3D Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau TIGER/Line

This page intentionally left blank.

Map 3 Alternatives



Legend

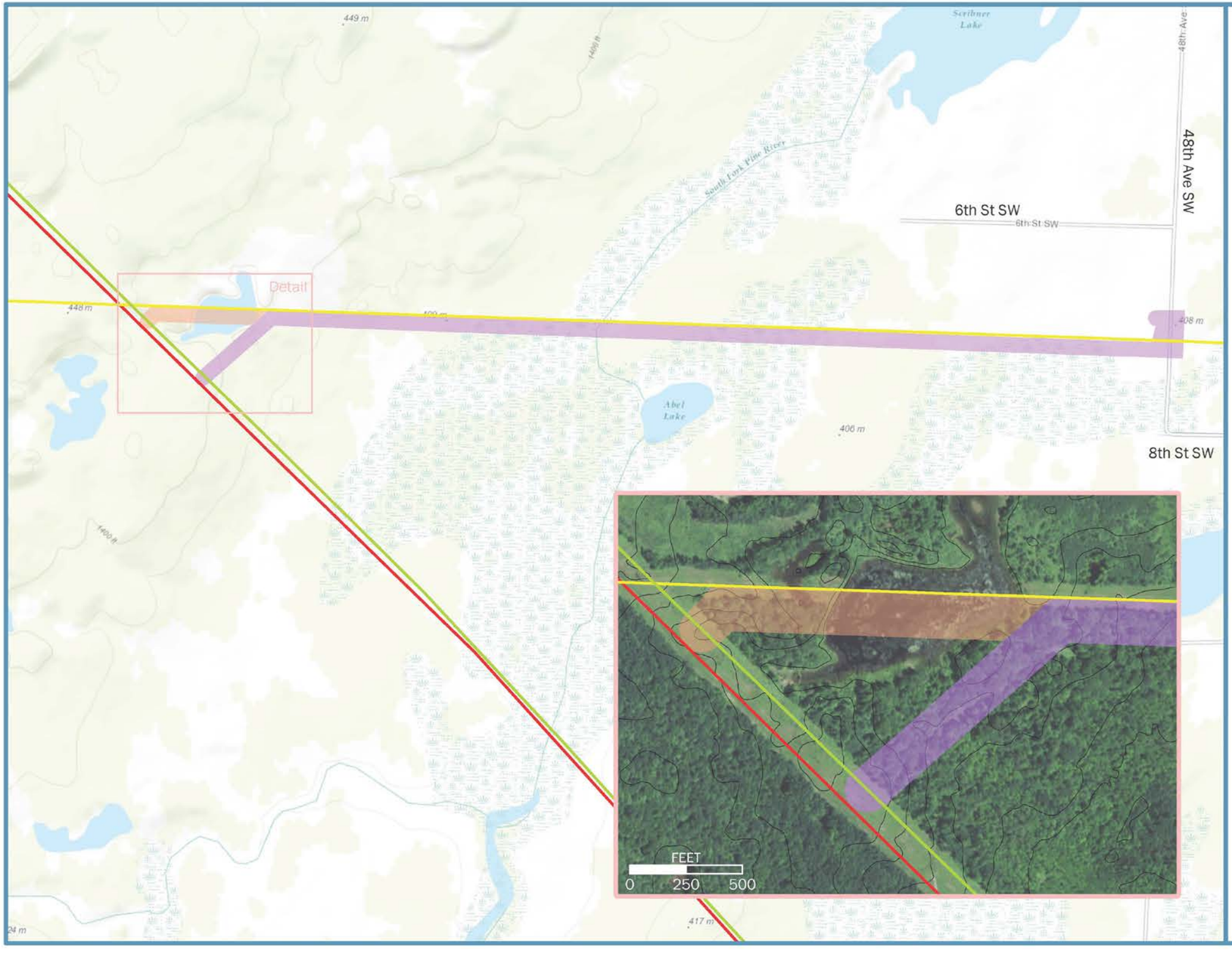
- Applicant's Proposed Route
- Alternative Route Segment A
- Existing 115 kV HVTL
- Existing 230 kV HVTL
- Existing ±250 kV DC HVTL
- Elevation Contours (10 feet)

N

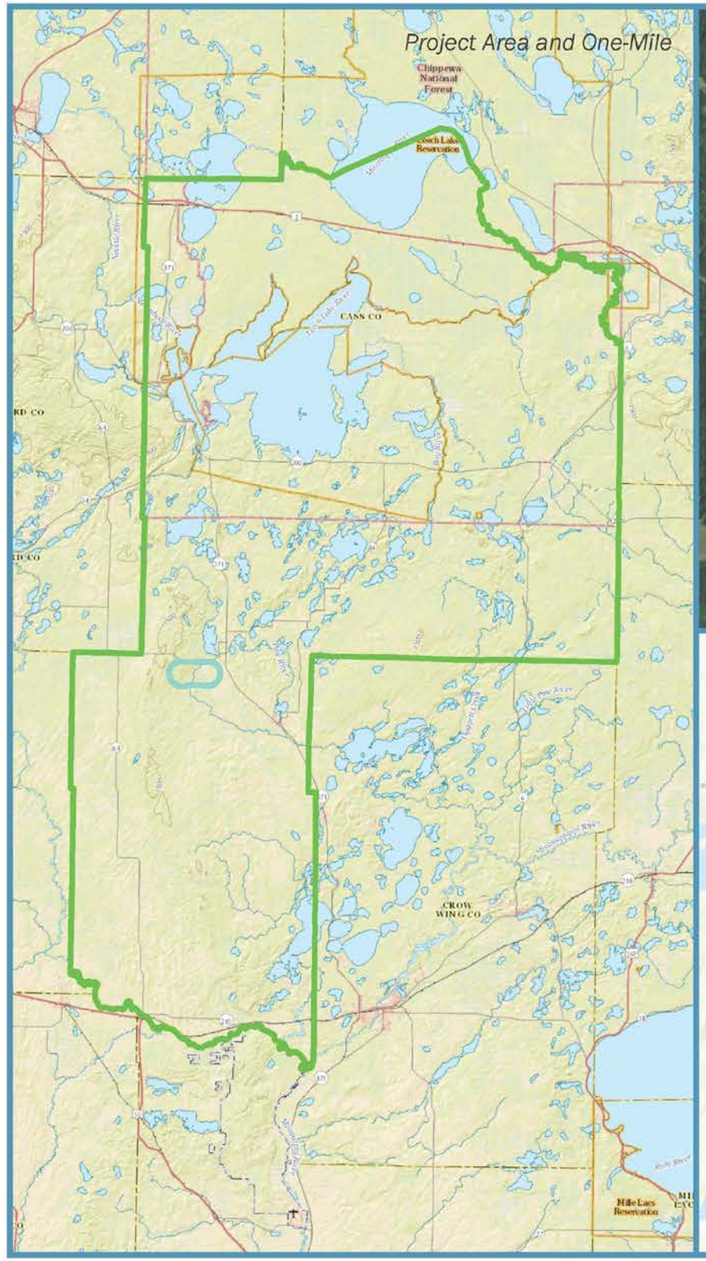
MILES
0 0.25 0.5

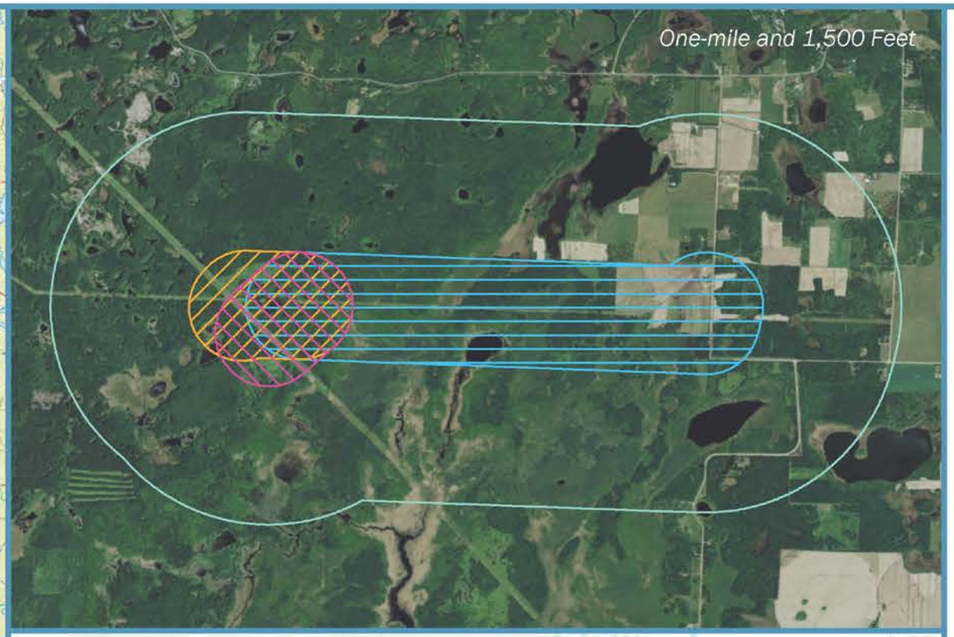
MINNESOTA DEPARTMENT OF COMMERCE

World_Imagery: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
World_Topo_Map: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



This page intentionally left blank.





Map 4 Regions of Influence

Legend

- Cass County
- One Mile

1,500 Feet

- Proposed Route Segment
- Alternative Route Segment A
- Proposed Route

Proposed Route Segment

- Right-of-Way
- Route Width

Alternative Route Segment A

- Right-of-Way
- Route Width

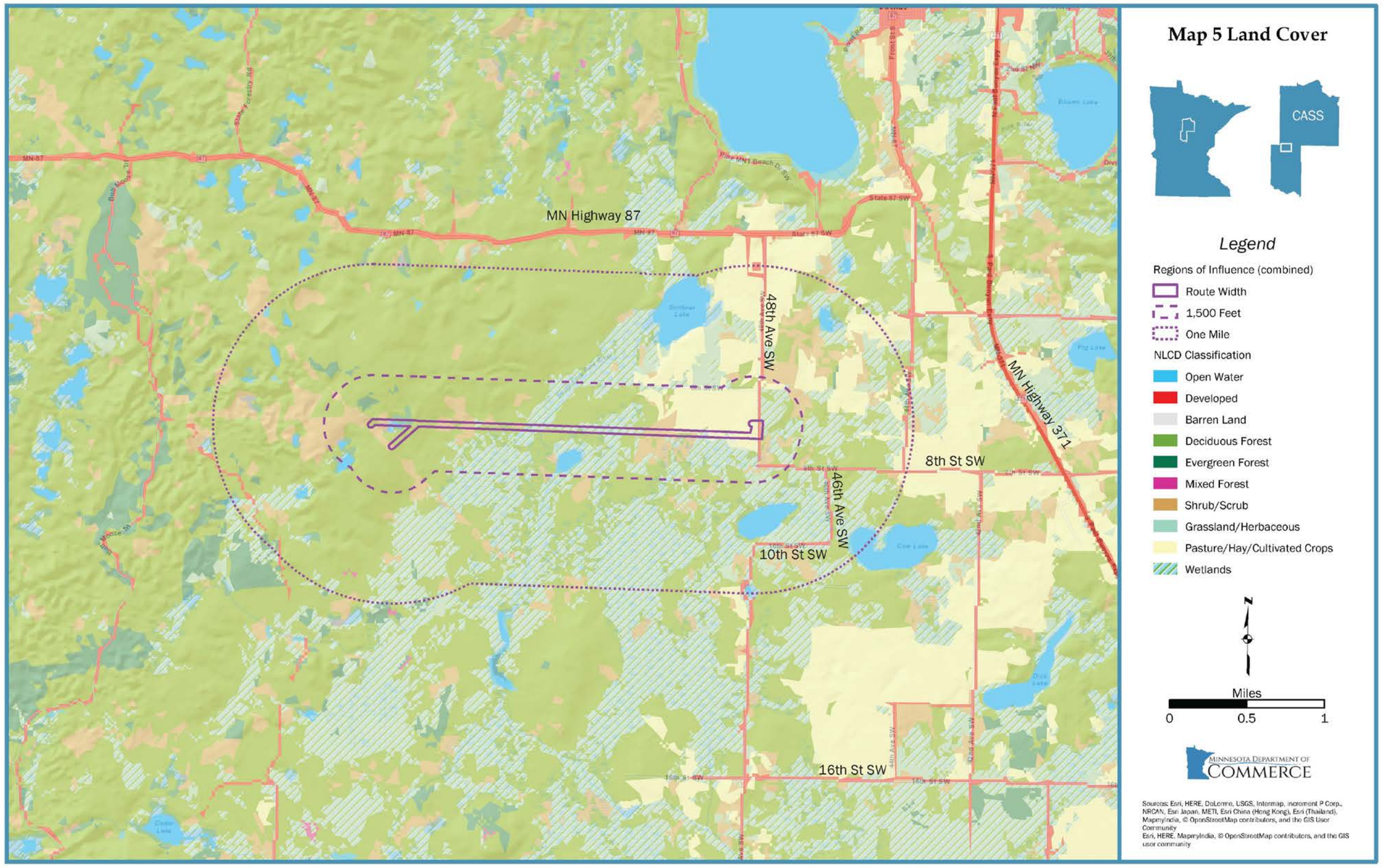
Proposed Route

- Right-of-Way
- Route Width

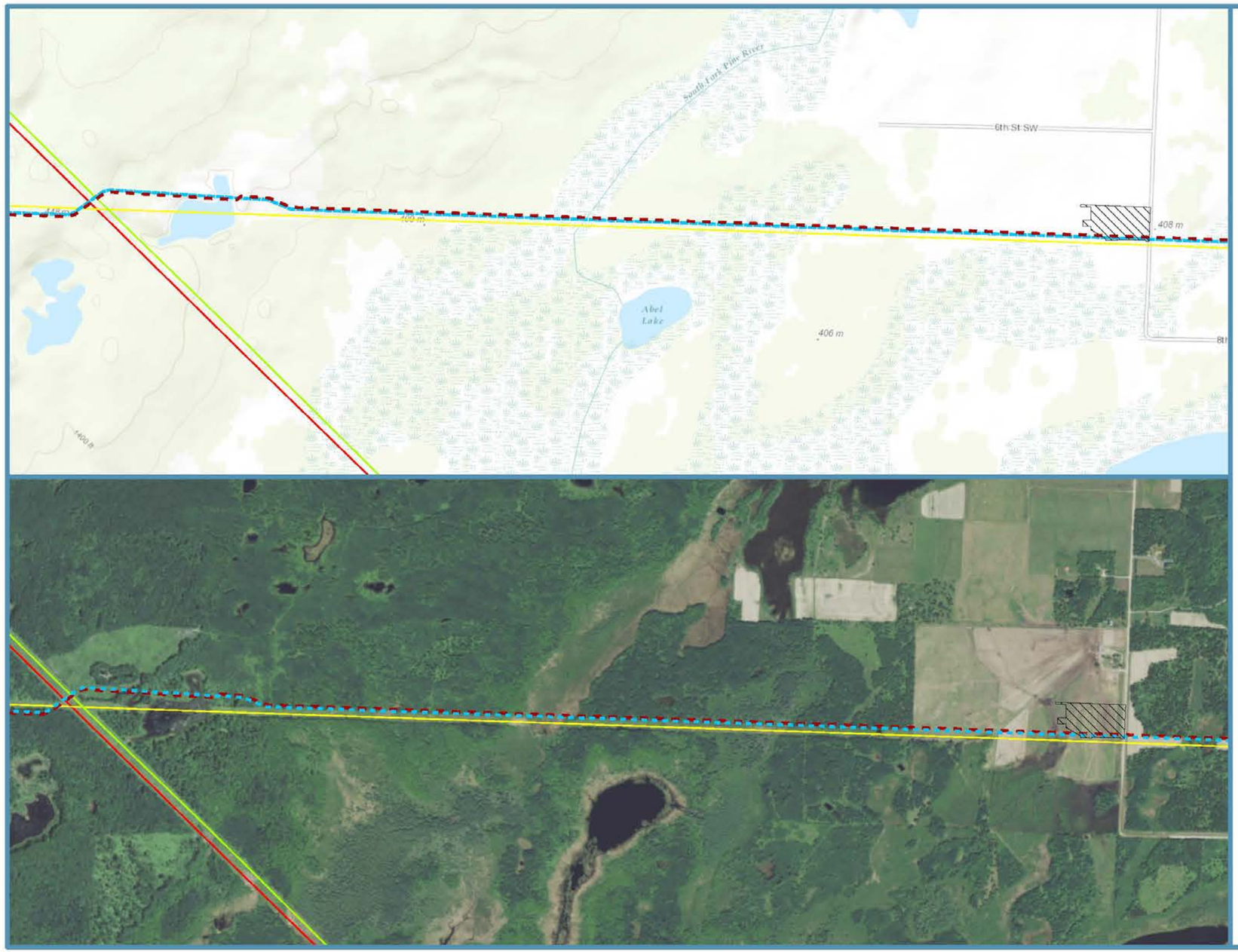
MINNESOTA DEPARTMENT OF COMMERCE

USGSTopo: USGS The National Map: National Boundaries Dataset, 3D Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line.
World_Imagery: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
World_Topo_Map: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

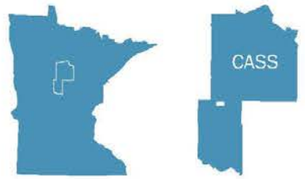
This page intentionally left blank.


MN Highway 87
48th Ave SW
MN Highway 371
8th St SW
46th Ave SW
10th St SW
16th St SW
Map 5 Land Cover
CASS
Legend
Regions of influence (combined)
Route Width
1,500 Feet
One Mile
NLCD Classification
Open Water
Developed
Barren Land
Deciduous Forest
Evergreen Forest
Mixed Forest
Shrub/Scrub
Grassland/Herbaceous
Pasture/Hay/Cultivated Crops
Wetlands
N
Miles
0
0.5
1
Minnesota Department of Commerce
Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
Esri, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

This page intentionally left blank.



Map 6 Proposed Pipeline Projects



Legend

- Proposed Pump Station
- Proposed Sandpiper Project
- Proposed Line 3 Pipeline

Existing Electric Transmission Lines

- Existing ±250 kV DC HVTL
- Existing 115 kV HVTL
- Existing 230 kV HVTL

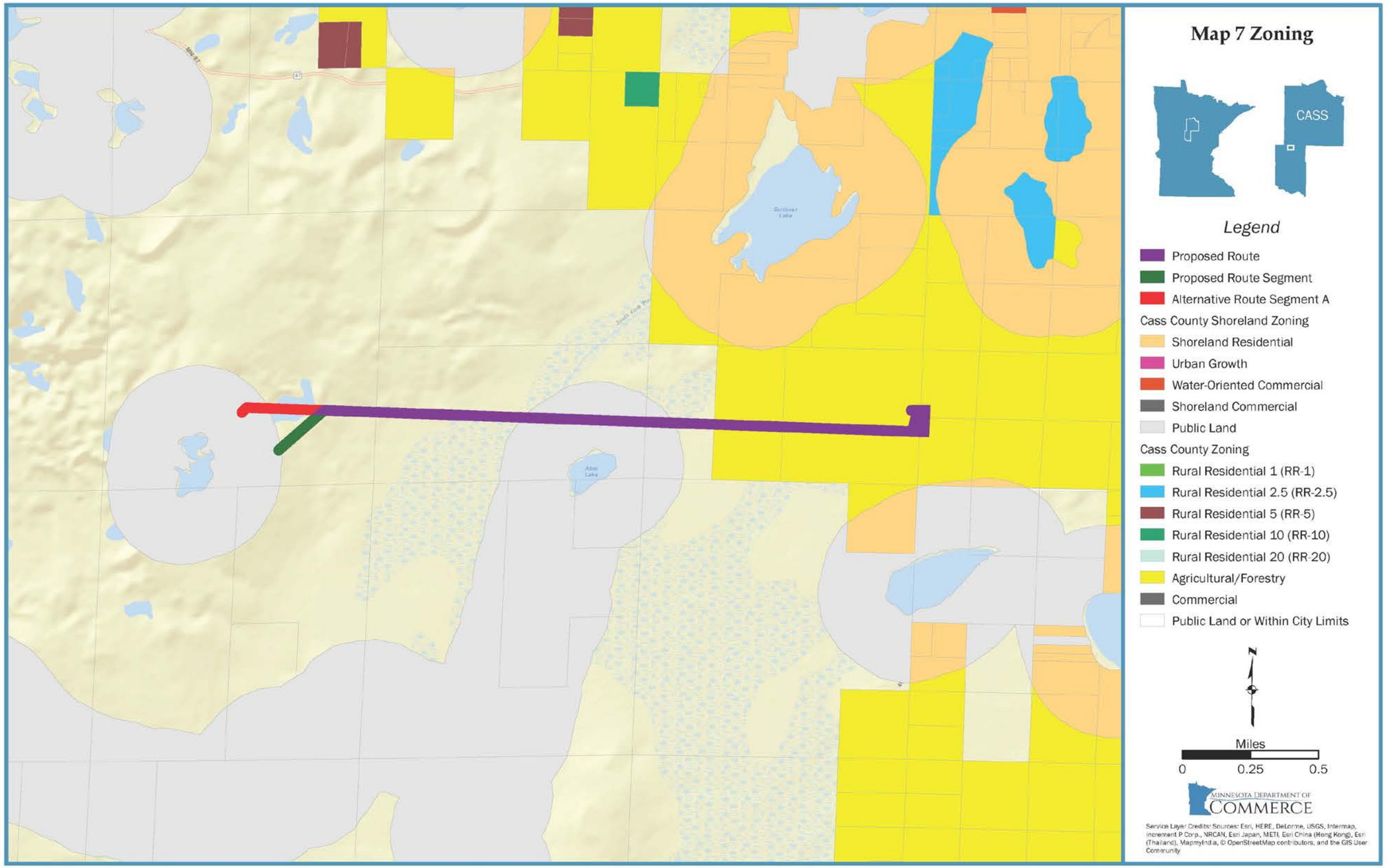
N

MILES

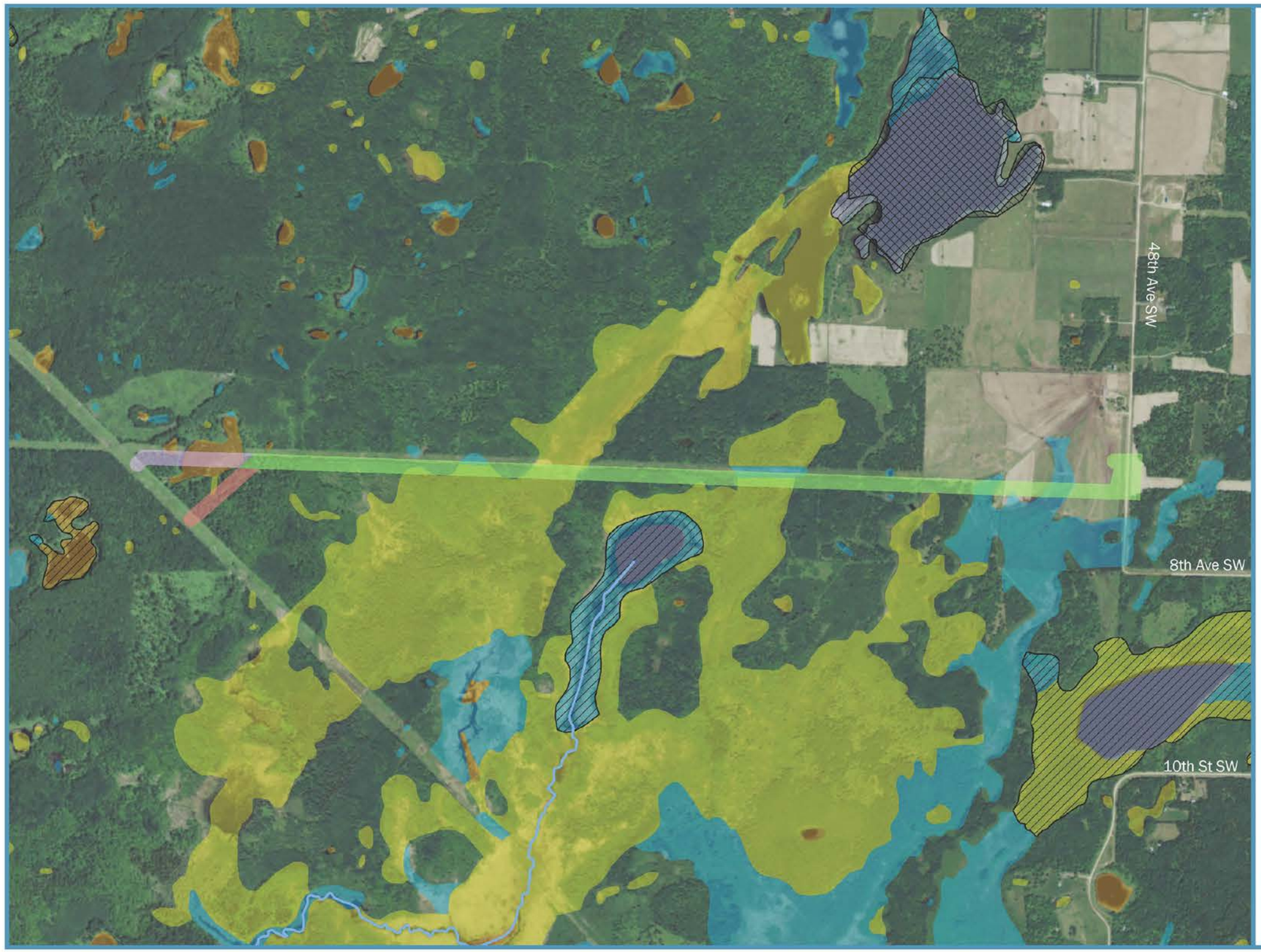
0 0.25 0.5

World_Imagery: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
World_Topo_Map: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

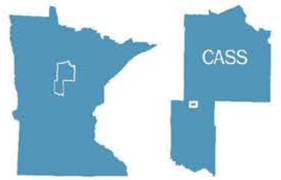
This page intentionally left blank.


Map 7 Zoning
CASS
Legend
Proposed Route
Proposed Route Segment
Alternative Route Segment A
Cass County Shoreland Zoning
Shoreland Residential
Urban Growth
Water-Oriented Commercial
Shoreland Commercial
Public Land
Cass County Zoning
Rural Residential 1 (RR-1)
Rural Residential 2.5 (RR-2.5)
Rural Residential 5 (RR-5)
Rural Residential 10 (RR-10)
Rural Residential 20 (RR-20)
Agricultural/Forestry
Commercial
Public Land or Within City Limits
N
Miles
0
0.25
0.5
Minnesota Department of Commerce
Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

This page intentionally left blank.



Map 8 Water Resources



Legend

Proposed Route Segment

Route Width

Alternative Route Segment A

Route Width

Proposed Route

Route Width

Non-delineated Wetlands

Freshwater Emergent

Freshwater Forested/Shrub

Freshwater Pond

Lake

MN Public Water Inventory

Watercourse

Waterbody

Other

Wild Rice Lake

N

Miles

0 0.25 0.5

MINNESOTA DEPARTMENT OF COMMERCE

World_Imagery: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

This page intentionally left blank.