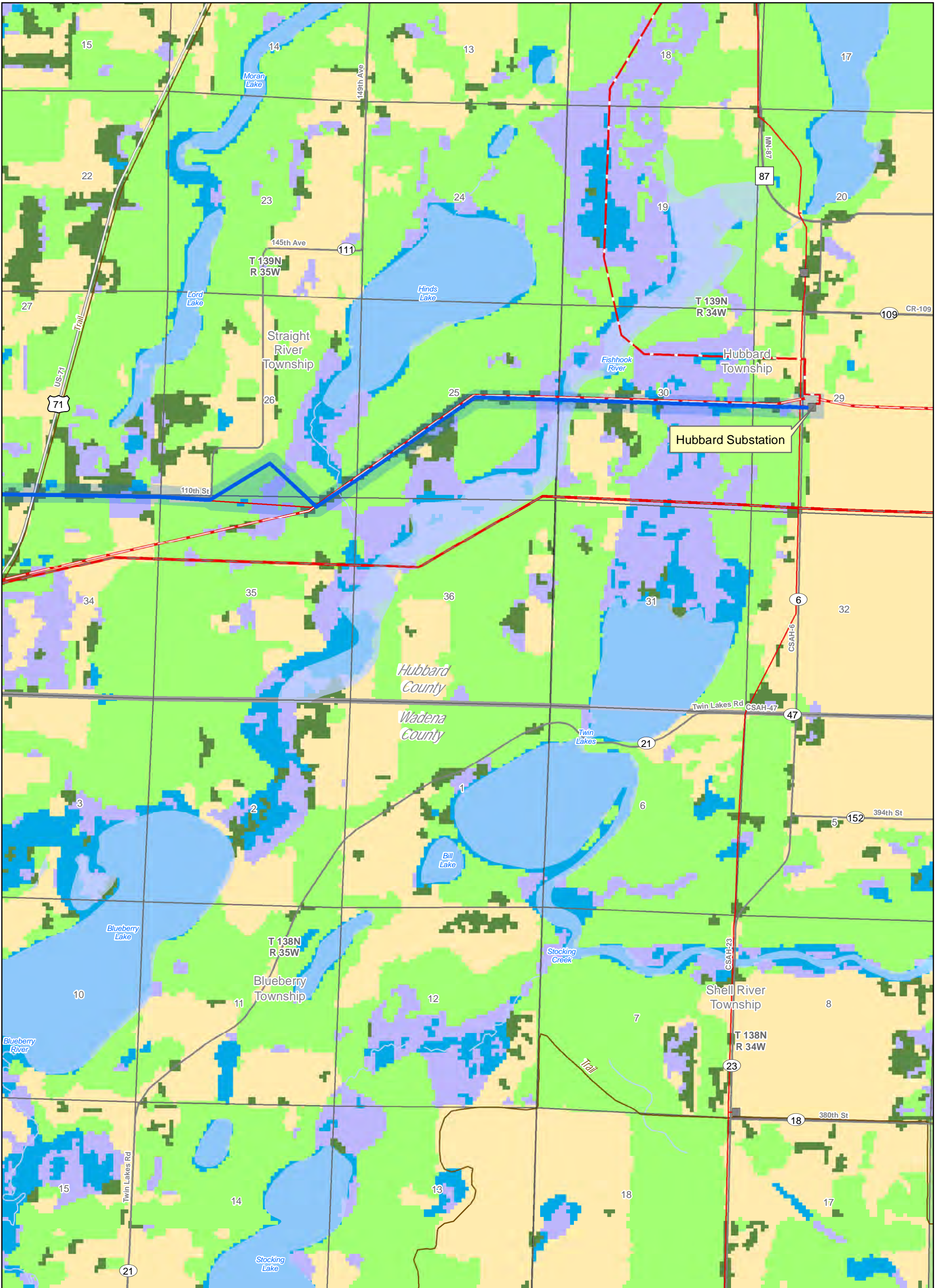
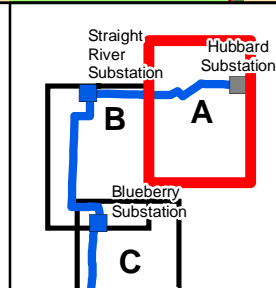


Appendix E. Resource Maps

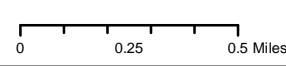


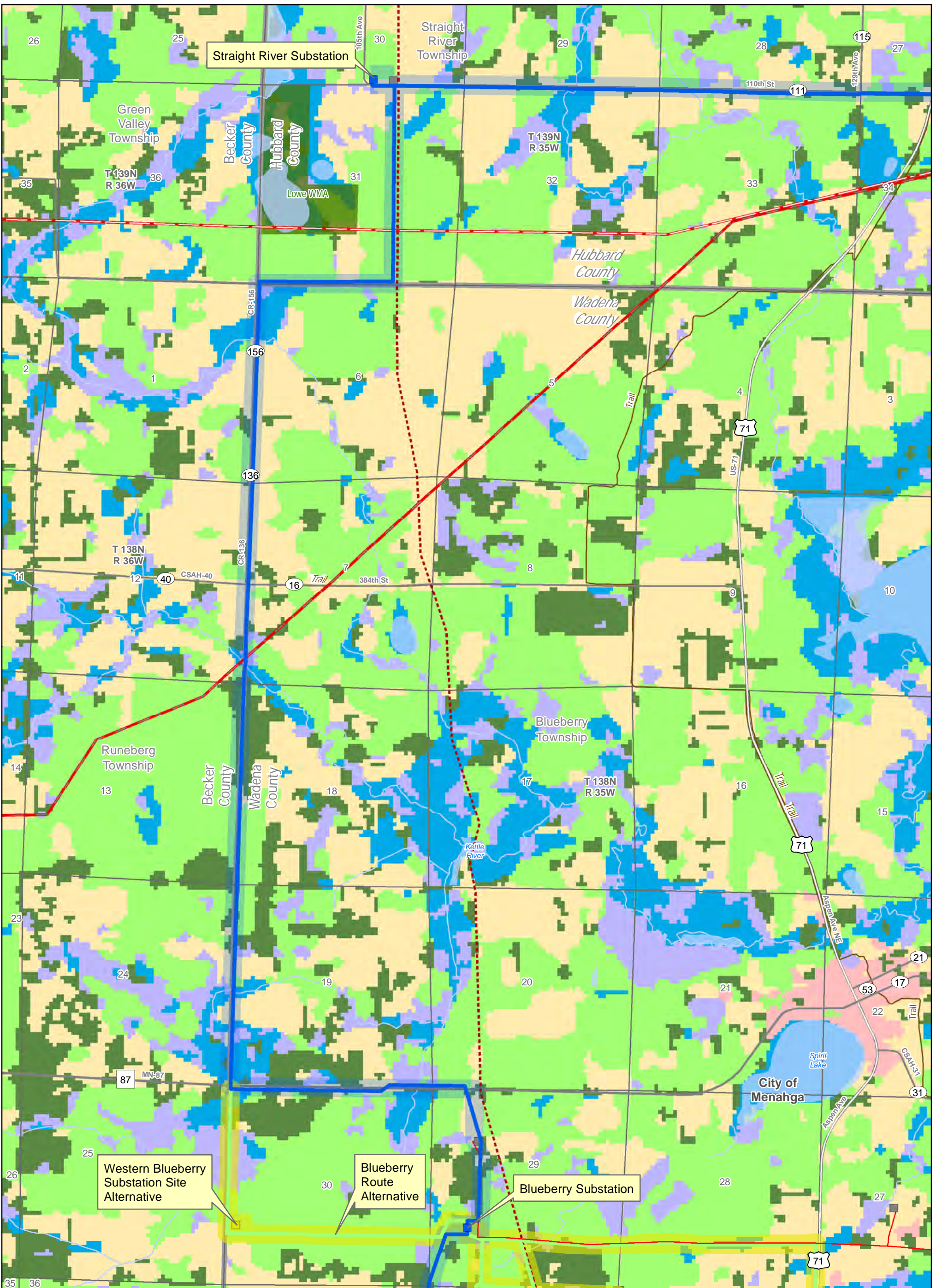
- | | | |
|------------------------|---------------------------|-----------------------|
| Applicants | Existing | GAP Land Cover |
| Proposed Alignment | 34.5 kV Transmission Line | Forested Area |
| Proposed Route | 230 kV Transmission Line | Barren |
| Proposed Substation | 250 kV Transmission Line | Water/Wetlands |
| Alternatives | Pipeline | Cropland |
| Alternative Alignment | Substation | Grassland |
| Alternative Route | | Urban |
| Alternative Substation | | Shrub Land |
| | | Transportation |



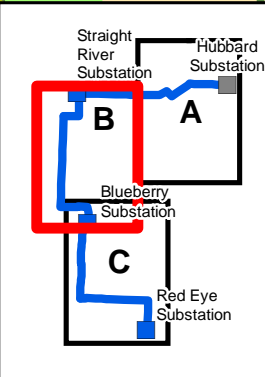
Map E1-A
Land Use
 Menahga Area 115 kV Project

GIS Data sources include: MNGEO, MNDNR, MNDOT, and Great River Energy.
 Updated: 7/29/2015





Applicants Proposed Alignment Proposed Route Proposed Substation Alternatives Alternative Alignment Alternative Route Alternative Substation	Existing 34.5 kV Transmission Line 230 kV Transmission Line 250 kV Transmission Line Pipeline Substation	GAP Land Cover Forested Area Barren Water/Wetlands Cropland Grassland Urban Shrub Land Transportation
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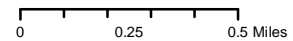
Map E1-B

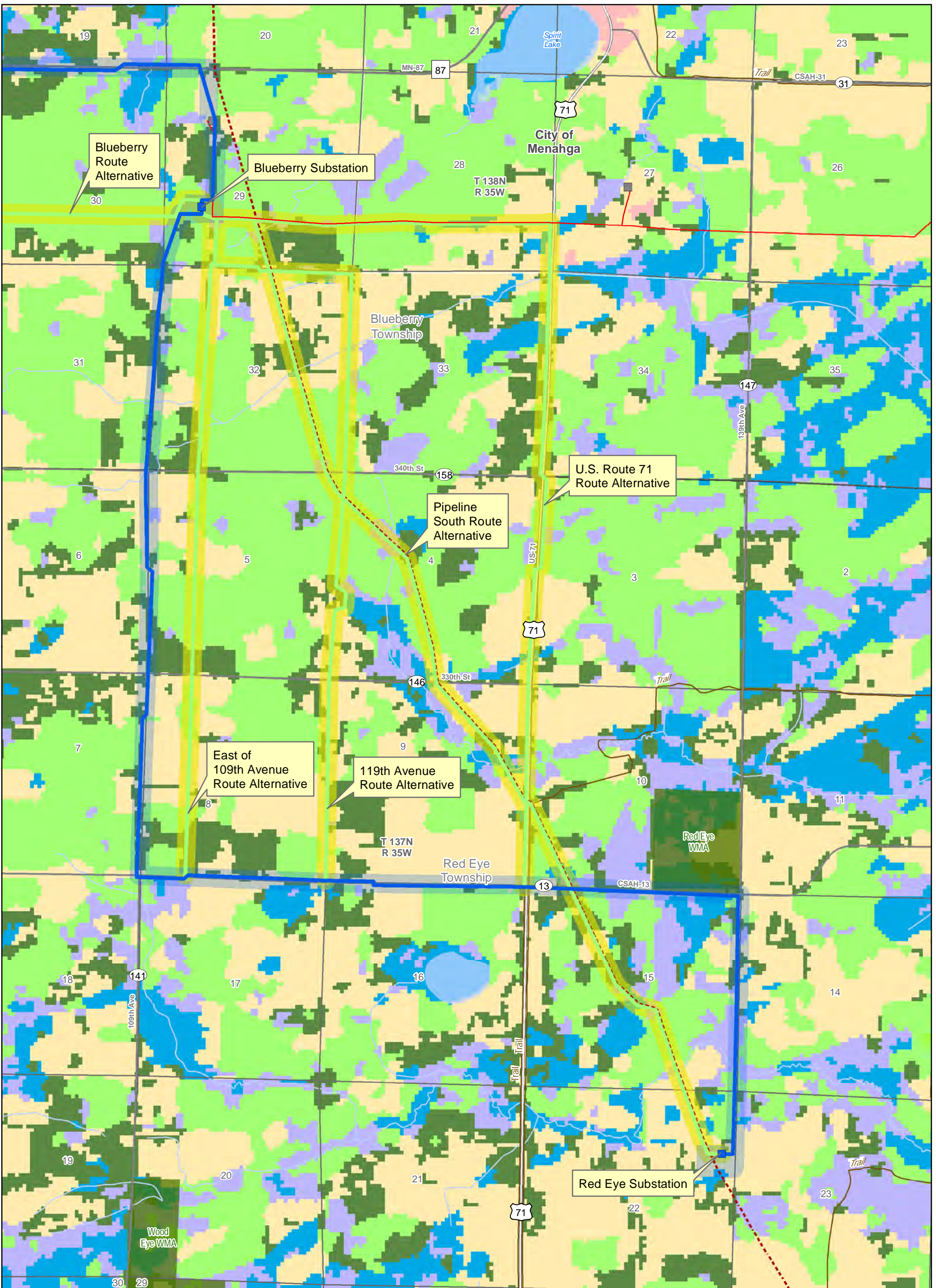
Land Use

Menahga Area 115 kV Project

GIS Data sources include:
 MNGEO, MNDNR, MNDOT,
 and Great River Energy.
 Updated: 7/29/2015

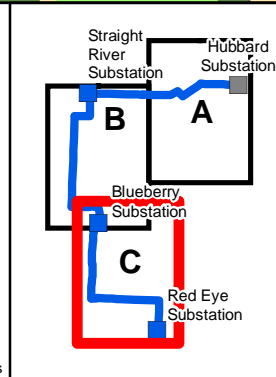
N





- Applicants**
- Proposed Alignment
 - Proposed Route
 - Proposed Substation
- Alternatives**
- Alternative Alignment
 - Alternative Route
 - Alternative Substation
- Existing**
- 34.5 kV Transmission Line
 - 230 kV Transmission Line
 - 250 kV Transmission Line
 - Pipeline
 - Substation

- GAP Land Cover**
- Forested Area
 - Barren
 - Water/Wetlands
 - Cropland
 - Grassland
 - Urban
 - Shrub Land
 - Transportation

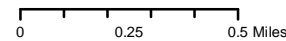


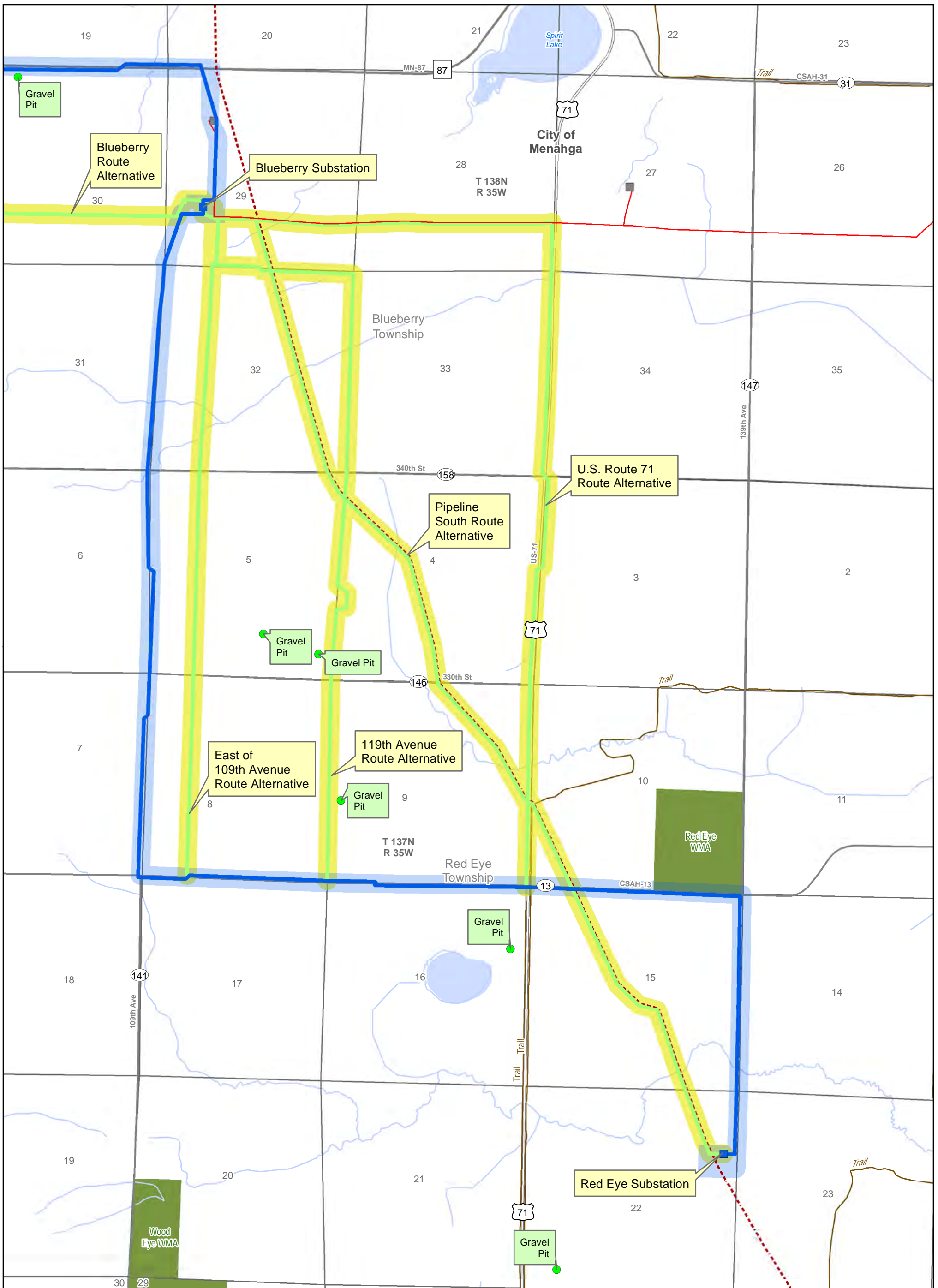
Map E1-C

Land Use

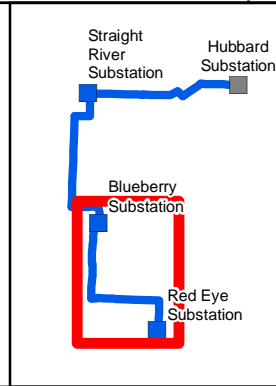
Menahga Area 115 kV Project

GIS Data sources include: MNGEO, MNDNR, MNDOT, and Great River Energy. Updated: 7/29/2015





Applicants	Existing	Mining Gravel Pits
Proposed Alignment	34.5 kV Transmission Line	● Mining Gravel Pits
Proposed Route	230 kV Transmission Line	
Proposed Substation	250 kV Transmission Line	
Alternatives	Pipeline	
Alternative Alignment	Substation	
Alternative Route		
Alternative Substation		

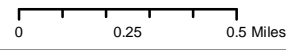


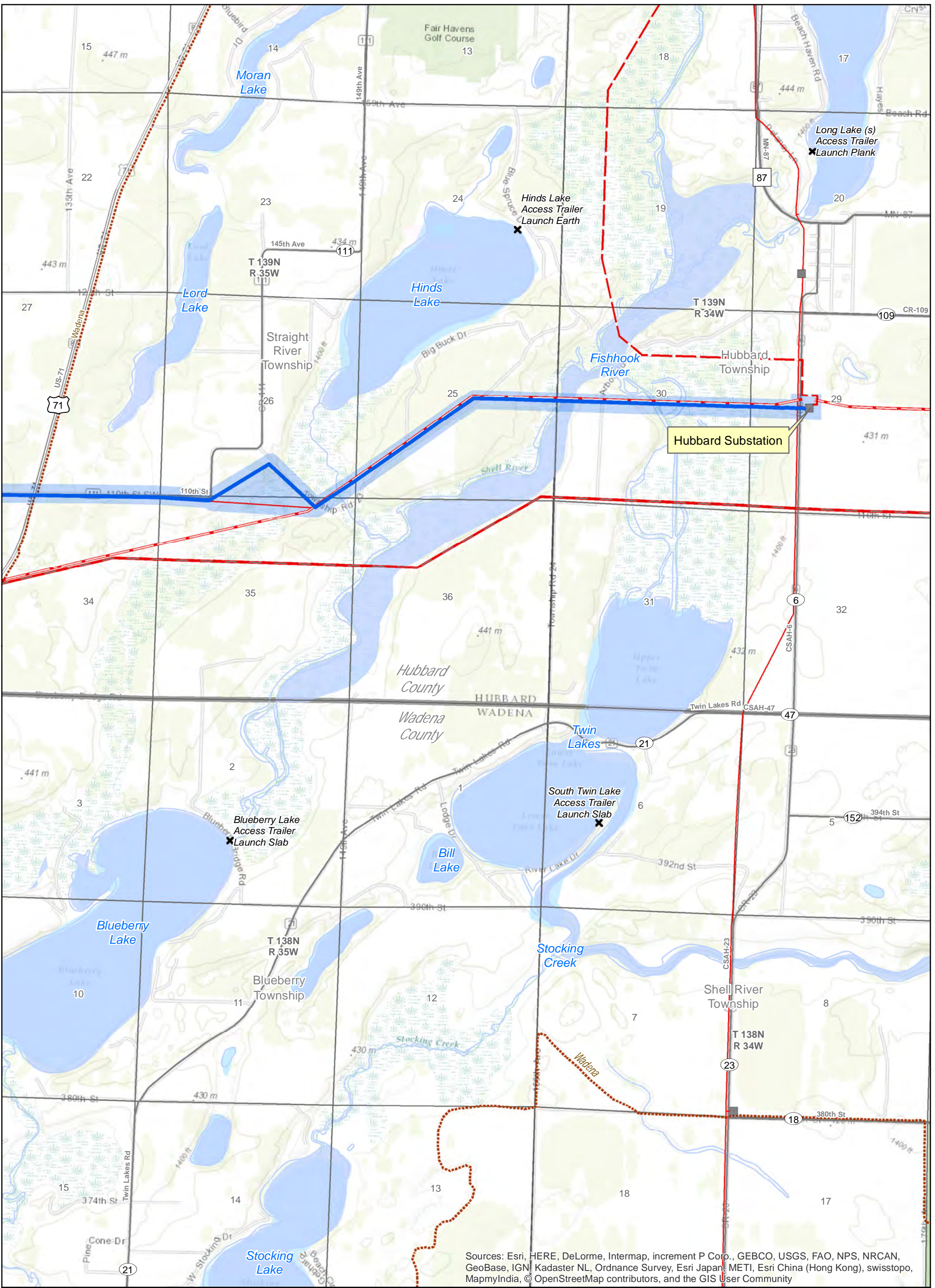
Map E2

Mining | Gravel Pits

Menahga Area 115 kV Project

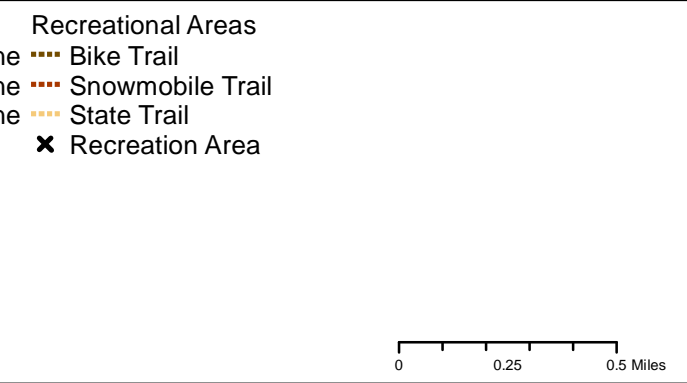
GIS Data sources include: MNGEO, MNDNR, MNDOT, and Great River Energy. Updated: 7/29/2015





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

- | | | |
|------------------------|---------------------------|---------------------------|
| Applicants | Existing | Recreational Areas |
| Proposed Alignment | 34.5 kV Transmission Line | Bike Trail |
| Proposed Route | 230 kV Transmission Line | Snowmobile Trail |
| Proposed Substation | 250 kV Transmission Line | State Trail |
| Alternatives | Pipeline | Recreation Area |
| Alternative Alignment | Substation | |
| Alternative Route | | |
| Alternative Substation | | |

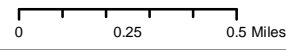


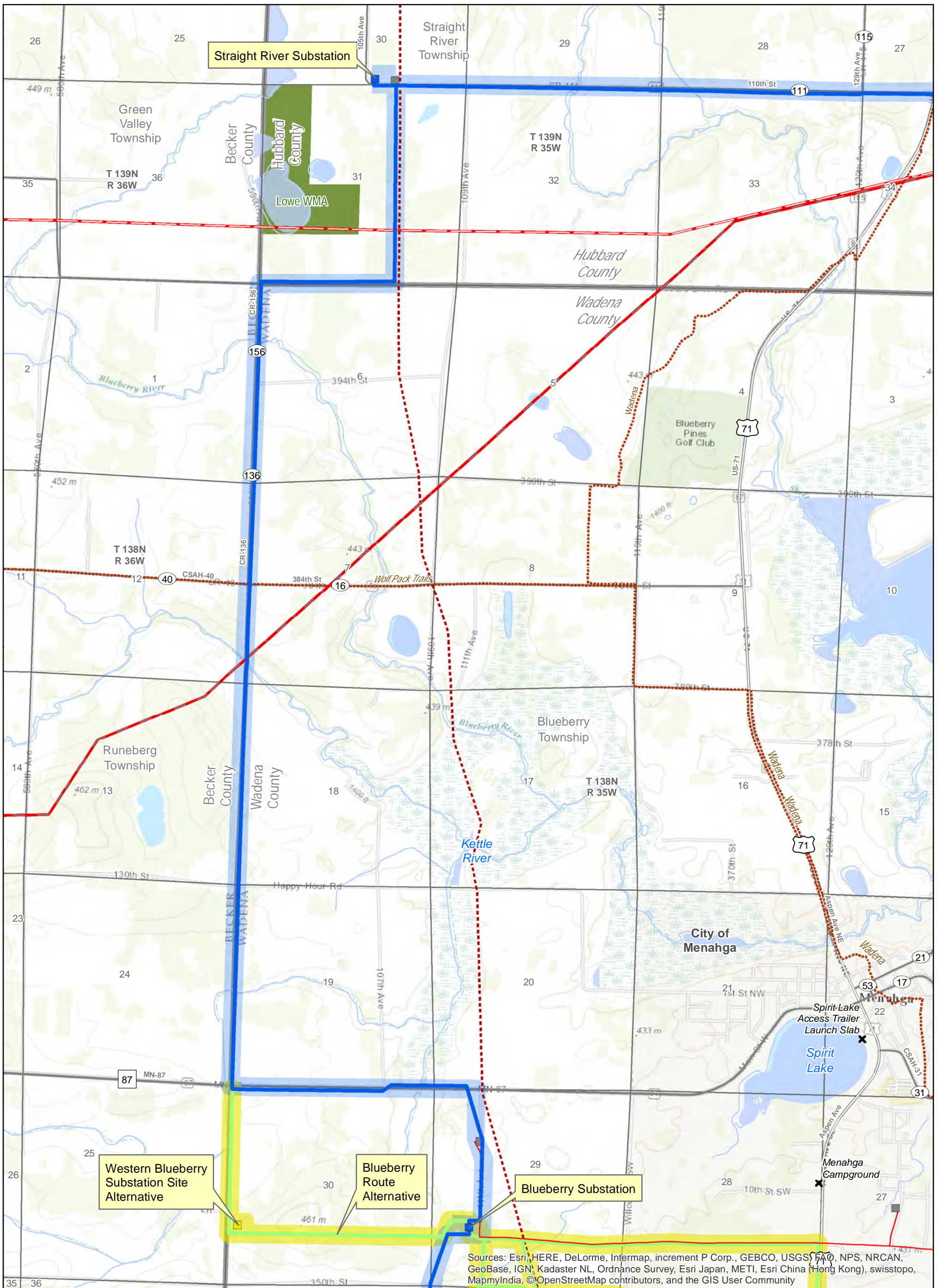
Map E3-A

Recreational Areas

Menahga Area 115 kV Project

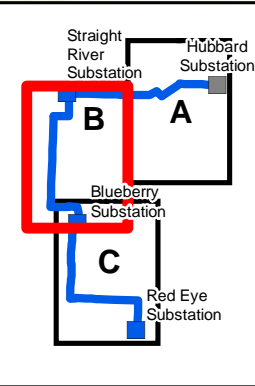
GIS Data sources include: MNGEO, MNDNR, MNDOT, and Great River Energy. Topographic Map from ESRI basemap service. Updated: 7/29/2015





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

Applicants	Existing	Recreational Areas
<ul style="list-style-type: none"> — Proposed Alignment — Proposed Route ■ Proposed Substation 	<ul style="list-style-type: none"> — 34.5 kV Transmission Line — 230 kV Transmission Line — 250 kV Transmission Line - - - Pipeline ■ Substation 	<ul style="list-style-type: none"> - - - Bike Trail - - - Snowmobile Trail - - - State Trail x Recreation Area
Alternatives		
<ul style="list-style-type: none"> — Alternative Alignment — Alternative Route ■ Alternative Substation 		

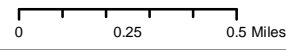


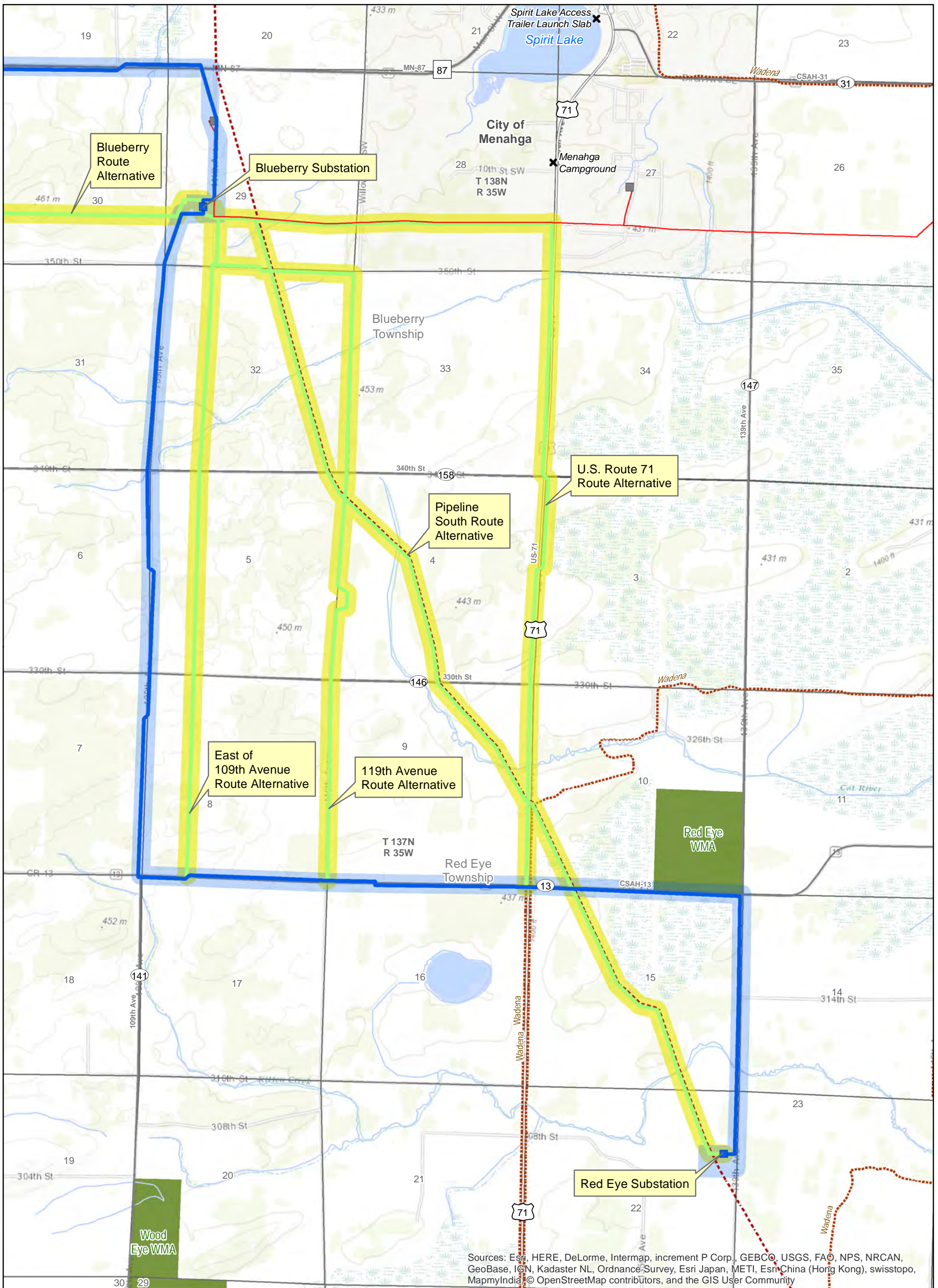
Map E3-B

Recreational Areas

Menahga Area 115 kV Project

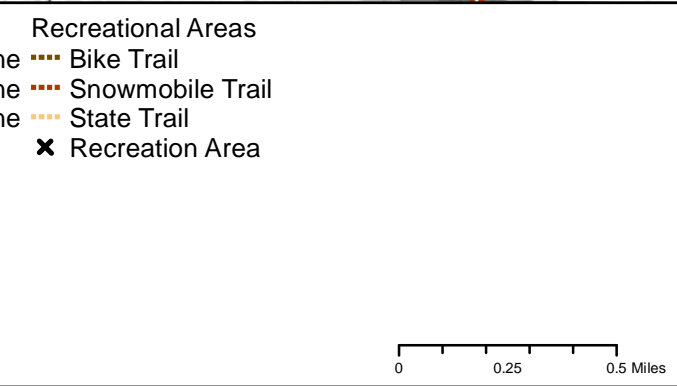
GIS Data sources include: MNGEO, MNDNR, MNDOT, and Great River Energy. Topographic Map from ESRI basemap service. Updated: 7/29/2015





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

- | | | |
|------------------------|---------------------------|---------------------------|
| Applicants | Existing | Recreational Areas |
| Proposed Alignment | 34.5 kV Transmission Line | Bike Trail |
| Proposed Route | 230 kV Transmission Line | Snowmobile Trail |
| Proposed Substation | 250 kV Transmission Line | State Trail |
| Alternatives | Pipeline | Recreation Area |
| Alternative Alignment | Substation | |
| Alternative Route | | |
| Alternative Substation | | |

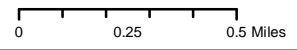


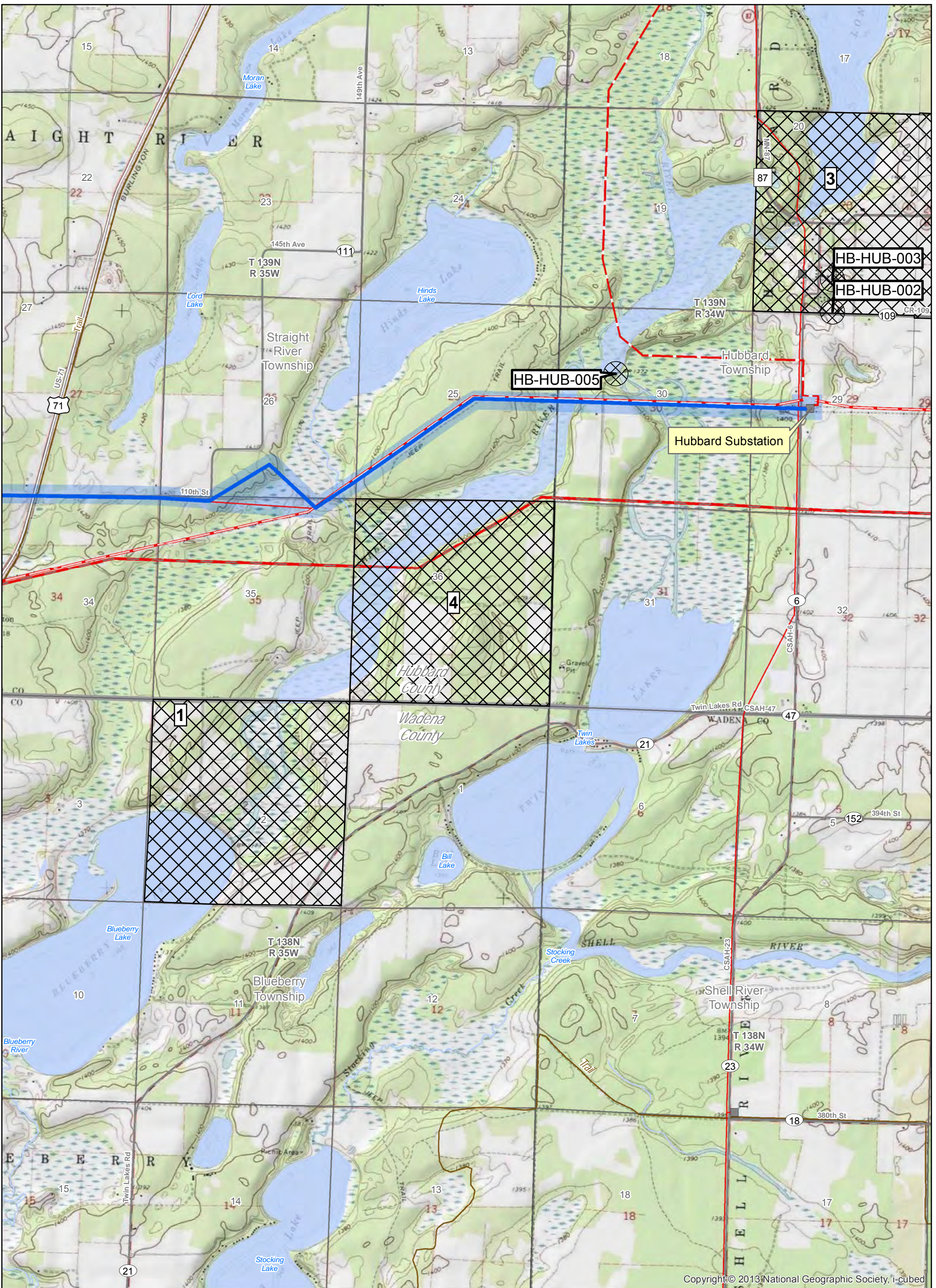
Map E3-C

Recreational Areas

Menahga Area 115 kV Project

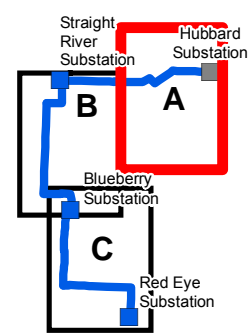
GIS Data sources include: MNGEO, MNDNR, MNDOT, and Great River Energy. Topographic Map from ESRI basemap service. Updated: 7/29/2015





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- | | |
|------------------------|---|
| Applicants | Existing |
| Proposed Alignment | 34.5 kV Transmission Line |
| Proposed Route | 230 kV Transmission Line |
| Proposed Substation | 250 kV Transmission Line |
| Alternatives | Pipeline |
| Alternative Alignment | Substation |
| Alternative Route | Number of Archaeological Sites Per Section |
| Alternative Substation | Previously Identified Architectural/Historic Site |



Map E4-A

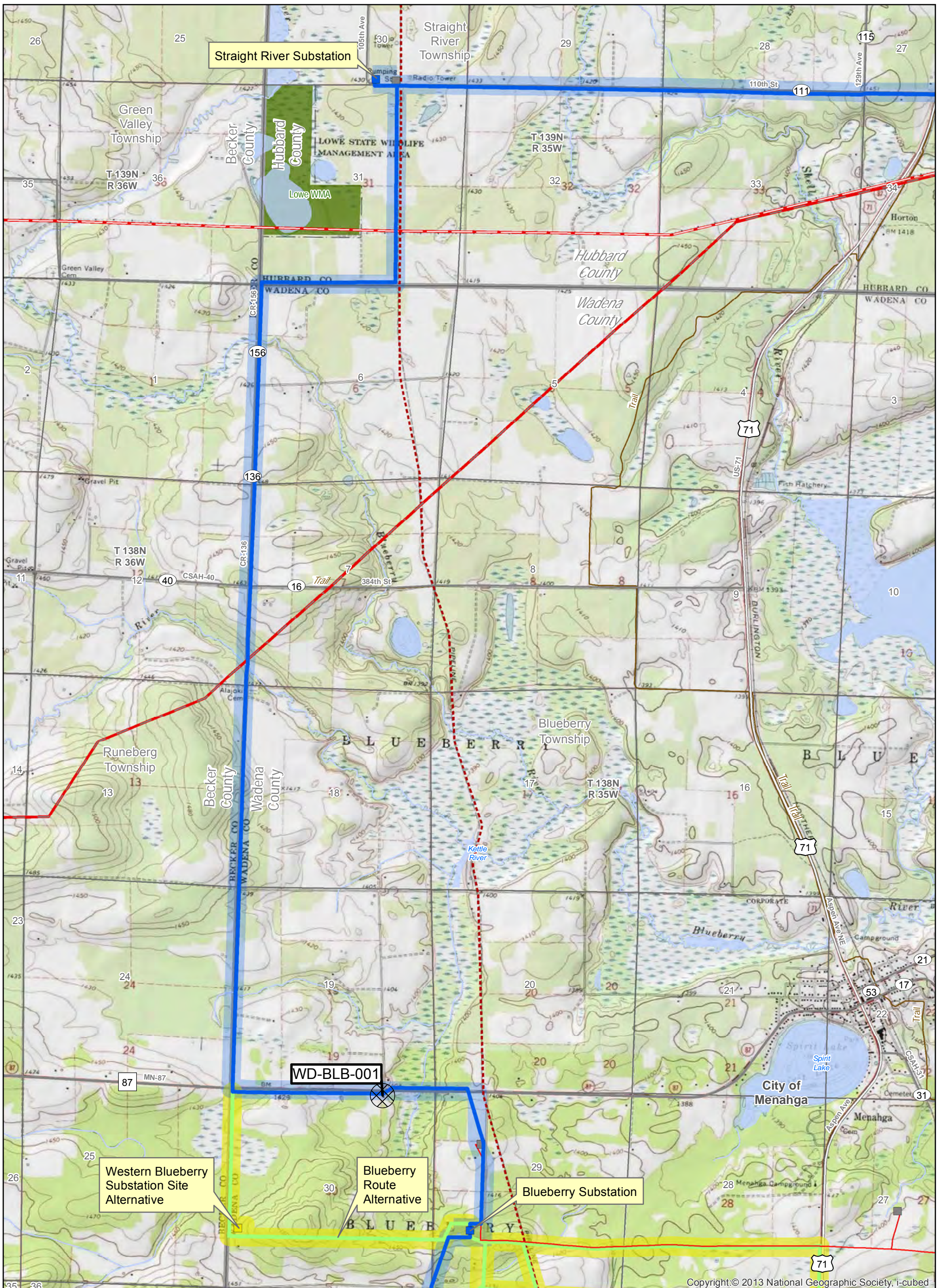
Archaeological and Historic Resources

Menahga Area 115 kV Project

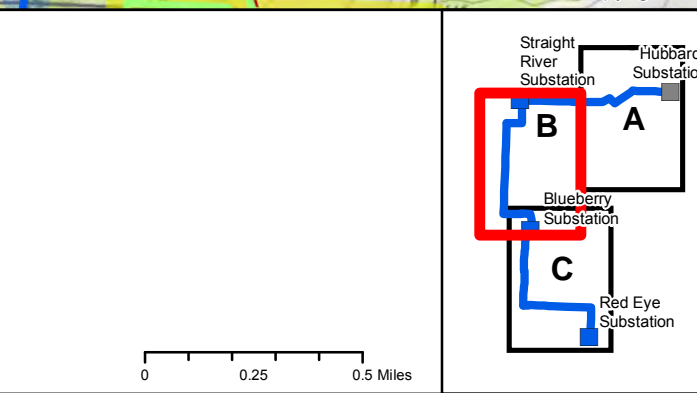
GIS Data sources include:
MNGEO, MNDNR, MNDOT,
and Great River Energy.
Topo from ESRI basemap service.
Updated: 7/29/2015

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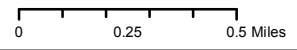


Applicants	Existing
Proposed Alignment	34.5 kV Transmission Line
Proposed Route	230 kV Transmission Line
Proposed Substation	250 kV Transmission Line
Alternatives	Pipeline
Alternative Alignment	Substation
Alternative Route	Number of Archaeological Sites Per Section
Alternative Substation	Previously Identified Architectural/Historic Site

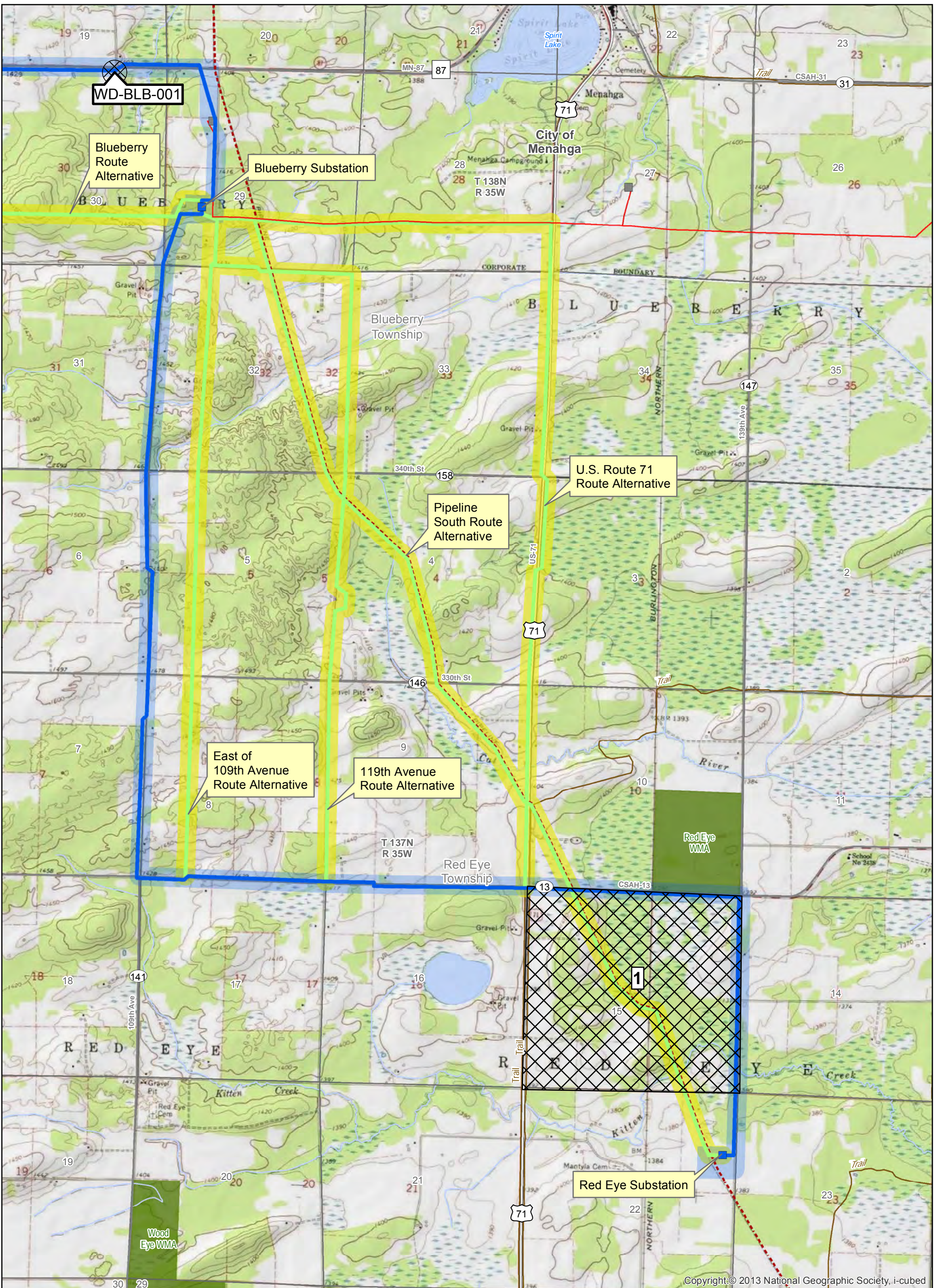


Map E4-B
Archaeological and Historic Resources
 Menahga Area 115 kV Project

GIS Data sources include:
 MNGEO, MNDNR, MNDOT,
 and Great River Energy.
 Topo from ESRI basemap service.
 Updated: 7/29/2015

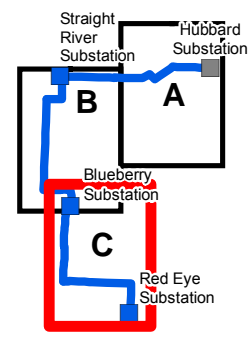


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- | | |
|--------------------------|---|
| Applicants | Existing |
| — Proposed Alignment | — 34.5 kV Transmission Line |
| — Proposed Route | — 230 kV Transmission Line |
| ■ Proposed Substation | — 250 kV Transmission Line |
| Alternatives | — Pipeline |
| — Alternative Alignment | ■ Substation |
| — Alternative Route | ▨ Number of Archaeological Sites Per Section |
| — Alternative Substation | ⊗ Previously Identified Architectural/Historic Site |

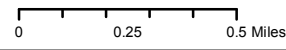


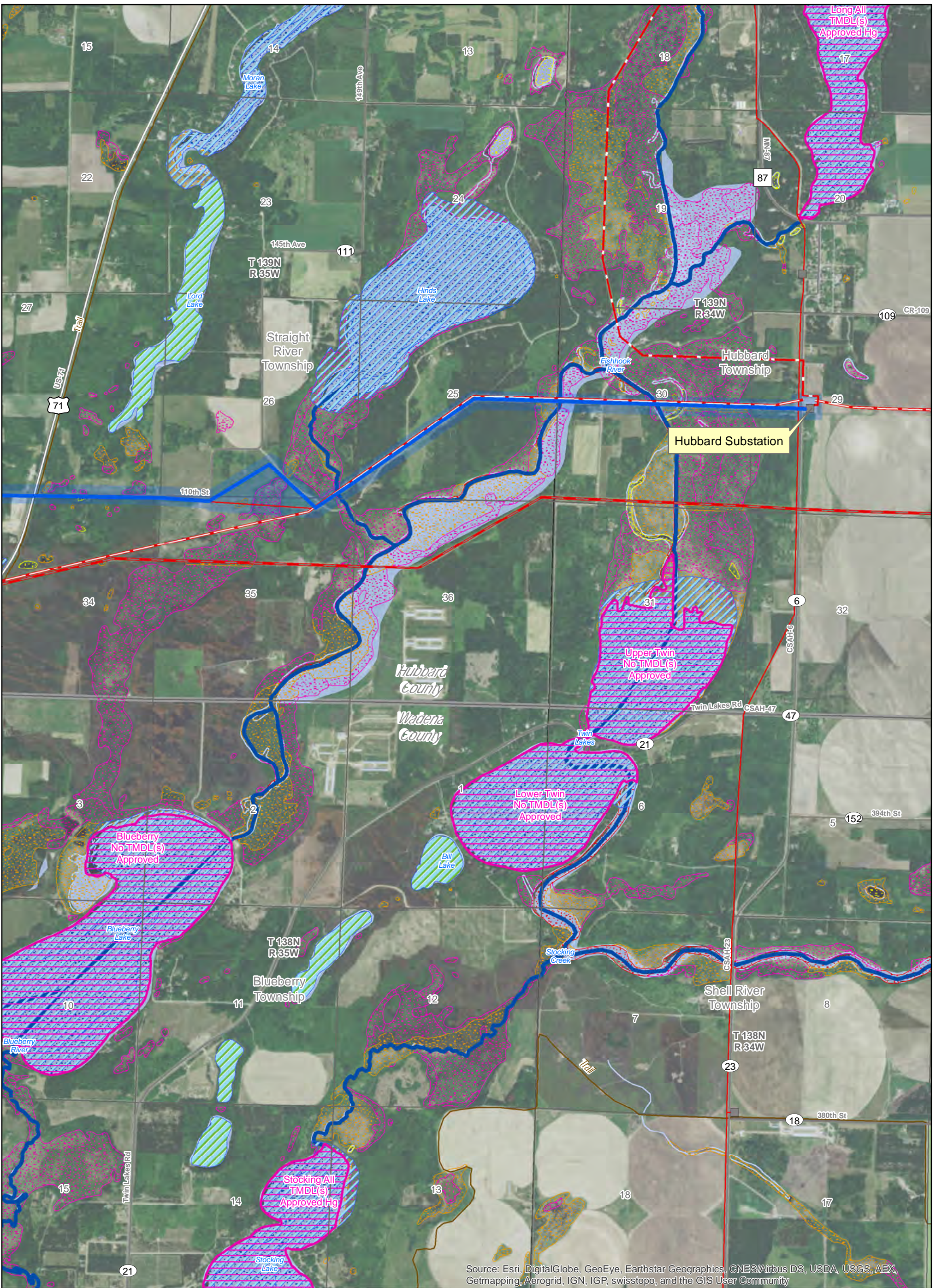
Map E4-C

Archaeological and Historic Resources

Menahga Area 115 kV Project

GIS Data sources include:
MNGEO, MNDNR, MNDOT,
and Great River Energy.
Topo from ESRI basemap service.
Updated: 7/29/2015



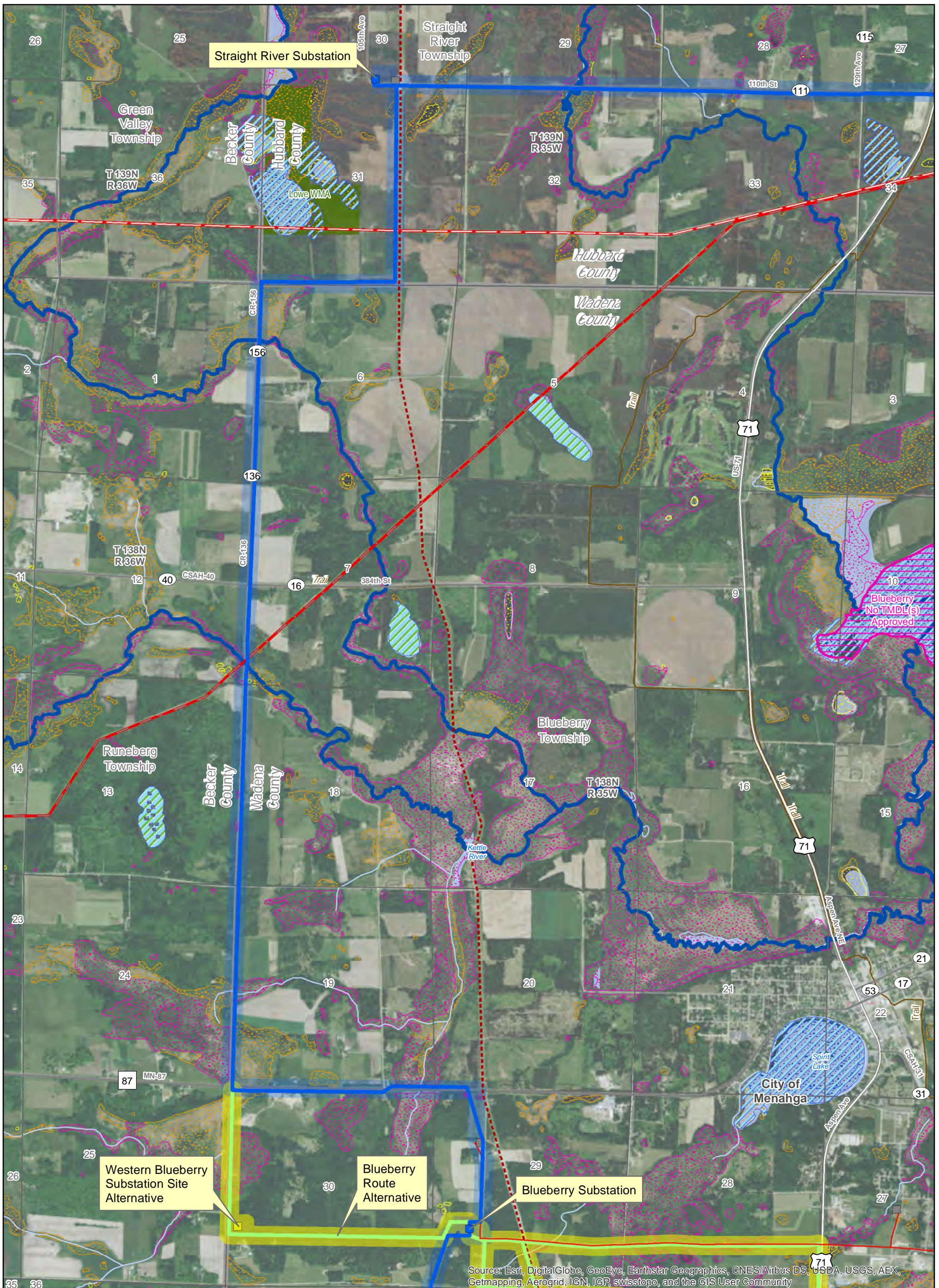


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Applicants Proposed Alignment Proposed Route Proposed Substation Alternatives Alternative Alignment Alternative Route Alternative Substation	Existing 34.5 kV Transmission Line 230 kV Transmission Line 250 kV Transmission Line Pipeline Substation Hydrologic Features PWI Lake PWI Wetland PWI River	NWI Wetlands Freshwater Emergent Wetland Freshwater Forested/ Shrub Wetland Freshwater Pond Lake Riverine Impaired Waters Impaired Streams Wetlands Impaired Lakes	 Map E5-A Water Resources Menahga Area 115 kV Project GIS Data sources include: MNGEO, MNDNR, MNDOT, and Great River Energy. Aerial from ESRI basemap service Updated: 7/29/2015
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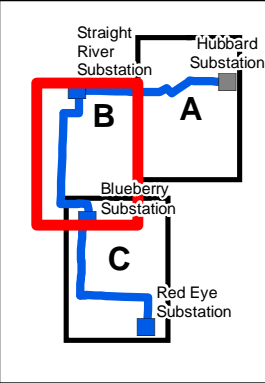
0 0.25 0.5 Miles





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

Applicants	Existing	NWI Wetlands
Proposed Alignment	34.5 kV Transmission Line	Freshwater Emergent Wetland
Proposed Route	230 kV Transmission Line	Freshwater Forested/Shrub Wetland
Proposed Substation	250 kV Transmission Line	Freshwater Pond
Alternatives	Pipeline	Lake
Alternative Alignment	Substation	Riverine
Alternative Route	Hydrologic Features	Impaired Waters
Alternative Substation	PWI Lake	Impaired Streams
	PWI Wetland	Wetlands
	PWI River	Impaired Lakes

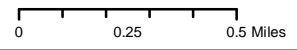


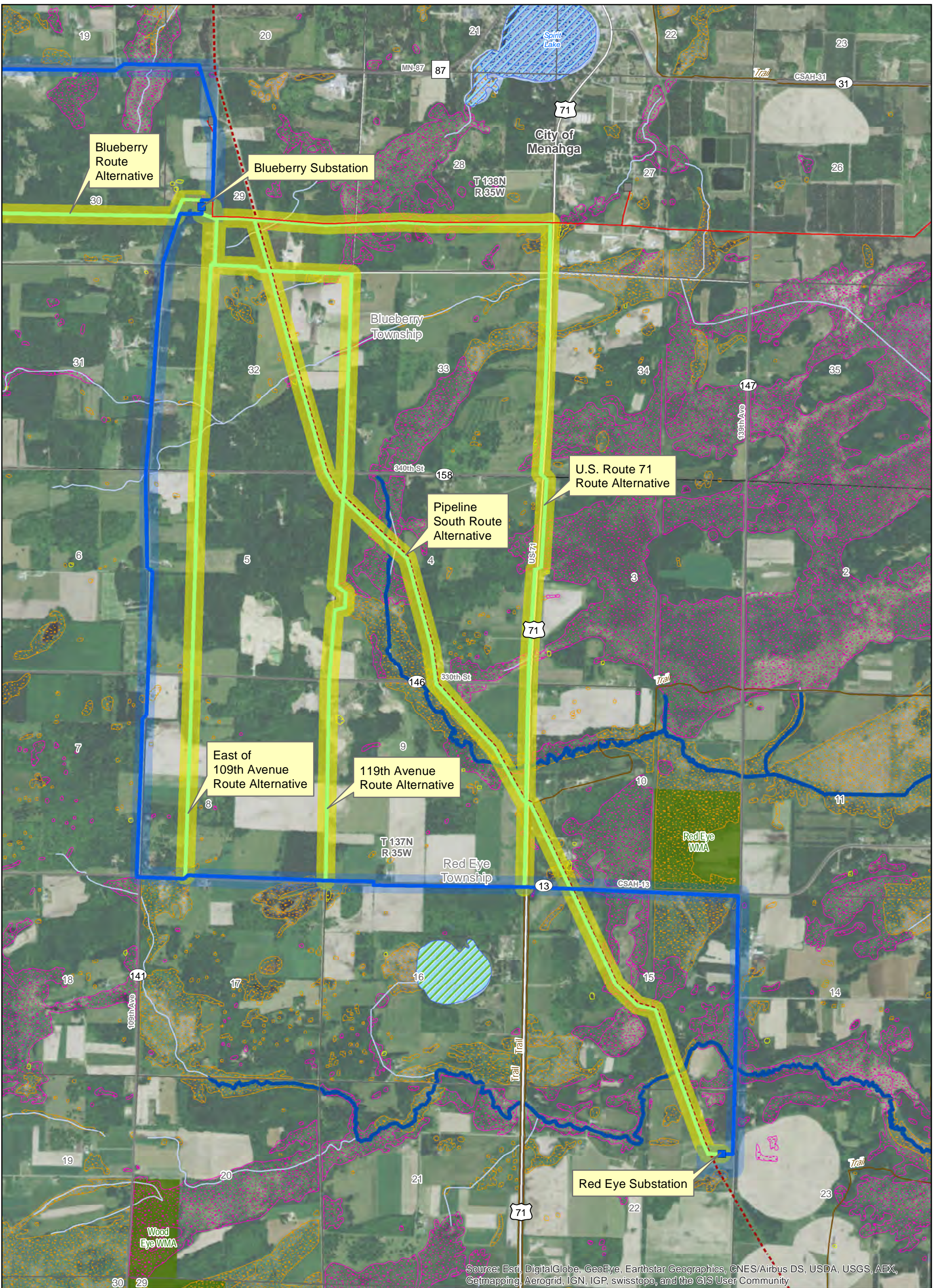
Map E5-B

Water Resources

Menahga Area 115 kV Project

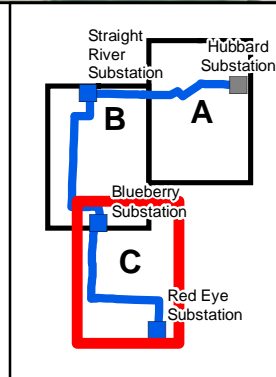
GIS Data sources include: MNGEO, MNDNR, MNDOT, and Great River Energy. Aerial from ESRI basemap service. Updated: 7/29/2015





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

Applicants Proposed Alignment Proposed Route Proposed Substation Alternatives Alternative Alignment Alternative Route Alternative Substation	Existing 34.5 kV Transmission Line 230 kV Transmission Line 250 kV Transmission Line Pipeline Substation Hydrologic Features PWI Lake PWI Wetland PWI River	NWI Wetlands Freshwater Emergent Wetland Freshwater Forested/ Shrub Wetland Freshwater Pond Lake Riverine Impaired Waters Impaired Streams Wetlands Impaired Lakes
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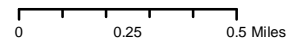


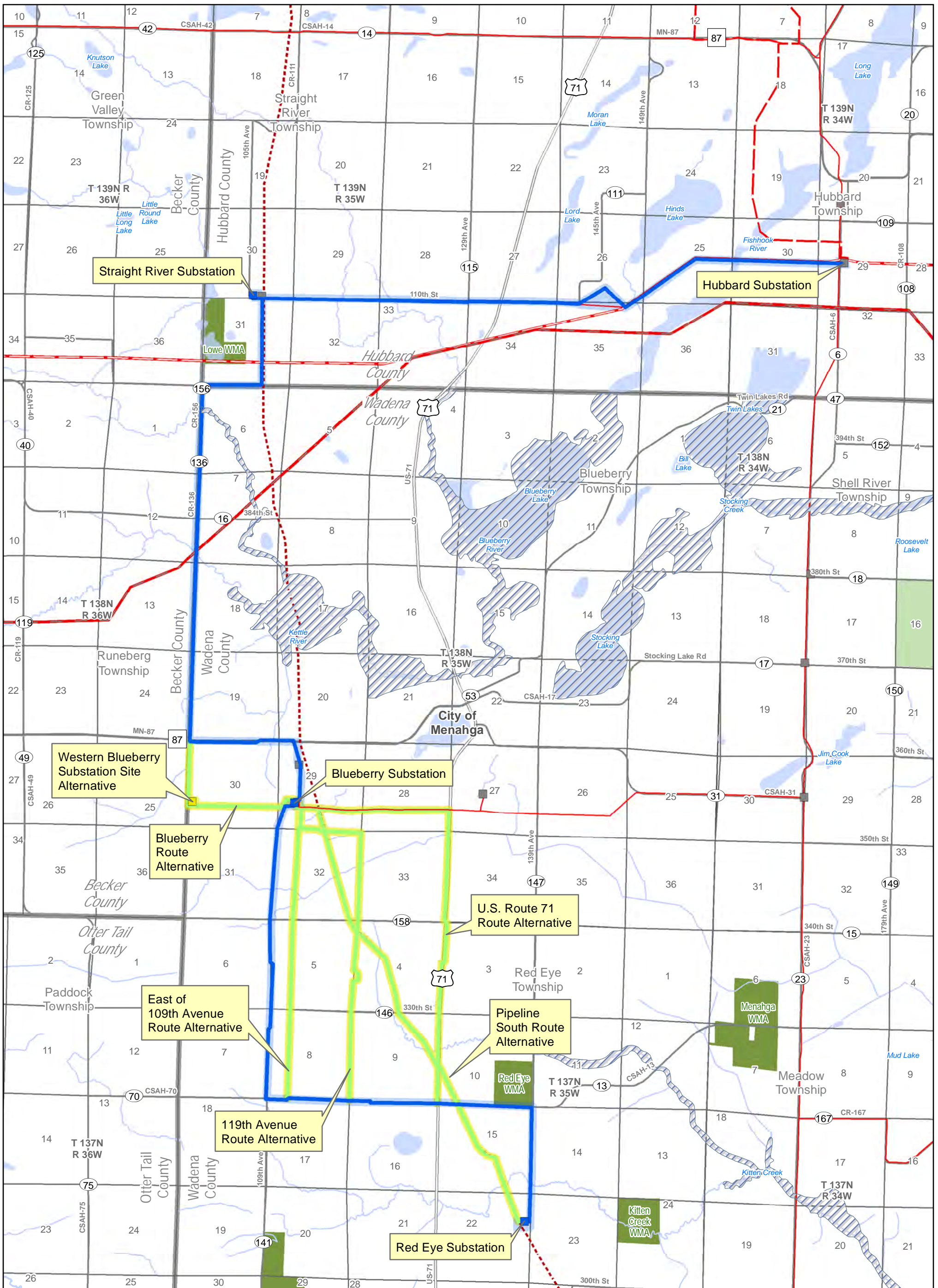
Map E5-C

Water Resources

Menahga Area 115 kV Project

GIS Data sources include:
 MNGEO, MNDNR, MNDOT,
 and Great River Energy.
 Aerial from ESRI basemap service
 Updated: 7/29/2015





<p>Applicants</p> <ul style="list-style-type: none"> — Proposed Alignment — Proposed Route ■ Proposed Substation <p>Alternatives</p> <ul style="list-style-type: none"> — Alternative Alignment — Alternative Route ■ Alternative Substation 	<p>Existing</p> <ul style="list-style-type: none"> — 34.5 kV Transmission Line — 230 kV Transmission Line — 250 kV Transmission Line - - - Pipeline ■ Substation 	<p>FEMA</p> <ul style="list-style-type: none"> 100 year flood hazard zones
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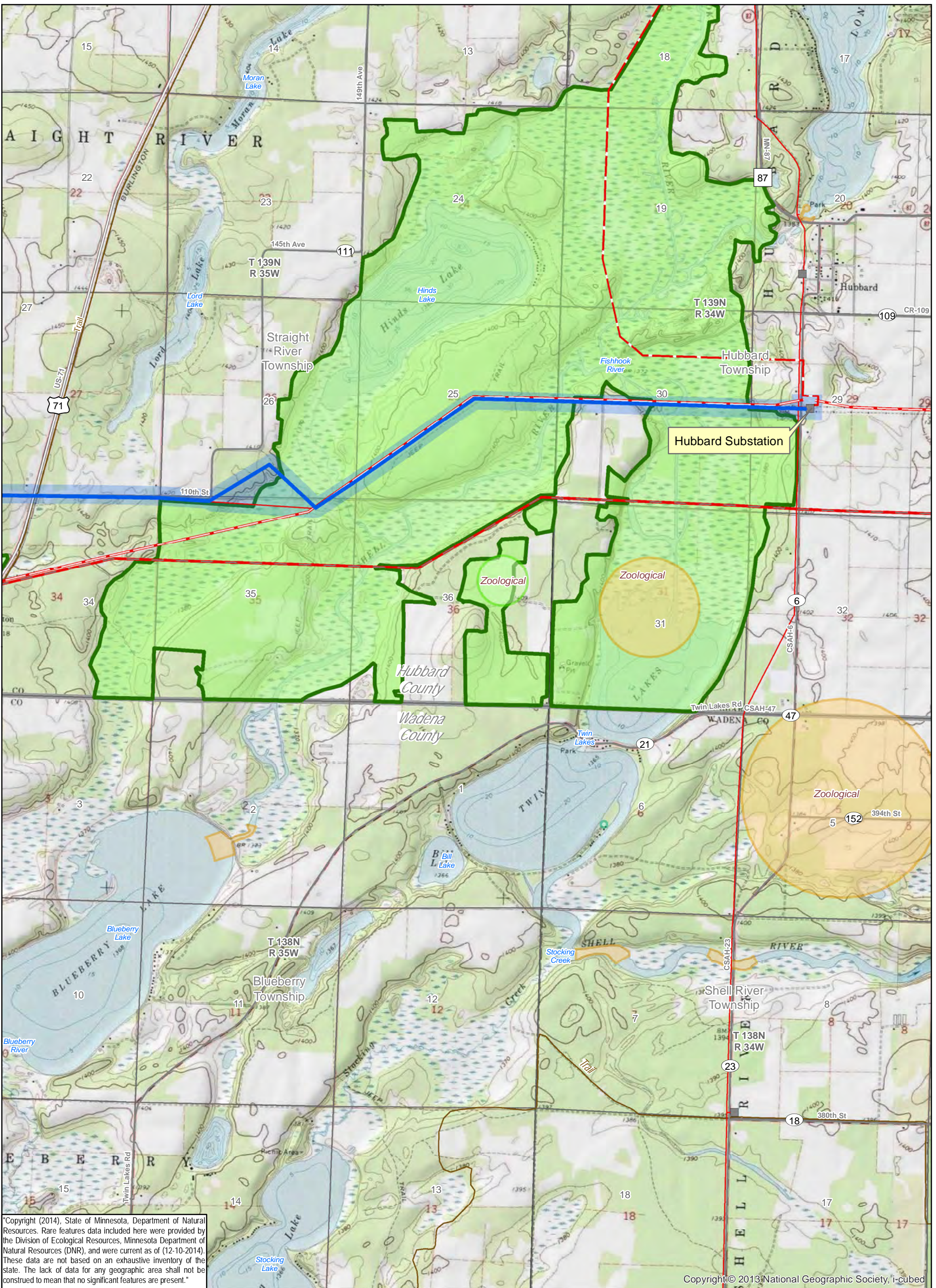
Map E6

Flood Plains

Menahga Area 115 kV Project

GIS Data sources include: MNGEO, MNDNR, MNDOT, and Great River Energy. Flood plains from the Federal Emergency Management Agency (FEMA) Updated: 7/29/2015

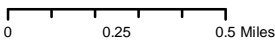
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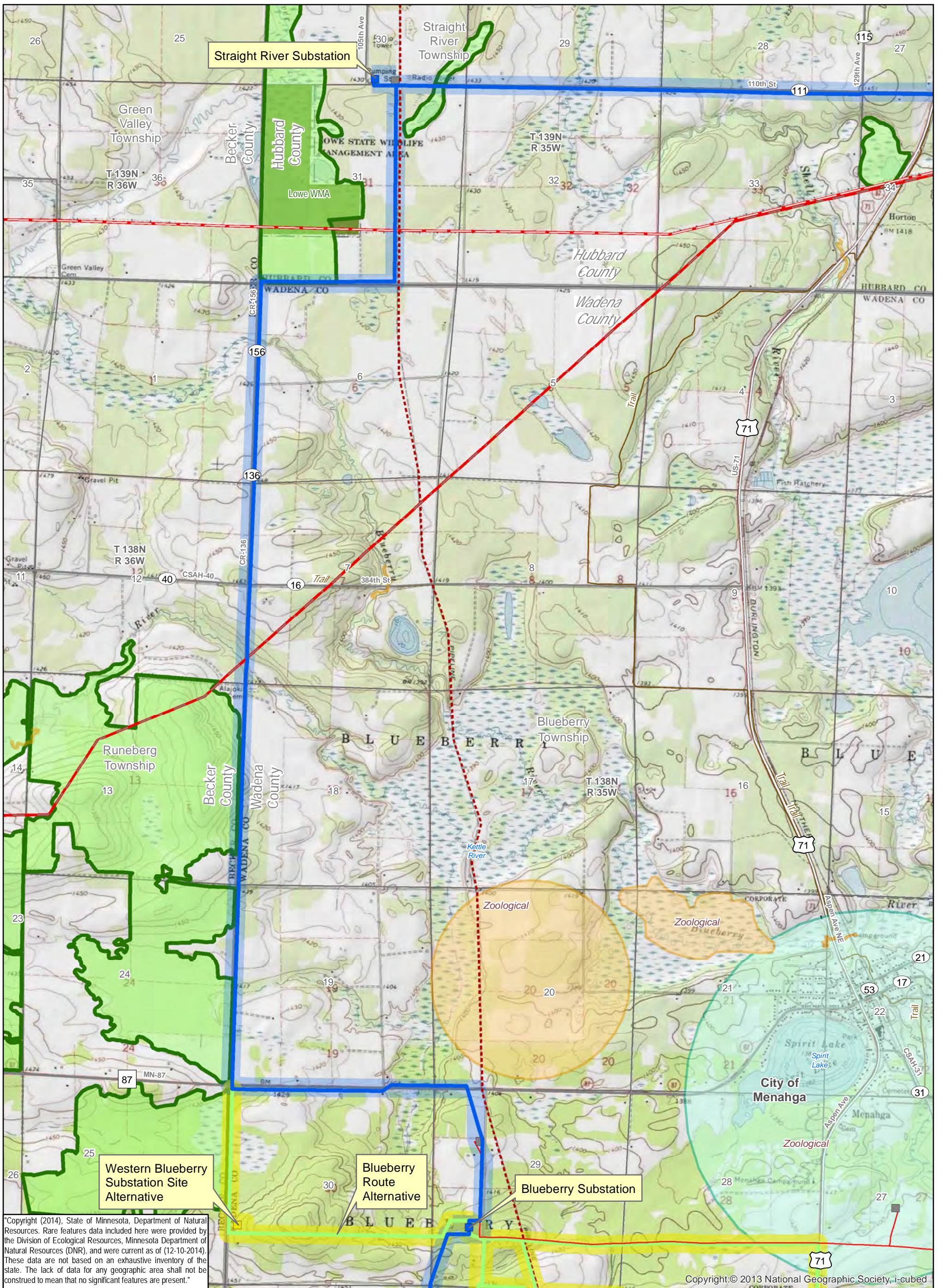


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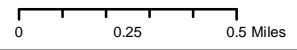
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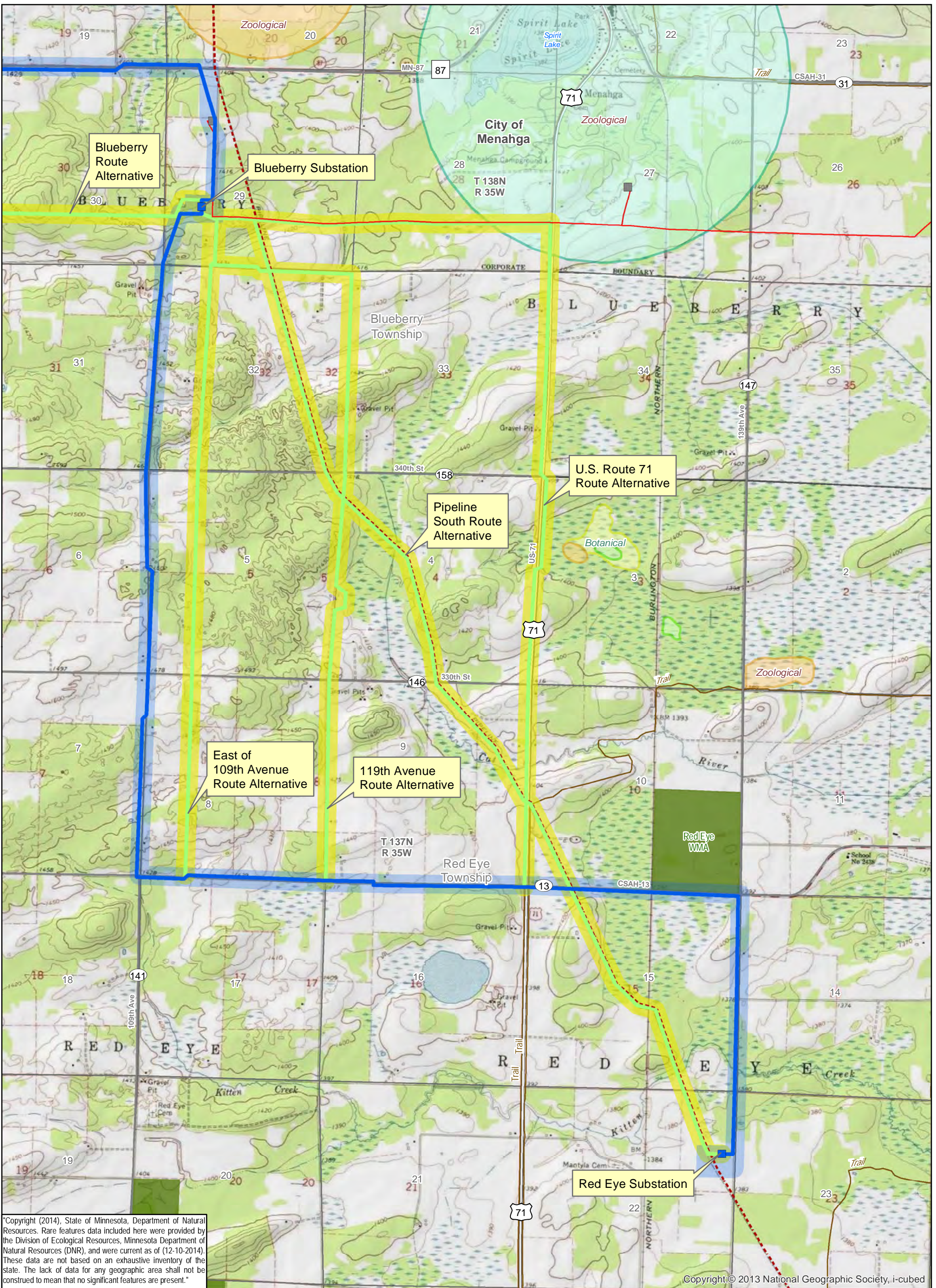
Applicants Proposed Alignment Proposed Route Proposed Substation Alternatives Alternative Alignment Alternative Route Alternative Substation	Existing 34.5 kV Transmission Line 230 kV Transmission Line 250 kV Transmission Line Pipeline Substation Sites of Biodiversity Significance Outstanding High Moderate Below	Rare Natural Feature (NHIS) Protection Status Endangered Threatened Special Concern Watchlist Not listed Native Plant Community		<h2>Map E7-A</h2> <h3>Rare and Unique Natural Resources</h3> <p>Menahga Area 115 kV Project</p> <p>GIS Data sources include: MNGEO, MNDNR, MNDOT, and Great River Energy. Topo from ESRI basemap service. Updated: 7/29/2015</p>
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Applicants Proposed Alignment Proposed Route Proposed Substation Alternatives Alternative Alignment Alternative Route Alternative Substation	Existing 34.5 kV Transmission Line 230 kV Transmission Line 250 kV Transmission Line Pipeline Substation Sites of Biodiversity Significance Outstanding High Moderate Below	Rare Natural Feature (NHIS) Protection Status Endangered Threatened Special Concern Watchlist Not listed Native Plant Community	 Map E7-B Rare and Unique Natural Resources Menahga Area 115 kV Project GIS Data sources include: MNGEO, MNDNR, MNDOT, and Great River Energy. Topo from ESRI basemap service. Updated: 7/29/2015
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Applicants Proposed Alignment Proposed Route Proposed Substation Alternatives Alternative Alignment Alternative Route Alternative Substation	Existing 34.5 kV Transmission Line 230 kV Transmission Line 250 kV Transmission Line Pipeline Substation Sites of Biodiversity Significance Biodiversity Significance Outstanding High Moderate Below	Rare Natural Feature (NHIS) Protection Status Endangered Threatened Special Concern Watchlist Not listed Native Plant Community		<h2>Map E7-C</h2> <h3>Rare and Unique Natural Resources</h3> <p>Menahga Area 115 kV Project</p> <p>GIS Data sources include: MNGEO, MNDNR, MNDOT, and Great River Energy. Topo from ESRI basemap service. Updated: 7/29/2015</p>
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