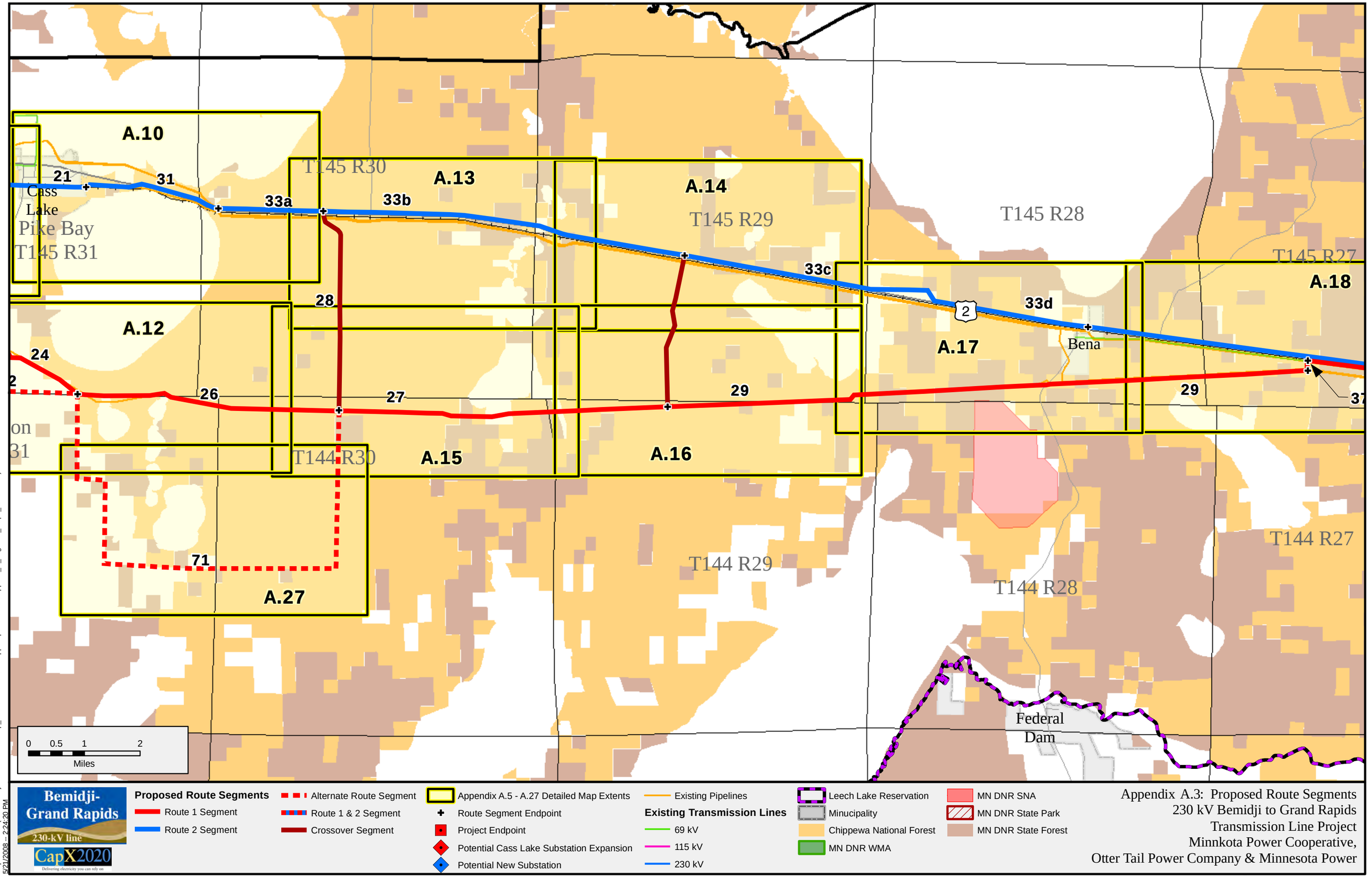


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Bemidji-Grand Rapids 230-kV line
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**Proposed Route Segments**
- Route 1 Segment
- Route 2 Segment
- Alternate Route Segment
- Route 1 & 2 Segment
- Crossover Segment

- Appendix A.5 - A.27 Detailed Map Extents
- Route Segment Endpoint
- Project Endpoint
- Potential Cass Lake Substation Expansion
- Potential New Substation

- Existing Pipelines

**Existing Transmission Lines**
- 69 kV
- 115 kV
- 230 kV

- Leech Lake Reservation
- Minucipality
- Chippewa National Forest
- MN DNR WMA

- MN DNR SNA
- MN DNR State Park
- MN DNR State Forest

Appendix A.3: Proposed Route Segments
230 kV Bemidji to Grand Rapids
Transmission Line Project
Minnkota Power Cooperative,
Otter Tail Power Company & Minnesota Power

Appendix A.10: Detailed Route Maps
230 kV Bemidji to Grand Rapids
Transmission Line Project
Minnkota Power Cooperative,
Otter Tail Power Company & Minnesota Power

Map Document: (N:\GIS\Proj\Otertail\48496\map_docs\mxd\MN route app\Report\Revised\Append_A_Detailed_Routes_11x17_public.mxd)
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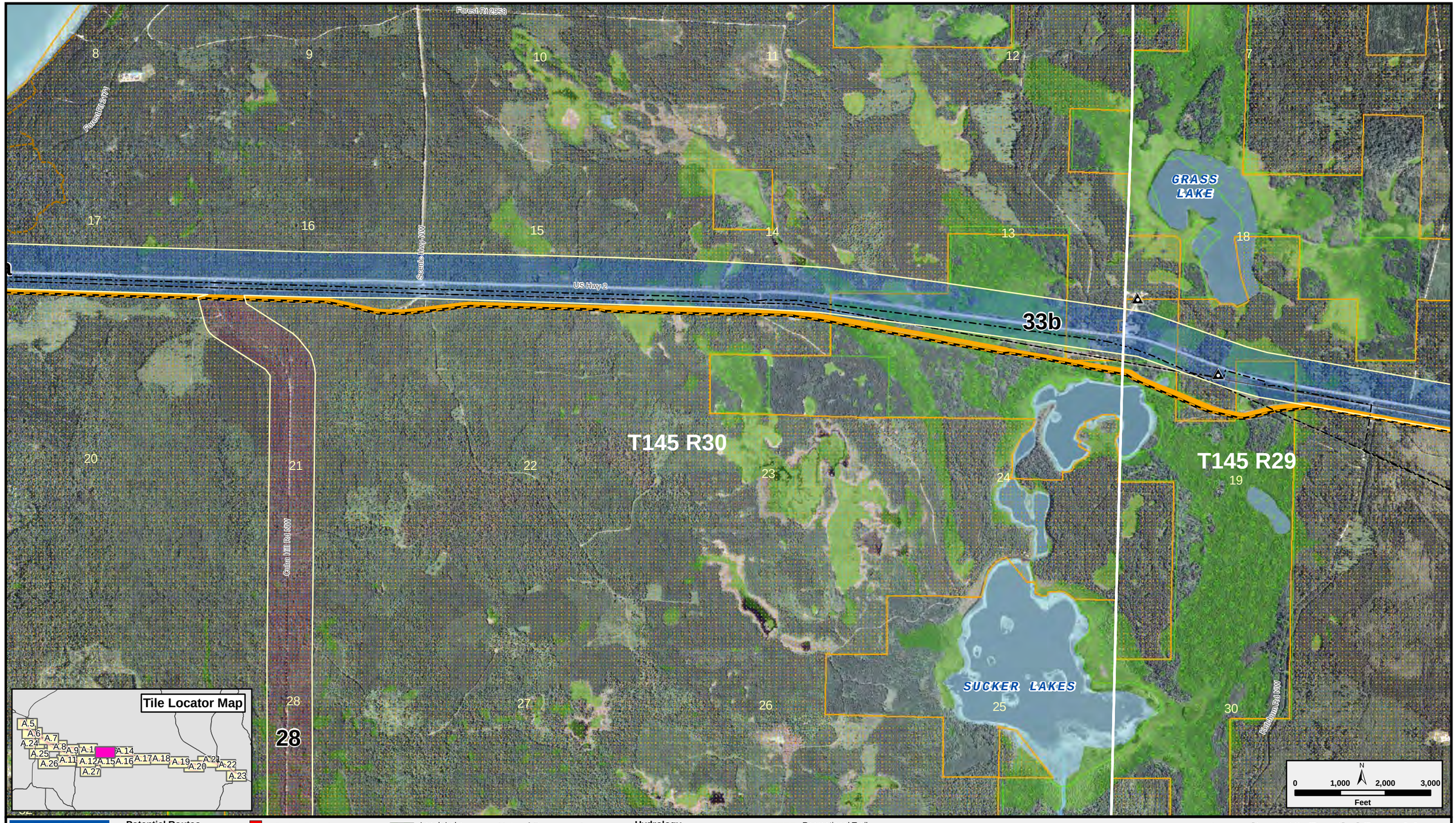


Bemidji-Grand Rapids 230-kV line

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**Potential Routes**
- Route 1
- Route 2
- Routes 1 & 2
- Alternate Segment
- Crossover Segment

- Project Endpoint
- Proposed Cass Lake Substation

**Existing Transmission Lines**
- 69 kV Transmission Line
- 115 kV Transmission Line
- 230 kV Transmission Line

- Leech Lake Reservation
- Existing Pipeline
- Proposed Enbridge Pipeline
- Communication Tower
- Substation

**Natural Resource Areas**
- Wildlife Management Area
- Chippewa National Forest
- MN State Forest
- MN DNR SNA

**Hydrology**
- NWI Wetland
- PWI Lake
- PWI Stream

- Recreational Trail
- Snowmobile Trail
- Water Access
- Residences
- Gravel Pit

Appendix A.13: Detailed Route Maps
230 kV Bemidji to Grand Rapids
Transmission Line Project
Minnkota Power Cooperative,
Otter Tail Power Company & Minnesota Power

Map Document: (N:\GIS\Proj\Otertail\48496\map_docs\mxd\MN route appl\Report\Revised\Append A_Detailed_Routes_11x17_public.mxd)
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Bemidji-Grand Rapids 230-kV line

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**Potential Routes**
- Route 1
- Route 2
- Routes 1 & 2
- Alternate Segment
- Crossover Segment

- Project Endpoint
- Proposed Cass Lake Substation

**Existing Transmission Lines**
- 69 kV Transmission Line
- 115 kV Transmission Line
- 230 kV Transmission Line

- Leech Lake Reservation
- Existing Pipeline
- Proposed Enbridge Pipeline
- Communication Tower
- Substation

**Natural Resource Areas**
- Wildlife Management Area
- Chippewa National Forest
- MN State Forest
- MN DNR SNA

**Hydrology**
- NWI Wetland
- PWI Lake
- PWI Stream

- Recreational Trail
- Snowmobile Trail
- Water Access
- Residences
- Gravel Pit

# Appendix A.14: Detailed Route Maps
## 230 kV Bemidji to Grand Rapids Transmission Line Project
## Minnkota Power Cooperative, Otter Tail Power Company & Minnesota Power

Map Document: (N:\GIS\Proj\Otertail\48496\map_docs\mxd\MN route appl\Report\Revised\Append_A_Detailed_Routes_11x17_public.mxd)
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PIKE BAY

Pike Bay T145 R31

T145 R30

Wilkinson T144 R31

T144 R30

MOSS LAKE

TWIN LAKE

TWIN LAKE

28 27 26 25 30 29

24 33 34 35 36 31 32

26

5 4 3 2 1 6

10 11 12 7

145th St NW

County Rd 146

63rd Ave NW

65th Ave NW

143rd St NW

Pike Bay Loop NW

State Hwy 371

69th Ave NW

St NW

Tile Locator Map

A.5 A.6 A.7 A.24 A.8 A.9 A.10 A.13 A.14 A.25 A.11 A.15 A.16 A.17 A.18 A.19 A.21 A.26 A.27 A.20 A.22 A.23

0 1,000 2,000 3,000 Feet

Bemidji-Grand Rapids 230-kV line

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**Potential Routes**
- Route 1
- Route 2
- Routes 1 & 2
- Alternate Segment
- Crossover Segment

- Project Endpoint
- Proposed Cass Lake Substation

**Existing Transmission Lines**
- 69 kV Transmission Line
- 115 kV Transmission Line
- 230 kV Transmission Line

- Leech Lake Reservation
- Existing Pipeline
- Proposed Enbridge Pipeline
- Communication Tower
- Substation

**Natural Resource Areas**
- Wildlife Management Area
- Chippewa National Forest
- MN State Forest
- MN DNR SNA

**Hydrology**
- NWI Wetland
- PWI Lake
- PWI Stream

- Recreational Trail
- Snowmobile Trail
- Water Access
- Residences
- Gravel Pit

Appendix A.12: Detailed Route Maps
230 kV Bemidji to Grand Rapids
Transmission Line Project
Minnkota Power Cooperative,
Otter Tail Power Company & Minnesota Power

Map Document: (N:\GIS\Proj\Otertail\48496\map_docs\mxd\MN route app\Report\Revised\Append_A_Detailed_Routes_11x17_public.mxd)
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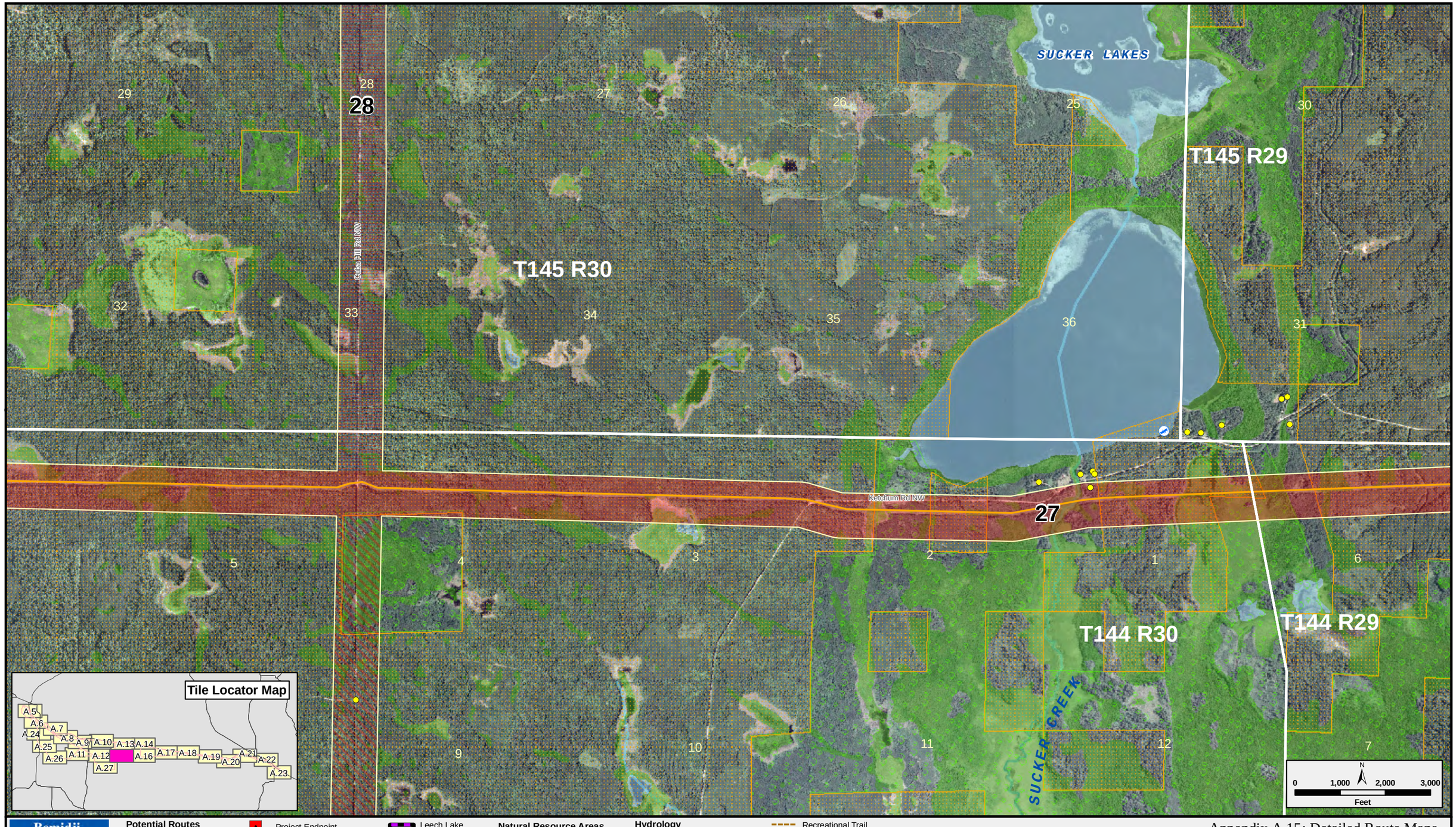


Bemidji-Grand Rapids 230-kV line

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**Potential Routes**
- Route 1
- Route 2
- Routes 1 & 2
- Alternate Segment
- Crossover Segment

- Project Endpoint
- Proposed Cass Lake Substation

**Existing Transmission Lines**
- 69 kV Transmission Line
- 115 kV Transmission Line
- 230 kV Transmission Line

- Leech Lake Reservation
- Existing Pipeline
- Proposed Enbridge Pipeline
- Communication Tower
- Substation

**Natural Resource Areas**
- Wildlife Management Area
- Chippewa National Forest
- MN State Forest
- MN DNR SNA

**Hydrology**
- NWI Wetland
- PWI Lake
- PWI Stream

- Recreational Trail
- Snowmobile Trail
- Water Access
- Residences
- Gravel Pit

Appendix A.15: Detailed Route Maps
230 kV Bemidji to Grand Rapids
Transmission Line Project
Minnkota Power Cooperative,
Otter Tail Power Company & Minnesota Power

Map Document: (N:\GIS\Proj\Ottertail\48496\map_doc\mxd\MN route appl\Report\Revised\Append_A_Detailed_Routes_11x17_public.mxd)
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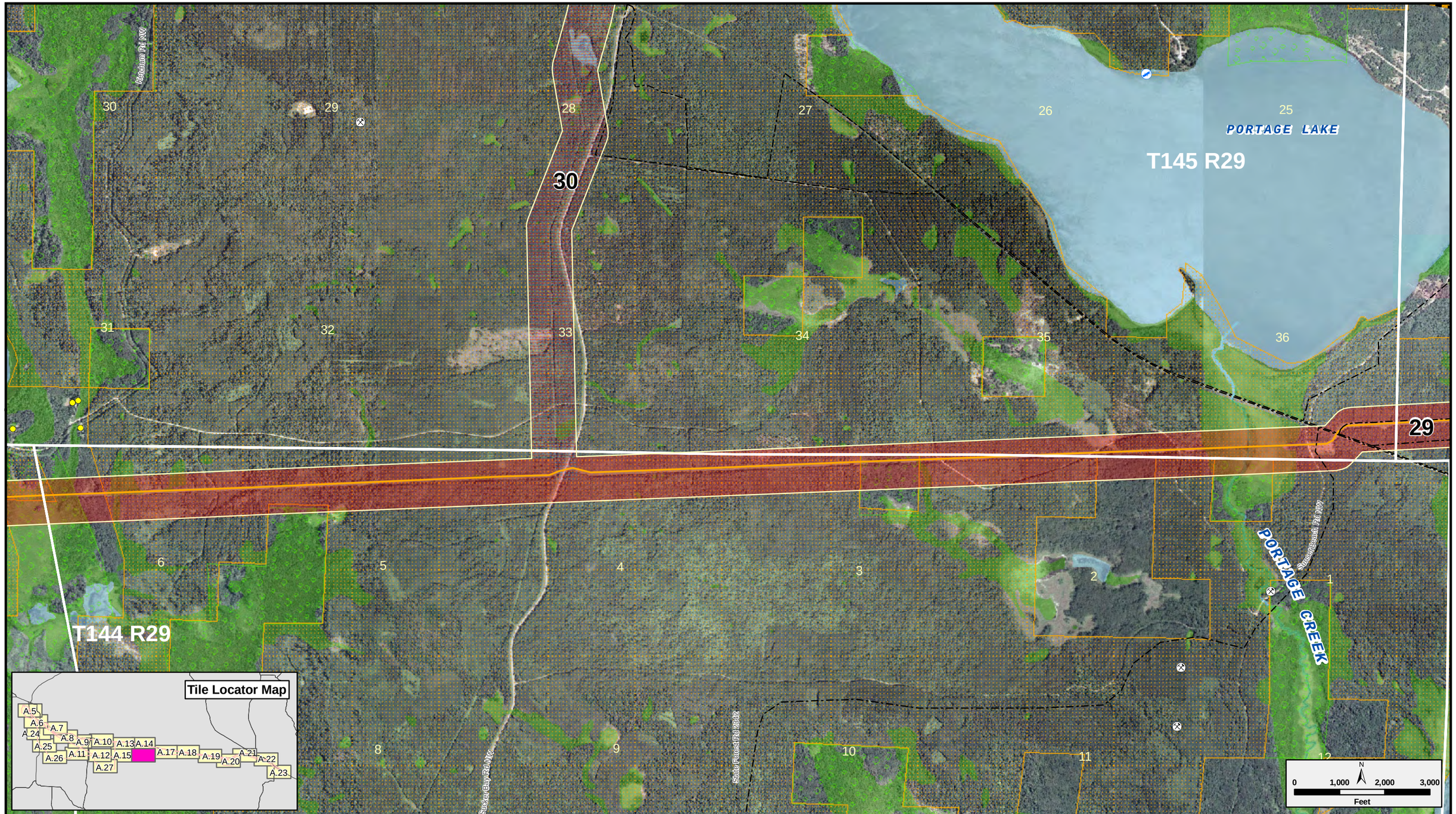


Bemidji-Grand Rapids 230-kV line

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**Potential Routes**
- Route 1
- Route 2
- Routes 1 & 2
- Alternate Segment
- Crossover Segment

- Project Endpoint
- Proposed Cass Lake Substation

**Existing Transmission Lines**
- 69 kV Transmission Line
- 115 kV Transmission Line
- 230 kV Transmission Line

- Leech Lake Reservation
- Existing Pipeline
- Proposed Enbridge Pipeline
- Communication Tower
- Substation

**Natural Resource Areas**
- Wildlife Management Area
- Chippewa National Forest
- MN State Forest
- MN DNR SNA

**Hydrology**
- NWI Wetland
- PWI Lake
- PWI Stream

- Recreational Trail
- Snowmobile Trail
- Water Access
- Residences
- Gravel Pit

# Appendix A.16: Detailed Route Maps
## 230 kV Bemidji to Grand Rapids Transmission Line Project
## Minnkota Power Cooperative, Otter Tail Power Company & Minnesota Power

Map Document: (N:\GISProj\Otertail\48496\map_docs\mxd\MN route app\Report\Revised\Append_A_Detailed_Routes_11x17_public.mxd)
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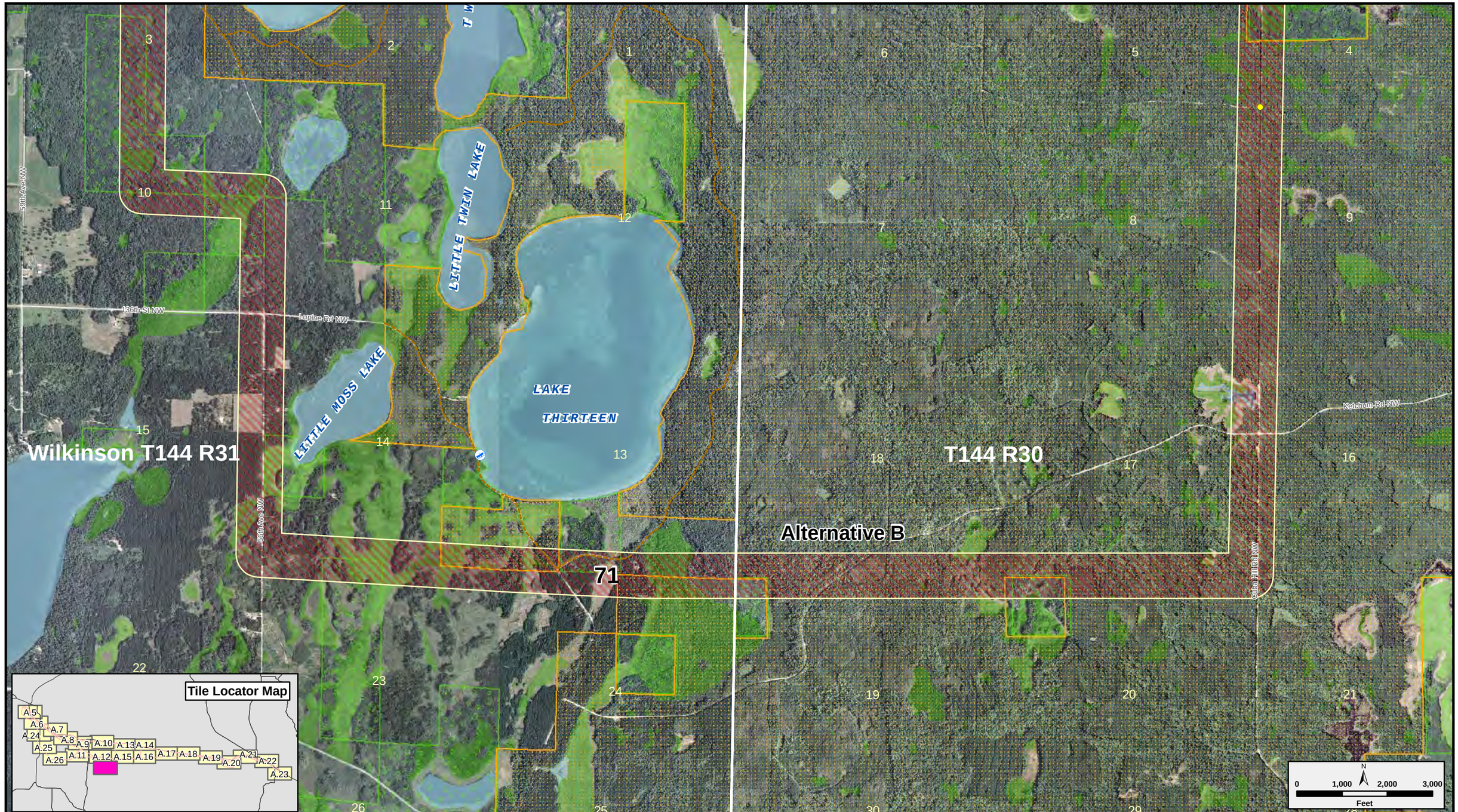


Bemidji-Grand Rapids 230-kV line

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**Potential Routes**
- Route 1
- Route 2
- Routes 1 & 2
- Alternate Segment
- Crossover Segment

- Project Endpoint
- Proposed Cass Lake Substation

**Existing Transmission Lines**
- 69 kV Transmission Line
- 115 kV Transmission Line
- 230 kV Transmission Line

- Leech Lake Reservation
- Existing Pipeline
- Proposed Enbridge Pipeline
- Communication Tower
- Substation

**Natural Resource Areas**
- Wildlife Management Area
- Chippewa National Forest
- MN State Forest
- MN DNR SNA

**Hydrology**
- NWI Wetland
- PWI Lake
- PWI Stream

- Recreational Trail
- Snowmobile Trail
- Water Access
- Residences
- Gravel Pit

# Appendix A.27: Detailed Route Maps
## 230 kV Bemidji to Grand Rapids Transmission Line Project
## Minnkota Power Cooperative, Otter Tail Power Company & Minnesota Power

Map Document: (N:\GIS\Proj\Otertail\4849\map_docs\mxd\MN route appl\Report\Revised\Append_A_Detailed_Routes_11x17_public.mxd)
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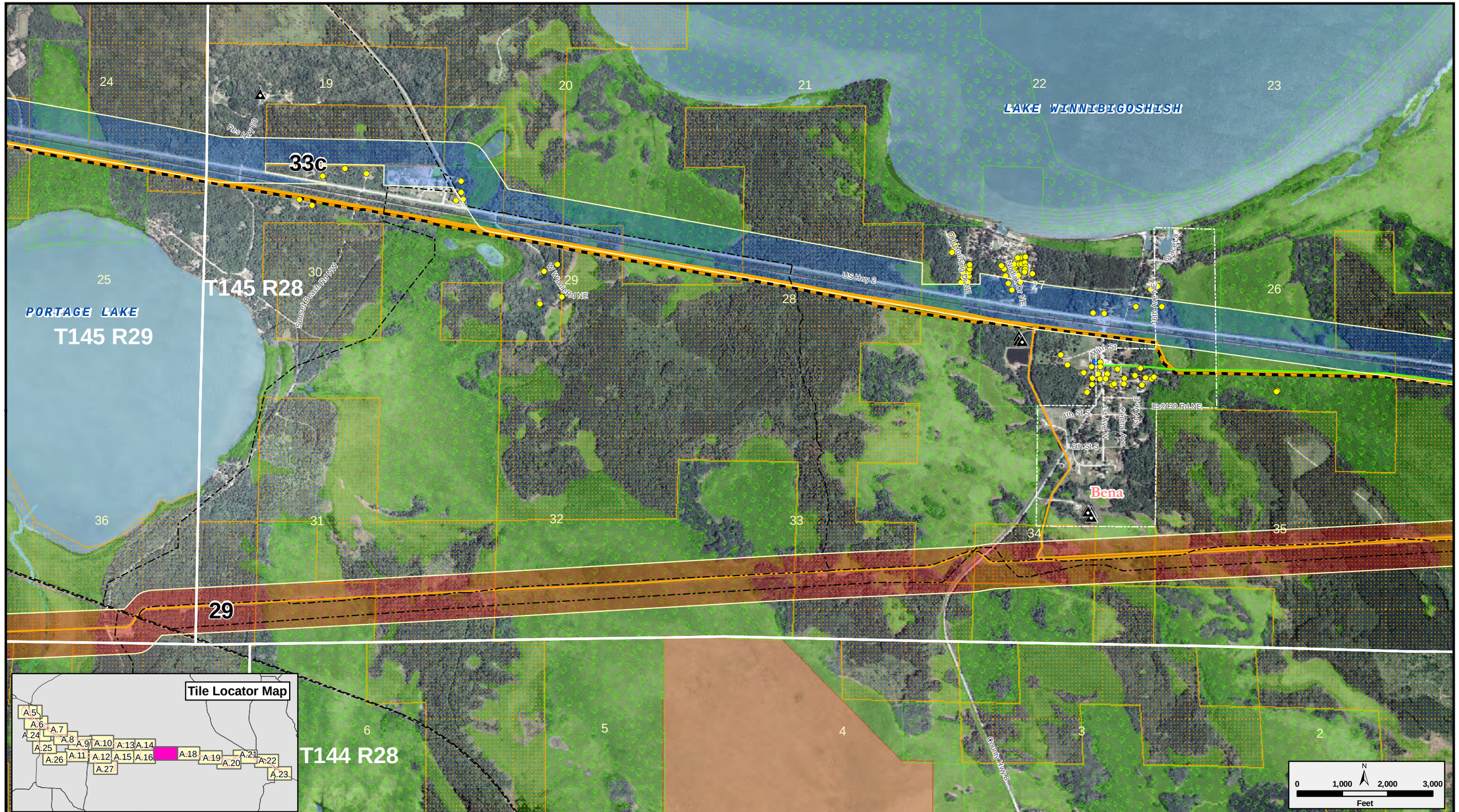


Bemidji-Grand Rapids 230-kV line

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**Potential Routes**
- Route 1
- Route 2
- Routes 1 & 2
- Alternate Segment
- Crossover Segment

- Project Endpoint
- Proposed Cass Lake Substation

**Existing Transmission Lines**
- 69 kV Transmission Line
- 115 kV Transmission Line
- 230 kV Transmission Line

- Leech Lake Reservation
- Existing Pipeline
- Proposed Enbridge Pipeline
- Communication Tower
- Substation

**Natural Resource Areas**
- Wildlife Management Area
- Chippewa National Forest
- MN State Forest
- MN DNR SNA

**Hydrology**
- NWI Wetland
- PWI Lake
- PWI Stream

- Recreational Trail
- Snowmobile Trail
- Water Access
- Residences
- Gravel Pit

Appendix A.17: Detailed Route Maps
230 kV Bemidji to Grand Rapids
Transmission Line Project
Minnkota Power Cooperative,
Otter Tail Power Company & Minnesota Power

Map Document: (N:\GISProj\Ottertail\48496\map_docs\mxd\MN route app\Report\Revised\Append_A_Detailed_Routes_11x17_public.mxd)
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