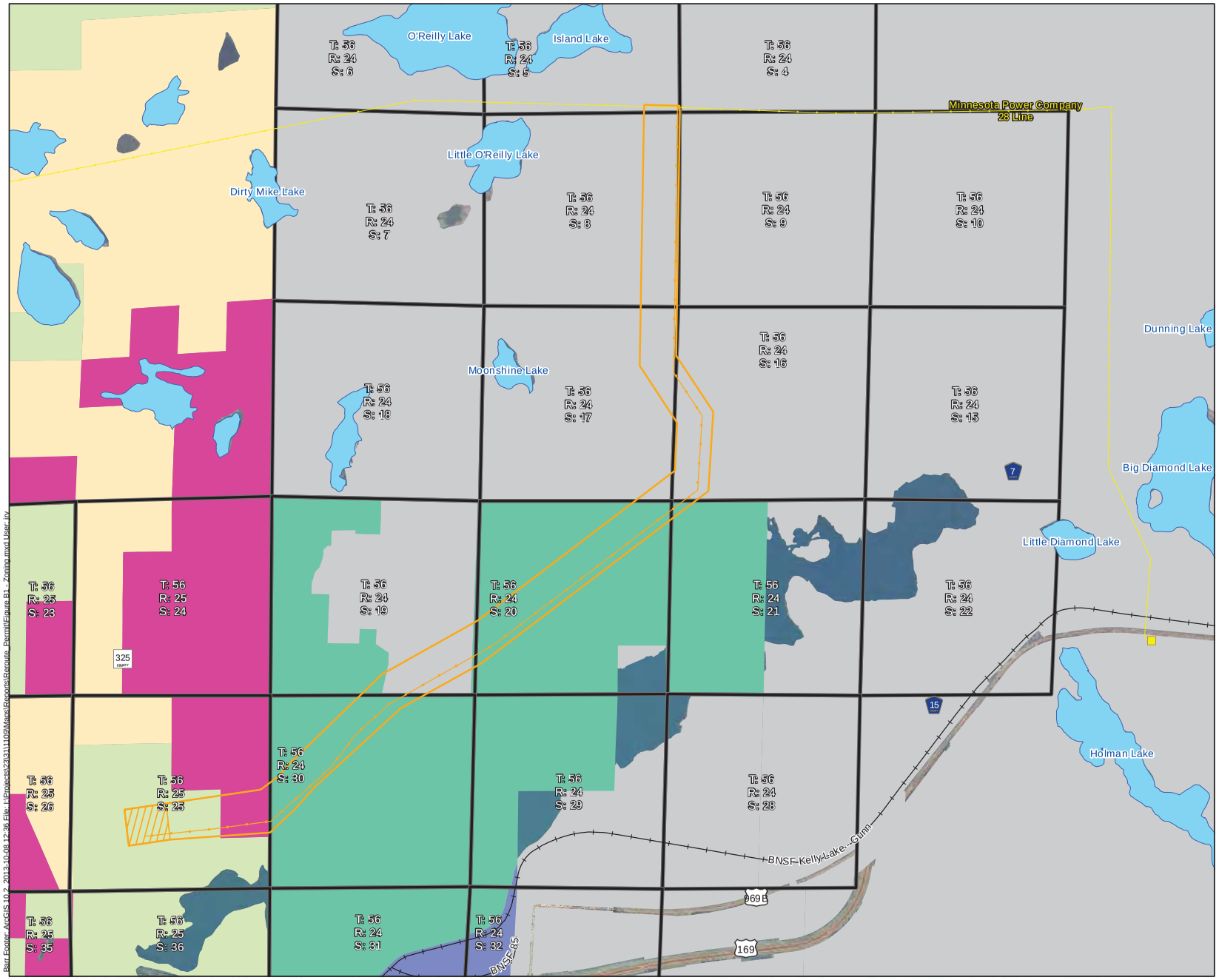
Appendix B

Maps



Proposed Alignment
Proposed Route
Proposed Substation Area
PLS Section Within 1 Mile

Electric Transmission Lines
Existing Transmission Line
Existing Substation

Zoning
Light Industrial
Tourism/Recreational
Municipal
PWI Basin

Zoning Data: Itasca County

N

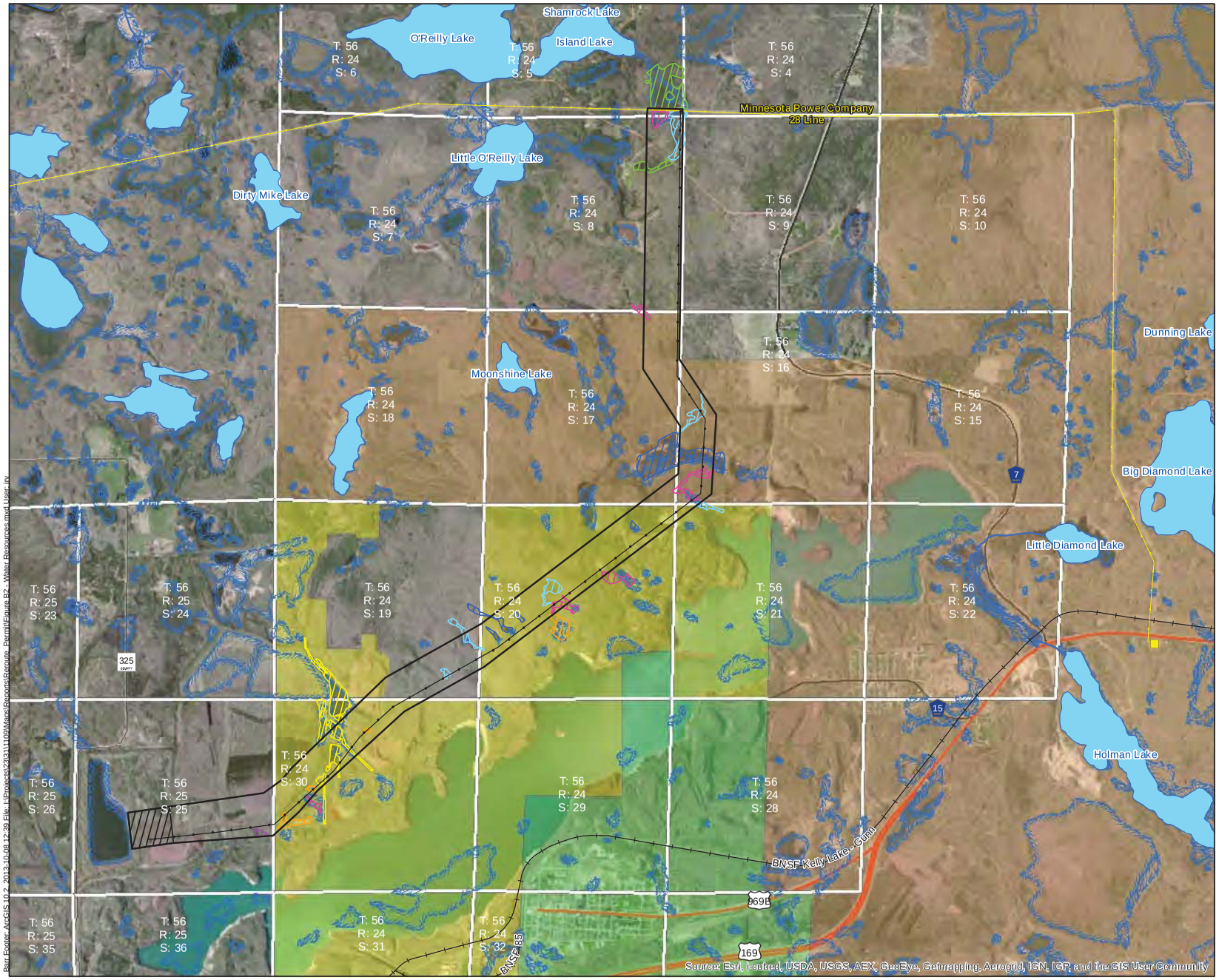
Feet
0 2,500 5,000

BARR

Figure B1

ZONING
Proposed Canisteo 115 kV
HVTL and Substation
Minnesota Power
Itasca County, MN

Barr Footer: ArcGIS 10.2, 2013-10-08 12:36 File: L:\Projects\23\31\109\Maps\Reports\Reroute_Permit\Figure B1 - Zoning.mxd User: jrv



Proposed Alignment
Proposed Route
Proposed Substation Area
Existing Transmission Line
Existing Substation
PWI Basin
PWI Watercourse
PLS Section Within 1 Mile
Municipal Boundary
Bovey
Coleraine
Taconite
NWI Wetlands*
Barr Wetland Determination
Eggers & Reed Wetland Types
Conifer swamp
Excavated - Shrub carr
Excavated pond
Hardwood swamp
Shallow open water
Shrub carr
Wet meadow

Source: National Wetlands Inventory

N

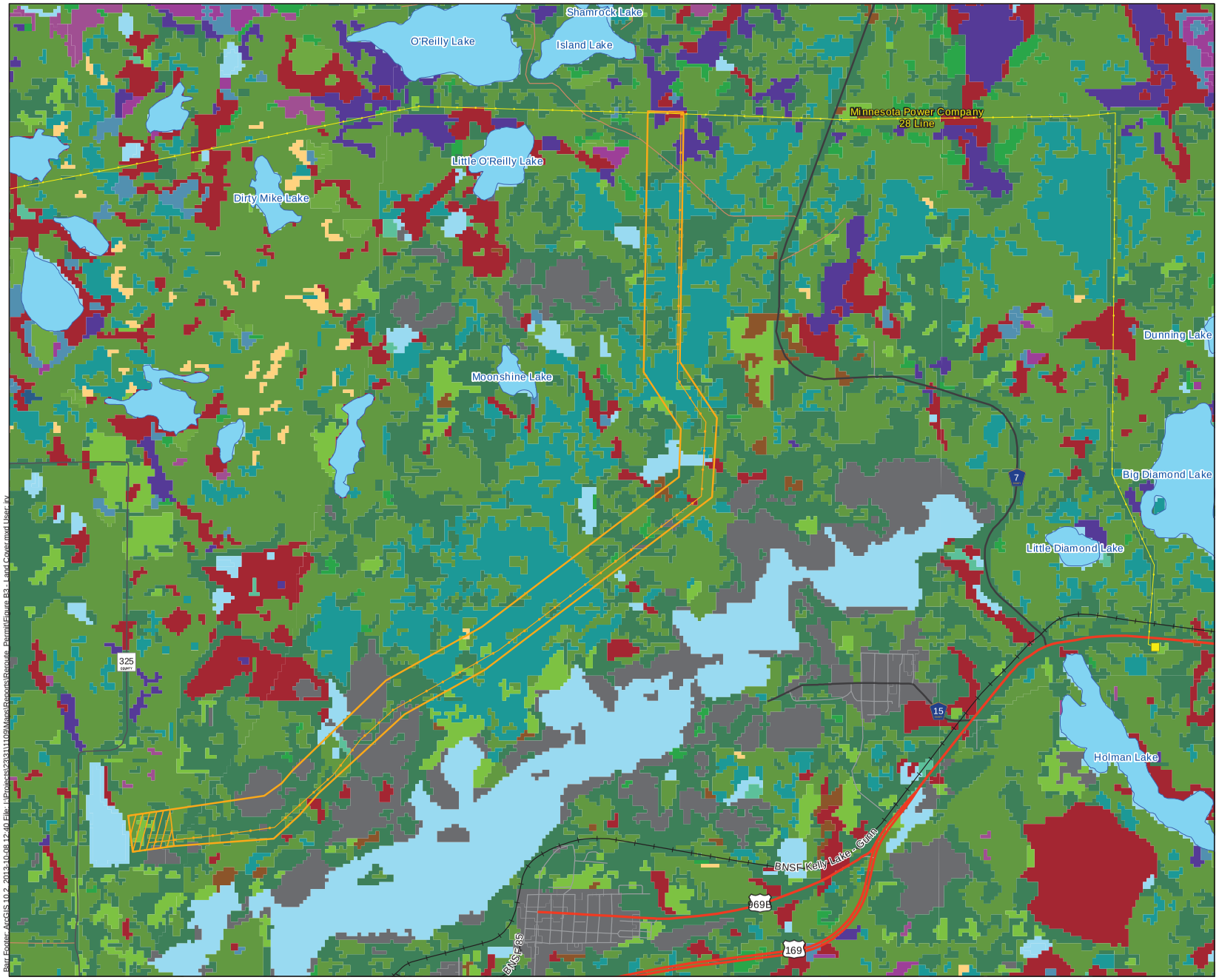
Feet
0 2,500 5,000

BARR

Figure B2

WATER RESOURCES
Proposed Canisteo 115 kV
HVTL and Substation
Minnesota Power
Itasca County, MN

Barr Footer: ArcGIS 10.2, 2013-10-08 12:38 File: I:\Projects\23\11109\Maps\Reports\Baroque_PermitEnviro B2_Water Resources.mxd User: jrv



Proposed Alignment
Proposed Route
Proposed Substation Area
Existing Transmission Line
Existing Substation

Land Cover*
- Water
- Aspen/White Birch
- Black Ash
- Cropland
- Developed
- Grassland
- Lowland Black Spruce
- Lowland Northern White-Cedar
- Lowland Shrub
- Maple/Basswood
- Marsh
- Oak
- Pine
- Spruce/Fir
- Stagnant Conifer
- Tamarack
- Upland Shrub
- PWI Basin

* USGS National Gap Analysis Program

N

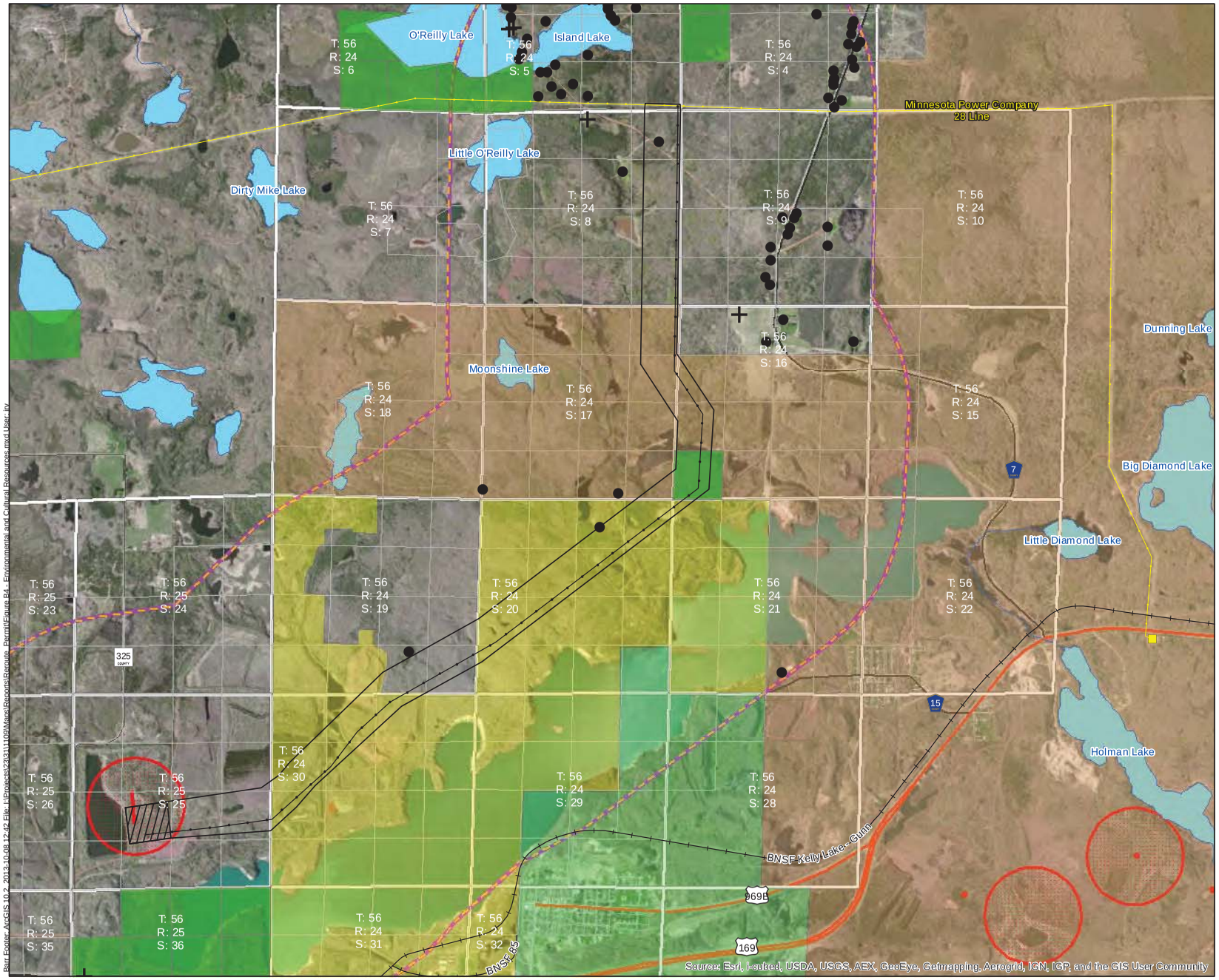
Feet
0 2,500 5,000

BARR

Figure B3

LAND COVER
Proposed Canisteo 115 kV
HVTL and Substation
Minnesota Power
Itasca County, MN

Barr Footer: ArcGIS 10.2, 2013-10-08 12:00 File: K:\Projects\23811105\Maps\Reports\Reports_Permit\Figure B3 - Land Cover.mxd User: ky



Proposed Alignment
Proposed Route
Proposed Substation Area
1 Mile Project Buffer
PLS Section Within 1 Mile
PLS Quarter Section selection
Existing Transmission Line
Existing Substation

T&E Species*
Vascular Plant

Municipal Boundary
Bovey
Coleraine
Taconite
Lands Administered by the DNR Department of Forestry
Commercial
Residential
PWI Basin
PWI Watercourse

*Rare features data included here were provided by the Natural Heritage and Nongame Research Program of the Division of Ecological Services, Minnesota Department of Natural Resources (DNR), and were current as of 05/15/13

N

Feet
0 2,500 5,000

BARR

Figure B4

ENVIRONMENTAL AND SOCIAL FEATURES
Proposed Canisteo115 kV HVTL and Substation
Minnesota Power
Itasca County, MN

Barr Footer: ArcGIS 10.2, 2013-10-08 12:02 File: I:\Projects\23811\100\Maps\Reports\Reports_Permit\Figure B4_Environmental and Cultural Resources.mxd User: jrv

Proposed Alignment
Proposed 160ft ROW
Parcels

N

Feet
0 200 400

BARR

Figure B4a

DWELLING
Proposed Canisteo 115 kV
HVTL and Substation
Minnesota Power
Itasca County, MN

Barr Footer: ArcGIS 10.2, 2013-10-08 12:52 File: I:\Projects\23\31\10\Maps\Reports\Reports_Permit\Figure B4a - Dwelling.mxd User: jrv

Proposed Alignment
Proposed 160ft ROW
Parcels

N

Feet
0 200 400

BARR

Figure B4b

RESIDENCE
Proposed Canisteo 115 kV
HVTL and Substation
Minnesota Power
Itasca County, MN

Barr Footer: ArcGIS 10.2, 2013-10-08 09:53 File: J:\Projects\23811100\Maps\Reports\Permit\Figure B4b_Residence.mxd | User: jy

Proposed Alignment
Proposed 160ft ROW
Parcels

N

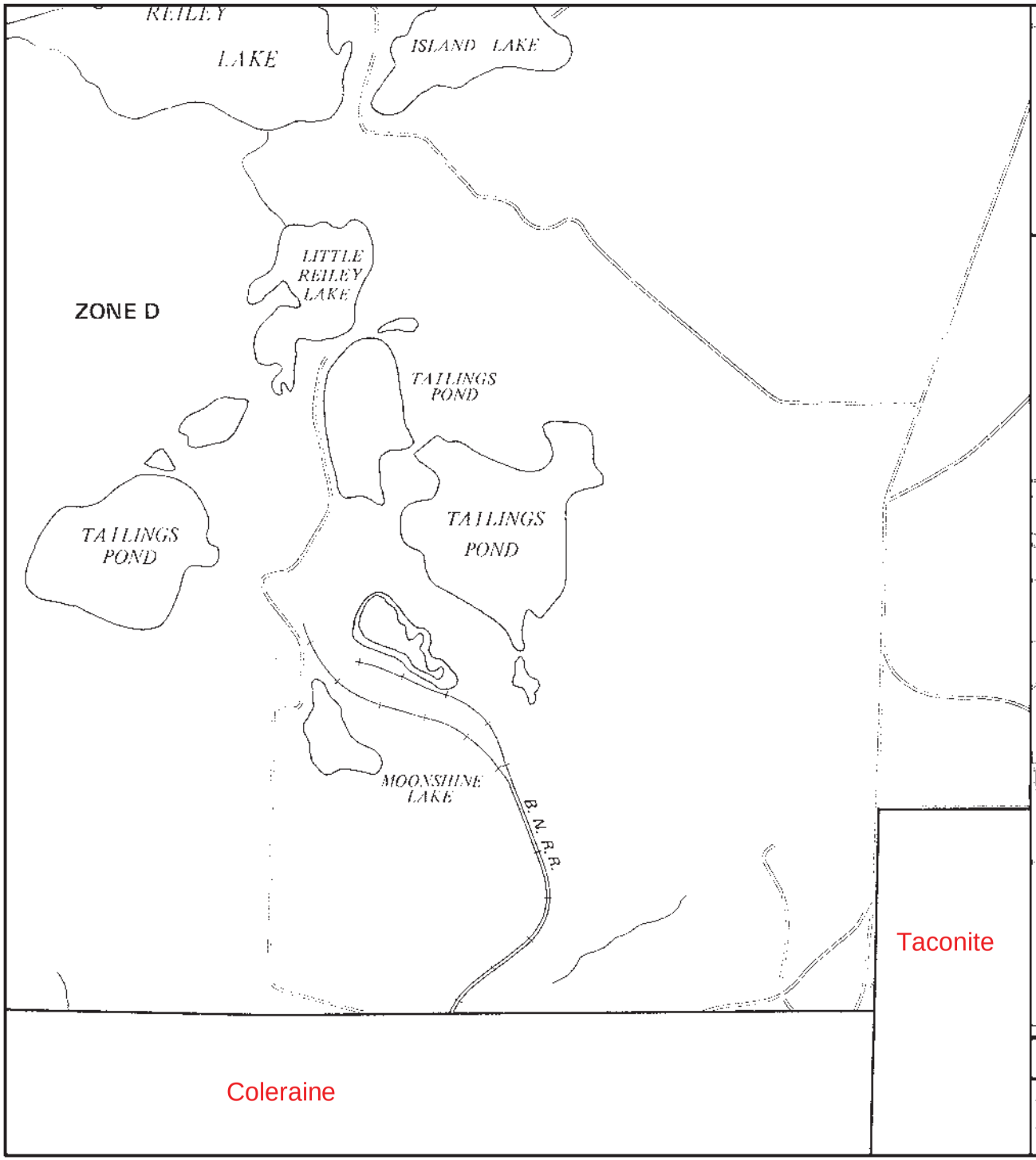
Feet
0 200 400

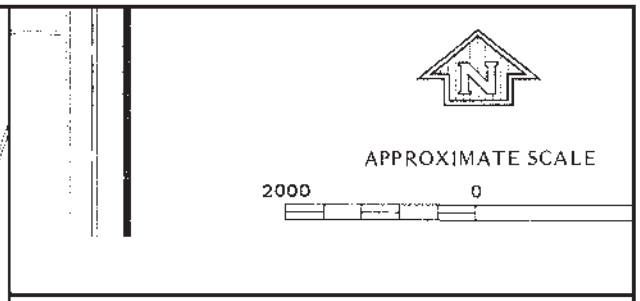
BARR

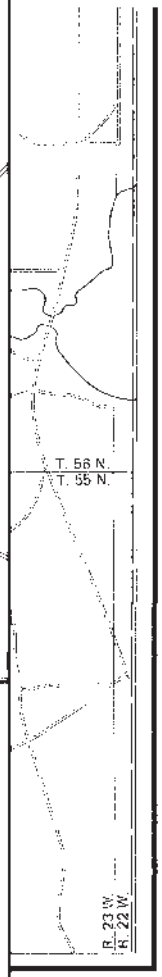
Figure B4c

DWELLING
Proposed Canisteo 115 kV
HVTL and Substation
Minnesota Power
Itasca County, MN

Barr Footer: ArcGIS 10.2, 2013-10-08 12:50 File: L:\Projects\23\11103\Maps\Reports\Permit\Figure B4c - Dwelling.mxd User: JV







NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

ITASCA COUNTY, MINNESOTA
(UNINCORPORATED AREAS)

COMMUNITY-PANEL NUMBER
270200 0700 A

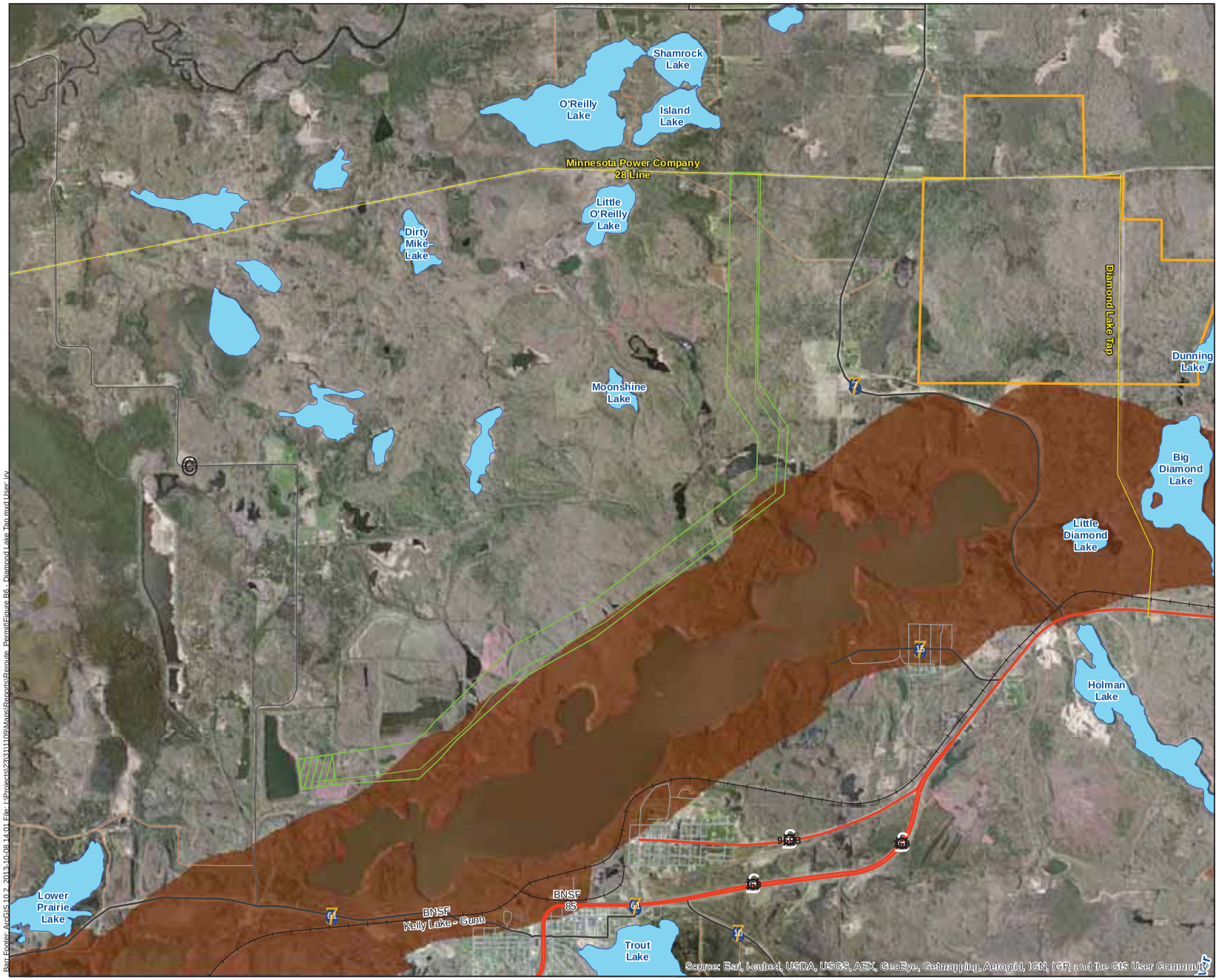
PAGE 700 OF 925
(SEE MAP INDEX FOR PAGES NOT PRINTED)

EFFECTIVE
NOVEMBER 1, 1978
Figure B5

FEMA FLOODPLAINS
Proposed Canisteo 115 kV
HVTL and Substation
Minnesota Power
Itasca County, MN

U.S. DEPARTMENT OF HOUSING
AND URBAN DEVELOPMENT
FEDERAL INSURANCE ADMINISTRATION

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



Proposed Alignment
Proposed Route
Proposed Substation Area
Existing Transmission Line
Excelsior Project Ownership
Iron Formation*

*Source: Minnesota DNR

Feet
0 3,000 6,000

BARR

Figure B6

DIAMOND LAKE TAP LIMITATIONS
Proposed Canisteo 115 kV
HVTL and Substation
Minnesota Power
Itasca County, MN

Barr Footer: ArcGIS 10.2, 2013-10-08 14:01 File: I:\Projects\23811100\Maps\Reports\Permit\Figure B6_Diamond Lake Tap.mxd User: jrv

Proposed Alignment
Proposed 160ft ROW
Proposed Substation Area
Commercial
Residential
Municipal Boundary
Parcels
Lands Administered by the DNR Department of Forestry
PLS Section Line
NWI Wetlands
PWI Basin
PWI Watercourse

Barr Wetland Determination

Eggers & Reed Wetland Types

Conifer swamp
Excavated - Shrub carr
Excavated pond
Hardwood swamp
Shallow open water
Shrub carr
Wet meadow

T&E Species*

Vertebrate Animal
Community
Invertebrate Animal
Vascular Plant
Nonvascular Plant; Fungus
Animal Assemblage
Geologic

Wetlands: National Wetland Inventory

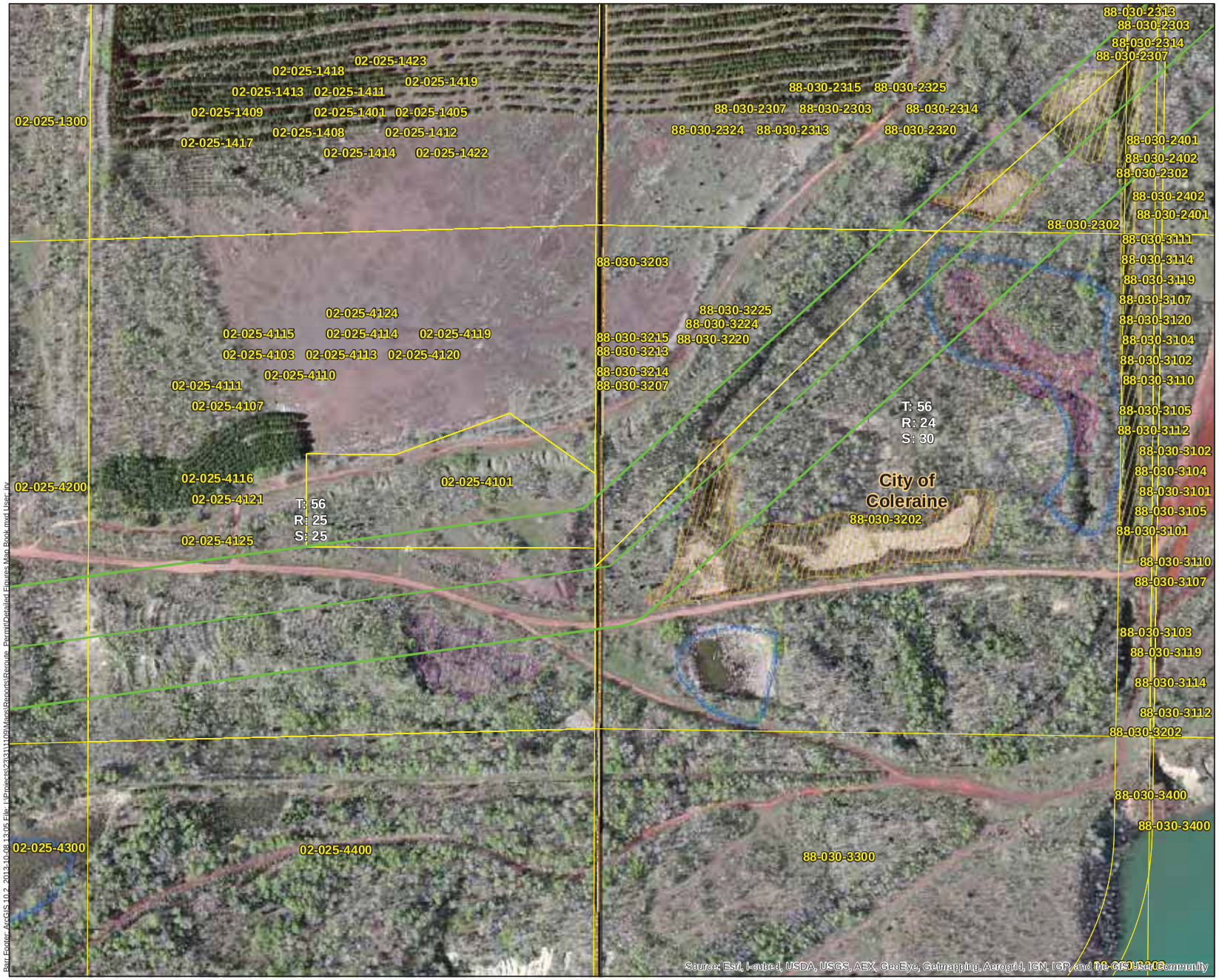
T&E Species: *Rare features data included here were provided by the Natural Heritage and Nongame Research Program of the Division of Ecological Services, Minnesota Department of Natural Resources (DNR), and were current as of 05/15/13

Feet
0 200 400

BARR

DETAILED MAPS
Proposed Canisteo 115 kV
HVTL and Substation
Minnesota Power
Itasca County, MN

Barr Footer: ArcGIS 10.2 2013-10-08 13:05 File: L:\Projects\23811100\Maps\Reports\Reports_Permit\Detailed Figures Map Book.mxd User: jrv



Proposed Alignment
Proposed 160ft ROW
Proposed Substation Area
Commercial
Residential
Municipal Boundary
Parcels
Lands Administered by the DNR Department of Forestry
PLS Section Line
NWI Wetlands
PWI Basin
PWI Watercourse

Barr Wetland Determination

Eggers & Reed Wetland Types

Conifer swamp
Excavated - Shrub carr
Excavated pond
Hardwood swamp
Shallow open water
Shrub carr
Wet meadow

T&E Species*

Vertebrate Animal
Community
Invertebrate Animal
Vascular Plant
Nonvascular Plant; Fungus
Animal Assemblage
Geologic

Wetlands: National Wetland Inventory

T&E Species: *Rare features data included here were provided by the Natural Heritage and Nongame Research Program of the Division of Ecological Services, Minnesota Department of Natural Resources (DNR), and were current as of 05/15/13

Feet
0 200 400

BARR

DETAILED MAPS
Proposed Canisteo 115 kV
HVTL and Substation
Minnesota Power
Itasca County, MN

Barr Footer: ArcGIS 10.2, 2013-10-08 13:05 File: I:\Projects\23811\100\Maps\Reports\Reports_Permit\Detailed Figures Map Book.mxd User: jrv

Proposed Alignment
Proposed 160ft ROW
Proposed Substation Area
Commercial
Residential
Municipal Boundary
Parcels
Lands Administered by the DNR Department of Forestry
PLS Section Line
NWI Wetlands
PWI Basin
PWI Watercourse

Barr Wetland Determination

Eggers & Reed Wetland Types

Conifer swamp
Excavated - Shrub carr
Excavated pond
Hardwood swamp
Shallow open water
Shrub carr
Wet meadow

T&E Species*

Vertebrate Animal
Community
Invertebrate Animal
Vascular Plant
Nonvascular Plant; Fungus
Animal Assemblage
Geologic

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Feet
0 200 400

BARR

DETAILED MAPS
Proposed Canisteo 115 kV
HVTL and Substation
Minnesota Power
Itasca County, MN

Barr Footer: ArcGIS 10.2, 2013-10-08 13:05 File: I:\Projects\23\11109\Maps\Reports\Permit\Detailed Figures Map Book.mxd User: jcy

Proposed Alignment
Proposed 160ft ROW
Proposed Substation Area
Commercial
Residential
Municipal Boundary
Parcels
Lands Administered by the DNR Department of Forestry
PLS Section Line
NWI Wetlands
PWI Basin
PWI Watercourse

Barr Wetland Determination

Eggers & Reed Wetland Types

Conifer swamp
Excavated - Shrub carr
Excavated pond
Hardwood swamp
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Shrub carr
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Invertebrate Animal
Vascular Plant
Nonvascular Plant; Fungus
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Geologic

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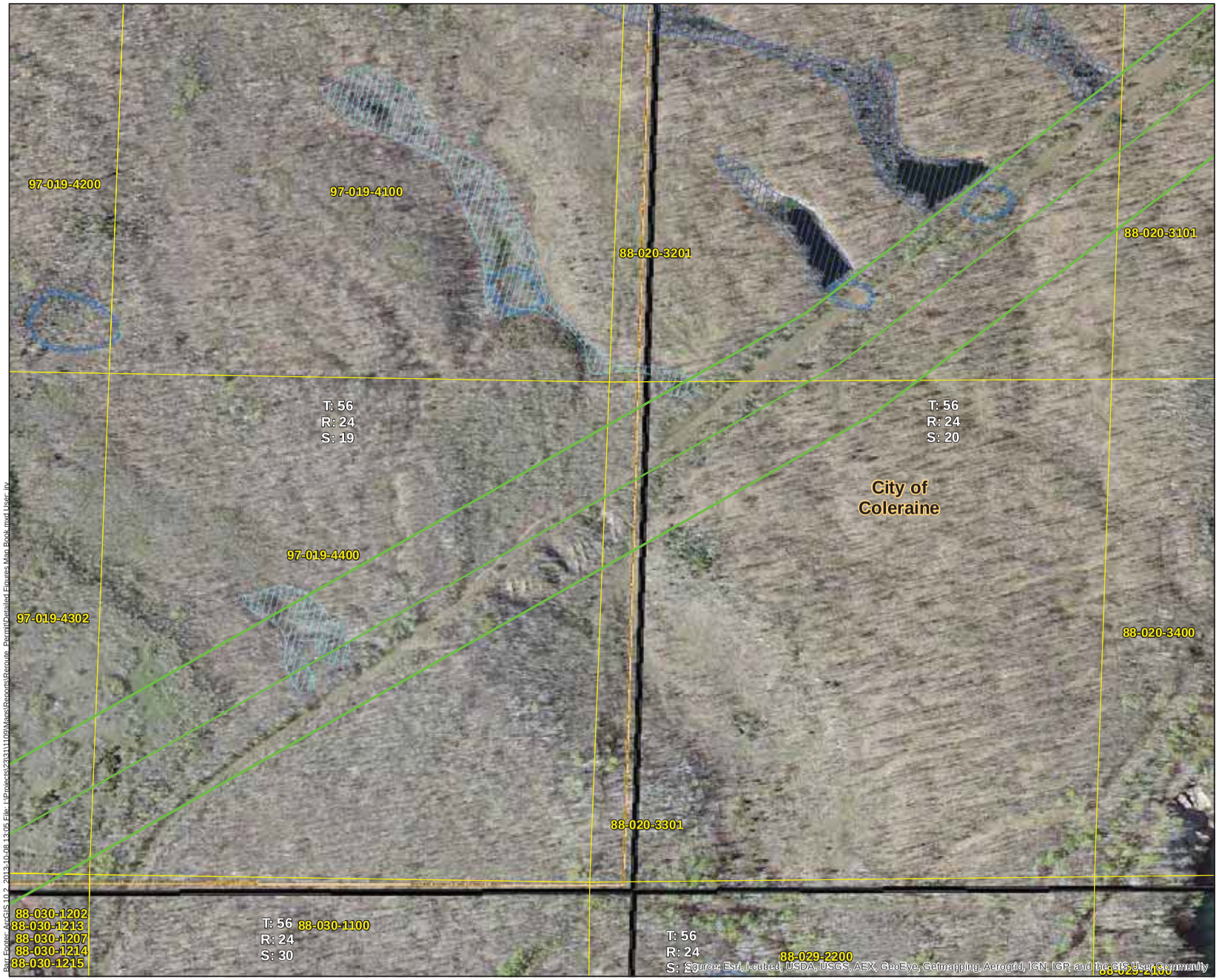
Feet
0 200 400

BARR

DETAILED MAPS
Proposed Canisteo 115 kV
HVTL and Substation
Minnesota Power
Itasca County, MN

Barr Footer: ArcGIS 10.2, 2013-10-08 13:05 File: I:\Projects\23\11109\Maps\Reports\Reports_Permit\Detailed Figures Map Book.mxd User: jrv



Proposed Alignment
Proposed 160ft ROW
Proposed Substation Area
Commercial
Residential
Municipal Boundary
Parcels
Lands Administered by the DNR Department of Forestry
PLS Section Line
NWI Wetlands
PWI Basin
PWI Watercourse

Barr Wetland Determination

Eggers & Reed Wetland Types

Conifer swamp
Excavated - Shrub carr
Excavated pond
Hardwood swamp
Shallow open water
Shrub carr
Wet meadow

T&E Species*

Vertebrate Animal
Community
Invertebrate Animal
Vascular Plant
Nonvascular Plant; Fungus
Animal Assemblage
Geologic

Wetlands: National Wetland Inventory

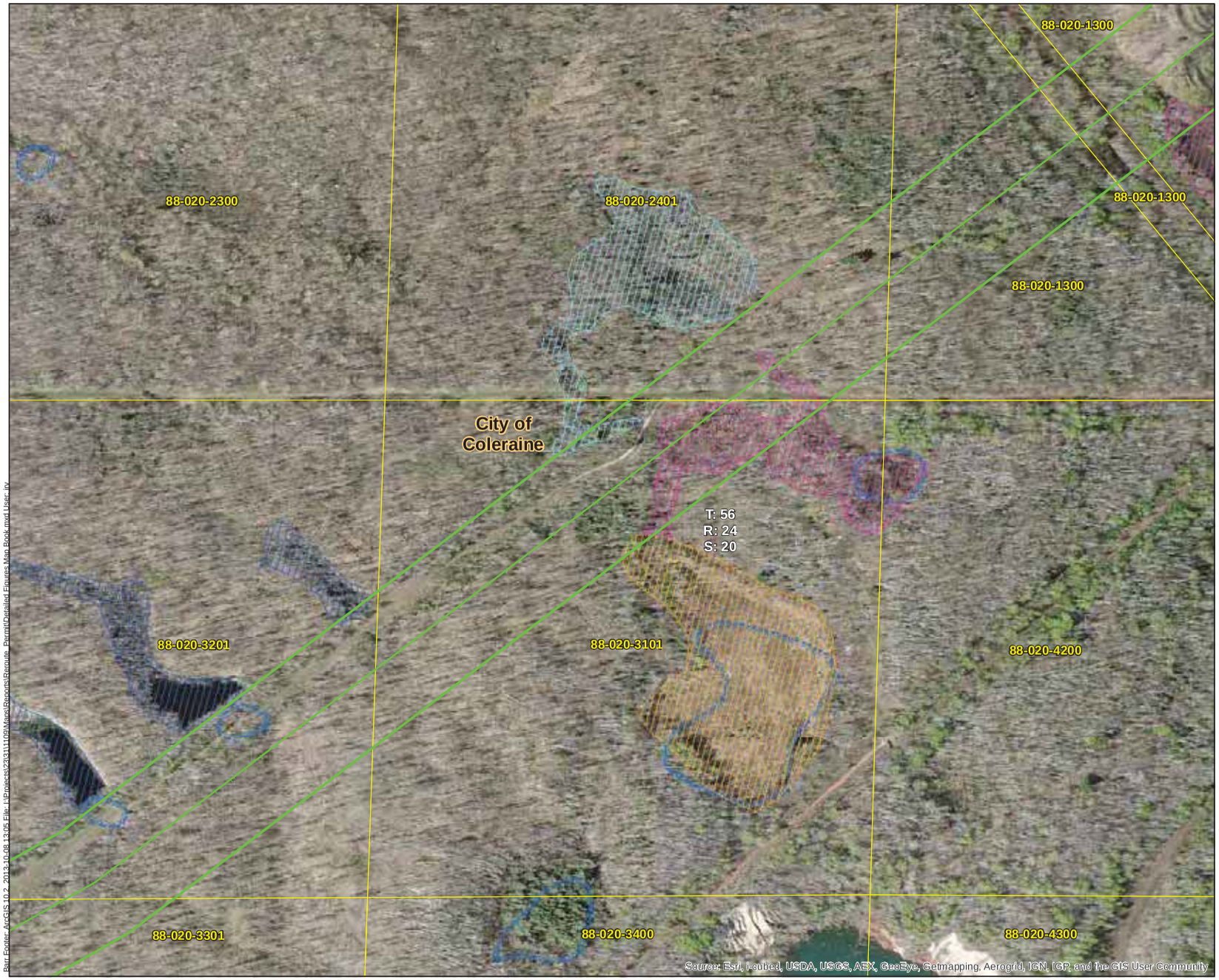
T&E Species: *Rare features data included here were provided by the Natural Heritage and Nongame Research Program of the Division of Ecological Services, Minnesota Department of Natural Resources (DNR), and were current as of 05/15/13

Feet
0 200 400

BARR

DETAILED MAPS
Proposed Canisteo 115 kV
HVTL and Substation
Minnesota Power
Itasca County, MN

Barr Roger ArcGIS 10.2 2013-10-08 13:05 File: I:\Projects\23\31110\Maps\Reports\Reports_Permit\Detailed Figures Map Book.mxd User: jcy



Proposed Alignment
Proposed 160ft ROW
Proposed Substation Area
Commercial
Residential
Municipal Boundary
Parcels
Lands Administered by the DNR Department of Forestry
PLS Section Line
NWI Wetlands
PWI Basin
PWI Watercourse

Barr Wetland Determination

Eggers & Reed Wetland Types

Conifer swamp
Excavated - Shrub carr
Excavated pond
Hardwood swamp
Shallow open water
Shrub carr
Wet meadow

T&E Species*

Vertebrate Animal
Community
Invertebrate Animal
Vascular Plant
Nonvascular Plant; Fungus
Animal Assemblage
Geologic

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Feet
0 200 400

BARR

DETAILED MAPS
Proposed Canisteo 115 kV
HVTL and Substation
Minnesota Power
Itasca County, MN

Barr Footer: ArcGIS 10.2, 2013-10-08 13:05 File: I:\Projects\23\81110\GIS\Maps\Reports\Reports_Permit\Detailed Figures Map Book.mxd User: jrv

Proposed Alignment
Proposed 160ft ROW
Proposed Substation Area
Commercial
Residential
Municipal Boundary
Parcels
Lands Administered by the DNR Department of Forestry
PLS Section Line
NWI Wetlands
PWI Basin
PWI Watercourse

Barr Wetland Determination

Eggers & Reed Wetland Types

Conifer swamp
Excavated - Shrub carr
Excavated pond
Hardwood swamp
Shallow open water
Shrub carr
Wet meadow

T&E Species*

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Community
Invertebrate Animal
Vascular Plant
Nonvascular Plant; Fungus
Animal Assemblage
Geologic

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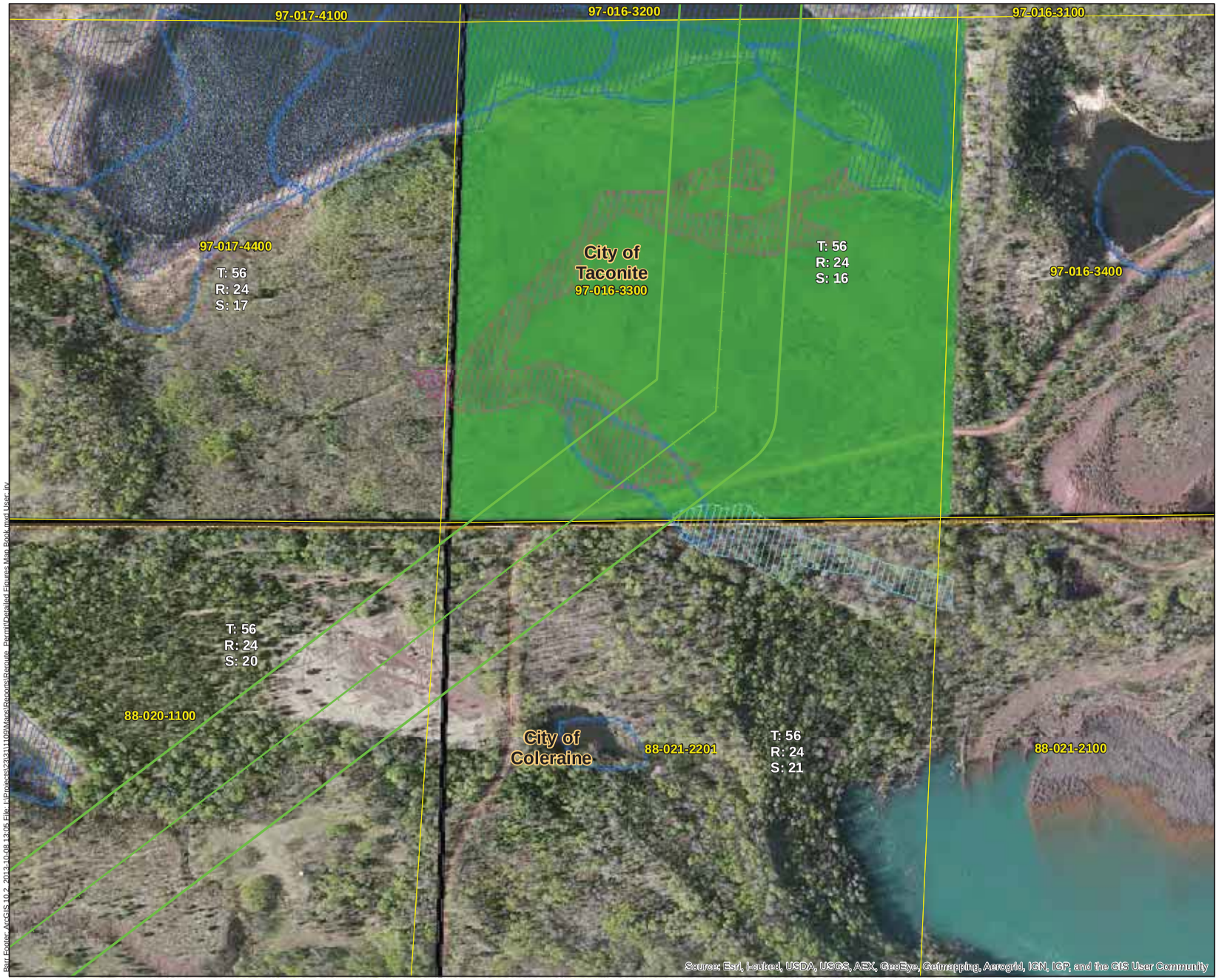
Feet
0 200 400

BARR

DETAILED MAPS
Proposed Canisteo 115 kV
HVTL and Substation
Minnesota Power
Itasca County, MN

Barr Footer: ArcGIS 10.2, 2013-10-08 13:05 File: J:\Projects\23811100\Maps\Reports\Reports_Permit\Detailed Figures Map Book.mxd User: jrv



Proposed Alignment
Proposed 160ft ROW
Proposed Substation Area
Commercial
Residential
Municipal Boundary
Parcels
Lands Administered by the DNR Department of Forestry
PLS Section Line
NWI Wetlands
PWI Basin
PWI Watercourse

Barr Wetland Determination

Eggers & Reed Wetland Types

Conifer swamp
Excavated - Shrub carr
Excavated pond
Hardwood swamp
Shallow open water
Shrub carr
Wet meadow

T&E Species*

Vertebrate Animal
Community
Invertebrate Animal
Vascular Plant
Nonvascular Plant; Fungus
Animal Assemblage
Geologic

Wetlands: National Wetland Inventory

T&E Species: *Rare features data included here were provided by the Natural Heritage and Nongame Research Program of the Division of Ecological Services, Minnesota Department of Natural Resources (DNR), and were current as of 05/15/13

Feet
0 200 400

BARR

DETAILED MAPS
Proposed Canisteo 115 kV
HVTL and Substation
Minnesota Power
Itasca County, MN

Barr Footer: ArcGIS 10.2, 2013-10-08 13:05 File: I:\Projects\23811100\Maps\Reports\Taconite_Permit\Detailed Figures Map Book and User.mxd

Proposed Alignment
Proposed 160ft ROW
Proposed Substation Area
Commercial
Residential
Municipal Boundary
Parcels
Lands Administered by the DNR Department of Forestry
PLS Section Line
NWI Wetlands
PWI Basin
PWI Watercourse

Barr Wetland Determination

Eggers & Reed Wetland Types

Conifer swamp
Excavated - Shrub carr
Excavated pond
Hardwood swamp
Shallow open water
Shrub carr
Wet meadow

T&E Species*

Vertebrate Animal
Community
Invertebrate Animal
Vascular Plant
Nonvascular Plant; Fungus
Animal Assemblage
Geologic

Wetlands: National Wetland Inventory

T&E Species: *Rare features data included here were provided by the Natural Heritage and Nongame Research Program of the Division of Ecological Services, Minnesota Department of Natural Resources (DNR), and were current as of 05/15/13

Feet
0 200 400

BARR

DETAILED MAPS
Proposed Canisteo 115 kV
HVTL and Substation
Minnesota Power
Itasca County, MN

Barr Footer: ArcGIS 10.2, 2013-10-08 13:05 File: I:\Projects\23\11\10\Maps\Reports\Taconite_Permit\Detailed Figures Map Book.mxd User: jrv

Proposed Alignment
Proposed 160ft ROW
Proposed Substation Area
Commercial
Residential
Municipal Boundary
Parcels
Lands Administered by the DNR Department of Forestry
PLS Section Line
NWI Wetlands
PWI Basin
PWI Watercourse

Barr Wetland Determination

Eggers & Reed Wetland Types

Conifer swamp
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Excavated pond
Hardwood swamp
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Shrub carr
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Invertebrate Animal
Vascular Plant
Nonvascular Plant; Fungus
Animal Assemblage
Geologic

Wetlands: National Wetland Inventory

T&E Species: *Rare features data included here were provided by the Natural Heritage and Nongame Research Program of the Division of Ecological Services, Minnesota Department of Natural Resources (DNR), and were current as of 05/15/13

Feet
0 200 400

DETAILED MAPS
Proposed Canisteo 115 kV
HVTL and Substation
Minnesota Power
Itasca County, MN

Barr Footer: ArcGIS 10.2, 2013-10-08 13:05 File: I:\Projects\23\11103\Maps\Reports\Taconite_Permit\Detailed Figures Map Book.mxd User: jrv

Proposed Alignment
Proposed 160ft ROW
Proposed Substation Area
E Commercial
! Residential
Municipal Boundary
Parcels
Lands Administered by the DNR Department of Forestry
PLS Section Line
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PWI Basin
PWI Watercourse

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Eggers & Reed Wetland Types

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Invertebrate Animal
Vascular Plant
Nonvascular Plant; Fungus
Animal Assemblage
Geologic

Wetlands: National Wetland Inventory

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Feet
0 200 400

BARR

DETAILED MAPS
Proposed Canisteo 115 kV
HVTL and Substation
Minnesota Power
Itasca County, MN

Barr Footer: ArcGIS 10.2, 2013-10-08 13:05 File: I:\Projects\23\31\10\Maps\Reports\Reports_Permit\Detailed Figures Map Book.mxd User: jrv

Proposed Alignment
Proposed 160ft ROW
Proposed Substation Area
Commercial
Residential
Municipal Boundary
Parcels
Lands Administered by the DNR Department of Forestry
PLS Section Line
NWI Wetlands
PWI Basin
PWI Watercourse

Barr Wetland Determination

Eggers & Reed Wetland Types

Conifer swamp
Excavated - Shrub carr
Excavated pond
Hardwood swamp
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Wet meadow

T&E Species*

Vertebrate Animal
Community
Invertebrate Animal
Vascular Plant
Nonvascular Plant; Fungus
Animal Assemblage
Geologic

Wetlands: National Wetland Inventory

T&E Species: *Rare features data included here were provided by the Natural Heritage and Nongame Research Program of the Division of Ecological Services, Minnesota Department of Natural Resources (DNR), and were current as of 05/15/13

Feet
0 200 400

BARR

DETAILED MAPS
Proposed Canisteo 115 kV
HVTL and Substation
Minnesota Power
Itasca County, MN

Barr Footer: ArcGIS 10.2, 2013-10-08 13:05 File: I:\Projects\23811101\Maps\Reports\Reports_Permit\Detailed Figures Map Book.mxd User: jrv