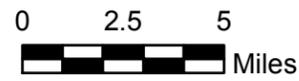


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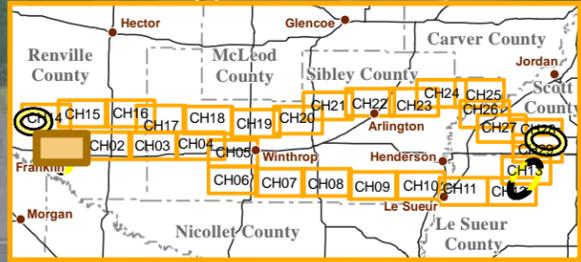
- Preferred Substation Area Routes
- Alternate Substation Area
- Project Substations
- City
- Scenic Byway
- Preferred
- Alternate
- Both Preferred & Alternate

Detailed Map Extent

Appendix B.5 - Detailed Route Maps Index
Cedar Mountain Substation Area to Helena Substation Area

Route Permit
Brookings County - Hampton
345 kV Transmission Line

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Project Proposal

- Route Segment Endpoints
- Project Substations
- Proposed Centerline
- Proposed Substation
 - Preferred Substation Area
 - Alternate Substation Area
- Preferred Route
- Alternate Route
- Both Preferred & Alternate Route

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Transmission Lines

- 69 kV - Existing
- 115 kV - Existing
- 230 kV - Existing
- 345 kV - Existing
- 69 kV - Proposed
- 115 kV - Proposed
- 230 kV - Proposed

- Cemetery
- Churches
- Parks and Recreation
- Aggregate Locations
- FCC Telecom Tower
- Certified Organic Farm
- Scenic Byway
- Planned MN DOT Upgrades
- Existing Pipeline

- Railroad Prairie
- Center Pivot Irrigation
- MCES Planned Interceptor
- Trails
 - Existing State & Regional Trail
 - Regional Planned & Proposed Trail
 - Snowmobile Trail
- MCBS Biodiversity Significance
 - Moderate Significance
 - High Significance
 - Outstanding Significance

Homes (from Proposed Centerline)

- 75 - 150 ft
- 150 - 300 ft
- 300 - 500 ft
- over 500 ft

MN State Wild and Scenic River

- Scenic
- Recreational

Hydrography and Wetlands

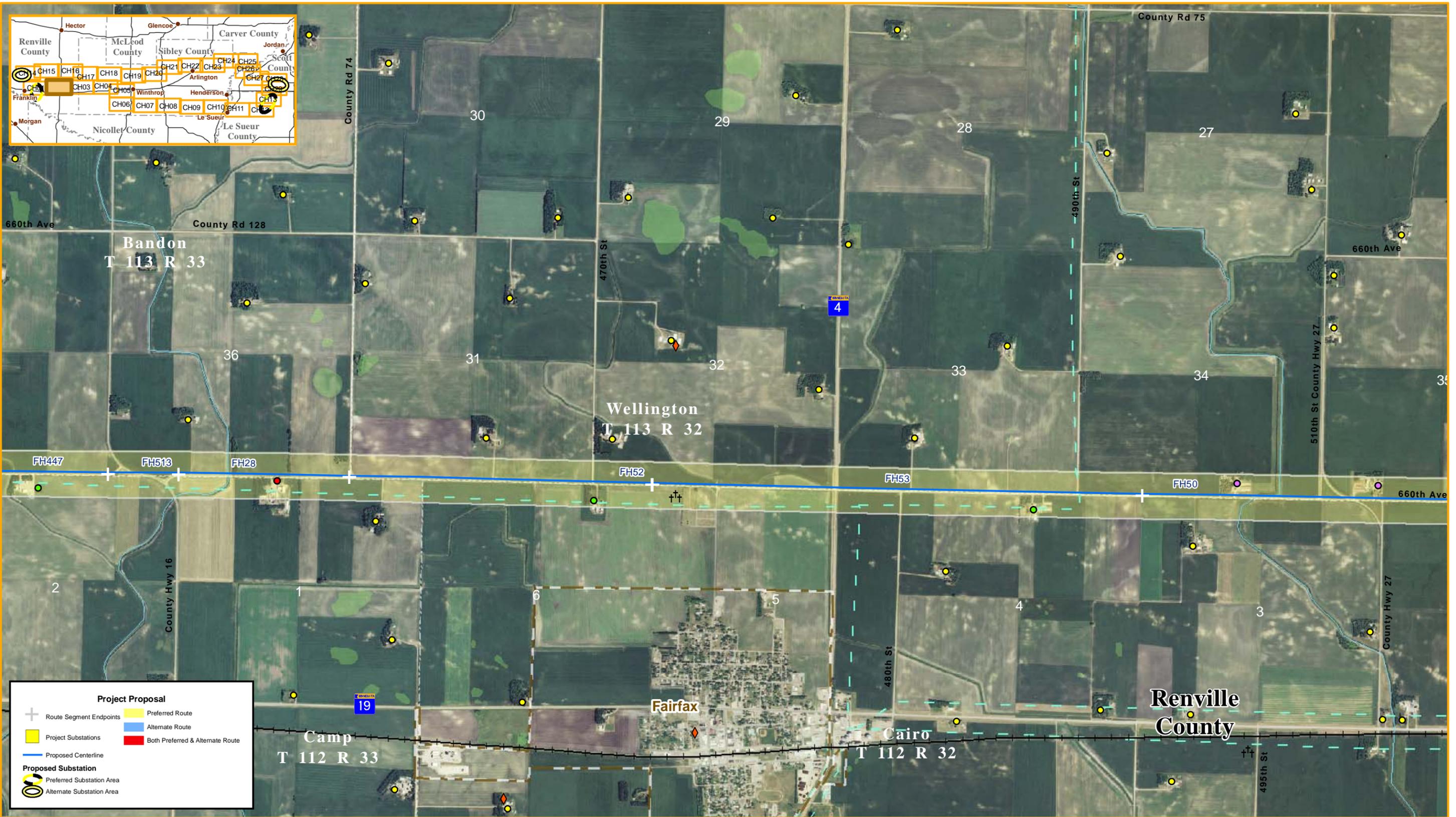
- NWI Wetland
- PWI Water
- MN Trout Streams
- Impaired Waters

- USFWS Easement
- MN SNA
- Metro Park
- Metro Significant
- USFWS WPA
- USFWS NWR
- MN WMA**
 - State Funded
 - Federally Funded

Appendix B.5 - Sheet CH1
Cedar Mountain Substation to
Helena Substation
Detailed Route Maps

Route Permit
Brookings County - Hampton
345 kV Transmission Line

Data Source: Please refer to Section 12



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Data Source: Please refer to Section 12

- Existing Substations
- Transmission Lines**
 - 69 kV - Existing
 - 115 kV - Existing
 - 230 kV - Existing
 - 345 kV - Existing
 - 69 kV - Proposed
 - 115 kV - Proposed
 - 230 kV - Proposed
- Cemetery
- Churches
- Parks and Recreation
- Aggregate Locations
- FCC Telecom Tower
- Certified Organic Farm
- Scenic Byway
- Planned MN DOT Upgrades
- Existing Pipeline

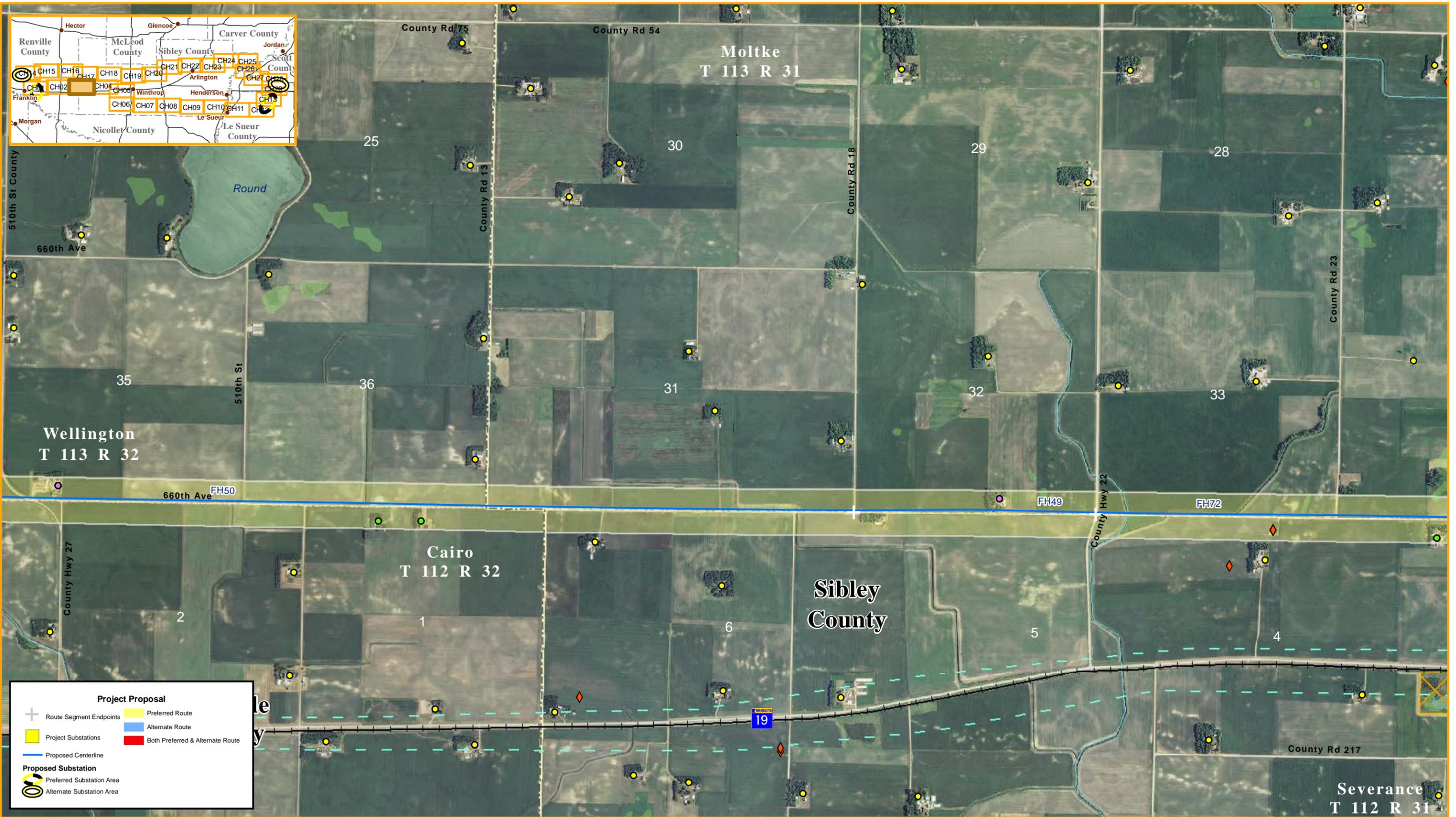
- Railroad Prairie
- Center Pivot Irrigation
- MCES Planned Interceptor
- Trails**
 - Existing State & Regional Trail
 - Regional Planned & Proposed Trail
 - Snowmobile Trail
- MCBS Biodiversity Significance**
 - Moderate Significance
 - High Significance
 - Outstanding Significance

- Homes (from Proposed Centerline)**
 - 75 - 150 ft
 - 150 - 300 ft
 - 300 - 500 ft
 - over 500 ft
- MN State Wild and Scenic River**
 - Scenic
 - Recreational
- Hydrography and Wetlands**
 - NWI Wetland
 - PWI Water
 - MN Trout Streams
 - Impaired Waters

- USFWS Easement
- MN SNA
- Metro Park
- Metro Significant
- USFWS WPA
- USFWS NWR
- MN WMA**
 - State Funded
 - Federally Funded

Appendix B.5 - Sheet CH2
Cedar Mountain Substation to
Helena Substation
Detailed Route Maps

Route Permit
Brookings County - Hampton
345 kV Transmission Line



CapX2020
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0 1,000 2,000 Feet
1:24,000

Data Source: Please refer to Section 12

- Existing Substations**
- 69 kV - Existing
 - 115 kV - Existing
 - 230 kV - Existing
 - 345 kV - Existing
 - 69 kV - Proposed
 - 115 kV - Proposed
 - 230 kV - Proposed

- Proposed Substation**
- Preferred Substation Area
 - Alternate Substation Area
- Other Features:**
- Cemetery
 - Churches
 - Parks and Recreation
 - Aggregate Locations
 - FCC Telecom Tower
 - Certified Organic Farm
 - Scenic Byway
 - Planned MN DOT Upgrades
 - Existing Pipeline

- Trails**
- Existing State & Regional Trail
 - Regional Planned & Proposed Trail
 - Snowmobile Trail
- MCBS Biodiversity Significance**
- Moderate Significance
 - High Significance
 - Outstanding Significance

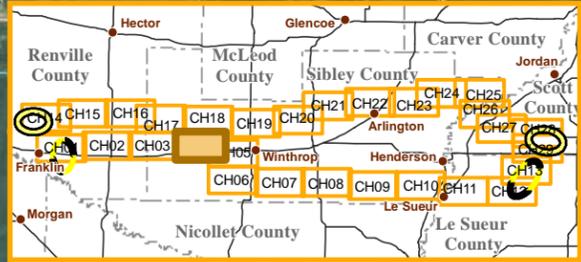
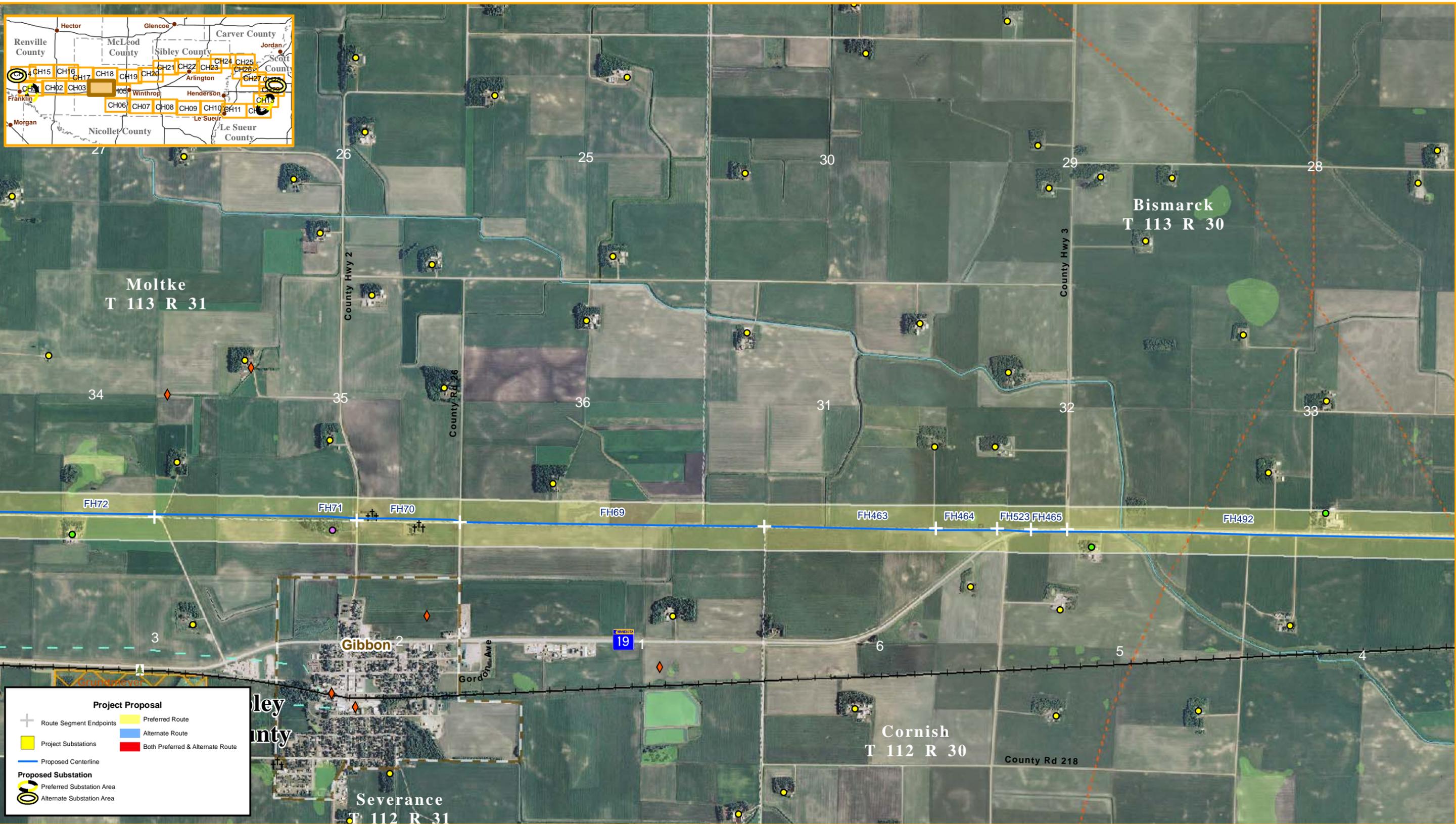
- Homes (from Proposed Centerline)**
- 75 - 150 ft
 - 150 - 300 ft
 - 300 - 500 ft
 - over 500 ft

- MN State Wild and Scenic River**
- Scenic
 - Recreational
- Hydrography and Wetlands**
- NWI Wetland
 - PWI Water
 - MN Trout Streams
 - Impaired Waters

- Other Environmental Features:**
- USFWS Easement
 - MN SNA
 - Metro Park
 - Metro Significant
 - USFWS WPA
 - USFWS NWR
 - MN WMA
 - State Funded
 - Federally Funded

Appendix B.5 - Sheet CH3
Cedar Mountain Substation to
Helena Substation
Detailed Route Maps

Route Permit
Brookings County - Hampton
345 kV Transmission Line



Project Proposal

- Route Segment Endpoints
- Project Substations
- Proposed Centerline
- Proposed Substation: Preferred Substation Area, Alternate Substation Area
- Preferred Route
- Alternate Route
- Both Preferred & Alternate Route

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Transmission Lines

- 69 kV - Existing
- 115 kV - Existing
- 230 kV - Existing
- 345 kV - Existing
- 69 kV - Proposed
- 115 kV - Proposed
- 230 kV - Proposed

Trails

- Existing State & Regional Trail
- Regional Planned & Proposed Trail
- Snowmobile Trail

MCBS Biodiversity Significance

- Moderate Significance
- High Significance
- Outstanding Significance

Homes (from Proposed Centerline)

- 75 - 150 ft
- 150 - 300 ft
- 300 - 500 ft
- over 500 ft

MN State Wild and Scenic River

- Scenic
- Recreational

Hydrography and Wetlands

- NWI Wetland
- PWI Water
- MN Trout Streams
- Impaired Waters

USFWS Easement

- MN SNA
- Metro Park
- Metro Significant
- USFWS WPA
- USFWS NWR

MN WMA

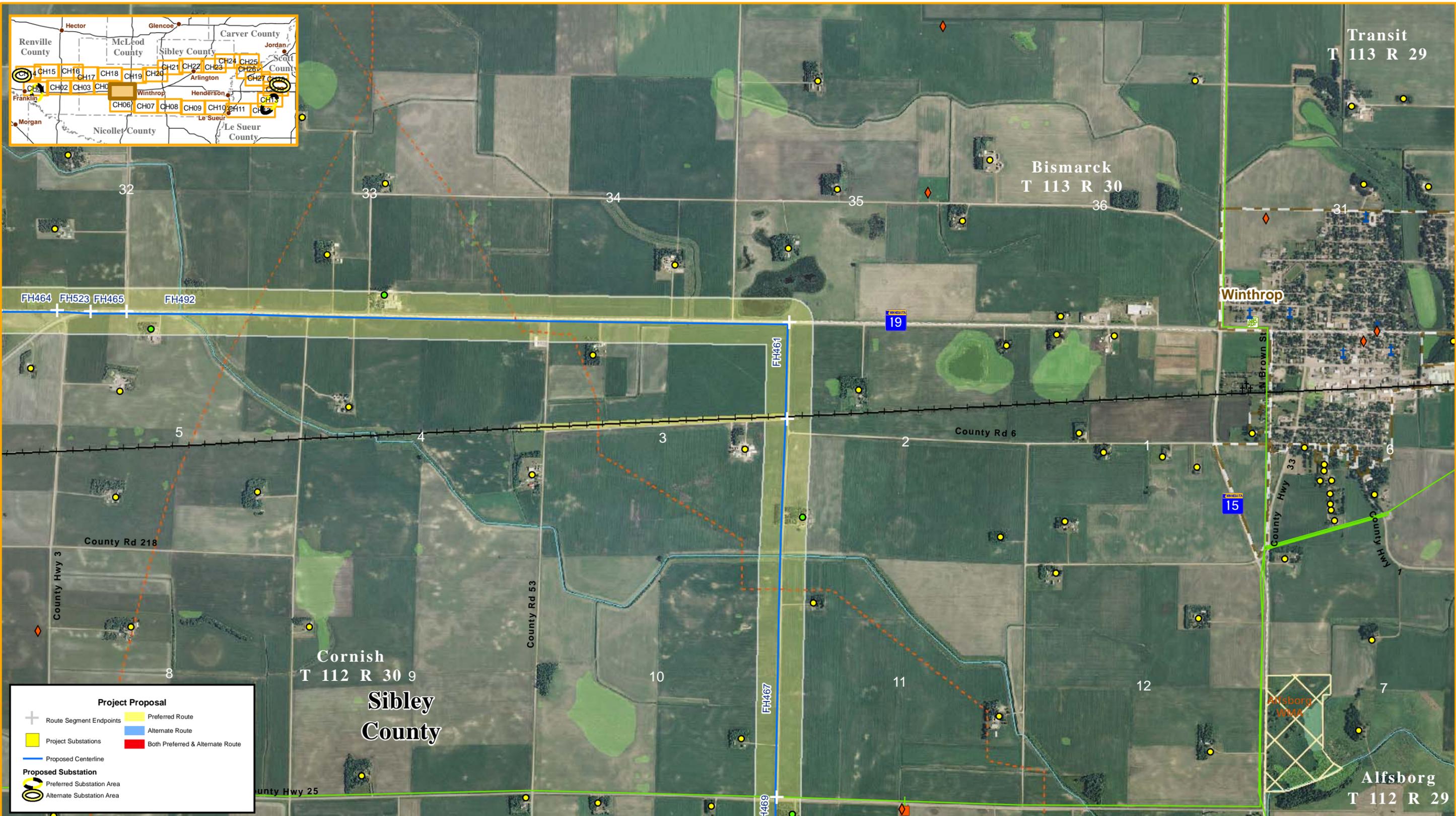
- State Funded
- Federally Funded

Appendix B.5 - Sheet CH4
Cedar Mountain Substation to
Helena Substation
Detailed Route Maps

Route Permit
Brookings County - Hampton
345 kV Transmission Line

mxdRoute_PermitAppendixB5SheetMap_11x17_L_detailed_routes.mxd 11/23/2008

Data Source: Please refer to Section 12



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Data Source: Please refer to Section 12

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

- Cemetery
- Churches
- Parks and Recreation
- Aggregate Locations
- FCC Telecom Tower
- Certified Organic Farm
- Scenic Byway
- Planned MN DOT Upgrades
- Existing Pipeline

- Trails**
- Existing State & Regional Trail
 - Regional Planned & Proposed Trail
 - Snowmobile Trail
- MCBS Biodiversity Significance**
- Moderate Significance
 - High Significance
 - Outstanding Significance

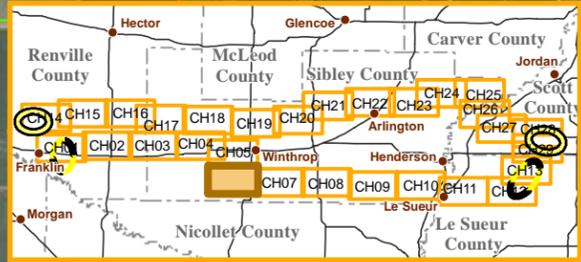
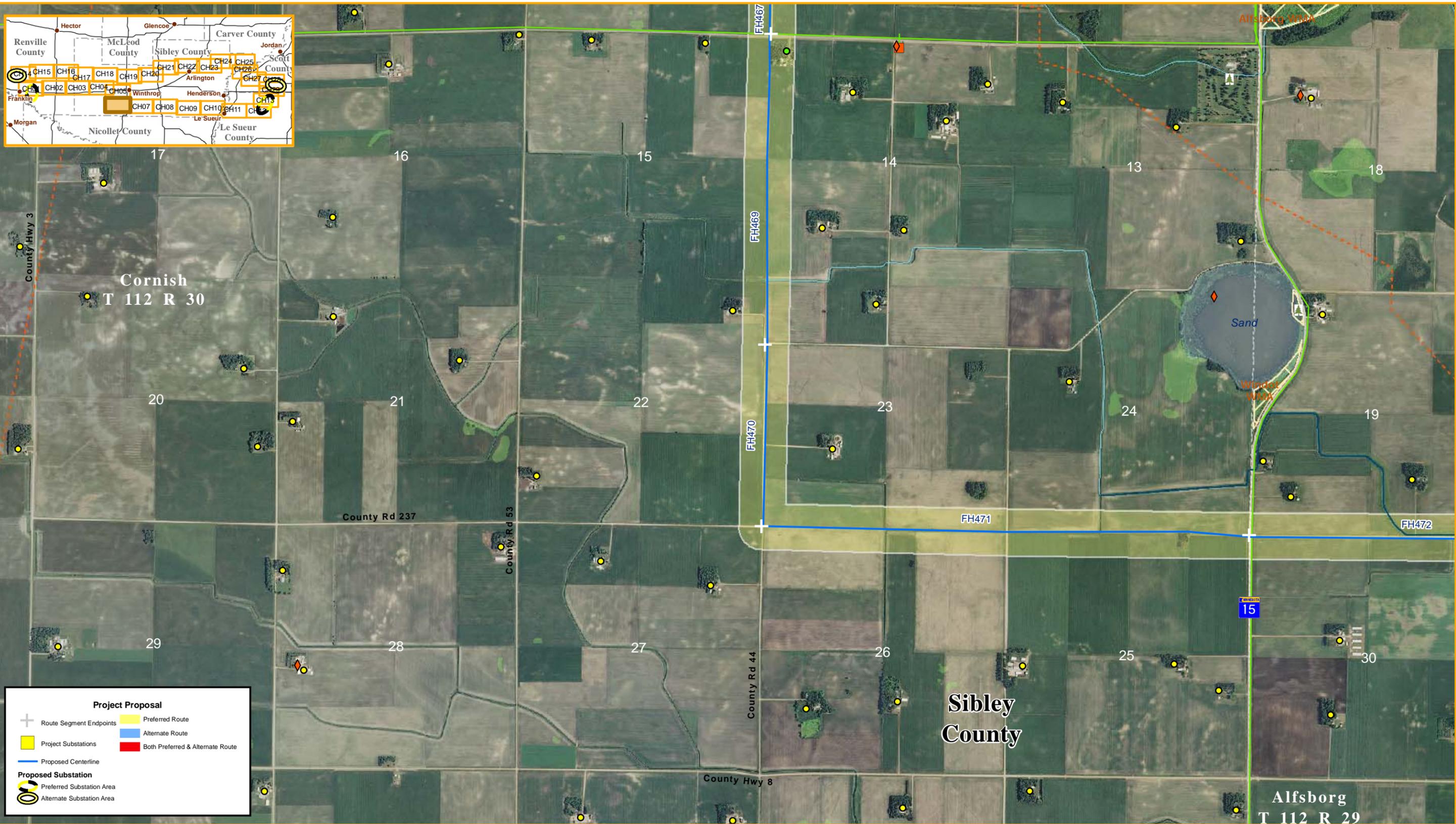
- Homes (from Proposed Centerline)**
- 75 - 150 ft
 - 150 - 300 ft
 - 300 - 500 ft
 - over 500 ft

- MN State Wild and Scenic River**
- Scenic
 - Recreational
- Hydrography and Wetlands**
- NWI Wetland
 - PWI Water
 - MN Trout Streams
 - Impaired Waters

- USFWS Easement
 - MN SNA
 - Metro Park
 - Metro Significant
 - USFWS WPA
 - USFWS NWR
- MN WMA**
- State Funded
 - Federally Funded

Appendix B.5 - Sheet CH5
Cedar Mountain Substation to
Helena Substation
Detailed Route Maps

Route Permit
Brookings County - Hampton
345 kV Transmission Line



Project Proposal

- Route Segment Endpoints
- Project Substations
- Proposed Centerline
- Proposed Substation
 - Preferred Substation Area
 - Alternate Substation Area
- Preferred Route
- Alternate Route
- Both Preferred & Alternate Route

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Transmission Lines

- 69 kV - Existing
- 115 kV - Existing
- 230 kV - Existing
- 345 kV - Existing
- 69 kV - Proposed
- 115 kV - Proposed
- 230 kV - Proposed

Cemeteries

- Cemeteries
- Churches
- Parks and Recreation
- Aggregate Locations
- FCC Telecom Tower
- Certified Organic Farm
- Scenic Byway
- Planned MN DOT Upgrades
- Existing Pipeline

Trails

- Existing State & Regional Trail
- Regional Planned & Proposed Trail
- Snowmobile Trail

MCBS Biodiversity Significance

- Moderate Significance
- High Significance
- Outstanding Significance

Homes (from Proposed Centerline)

- 75 - 150 ft
- 150 - 300 ft
- 300 - 500 ft
- over 500 ft

MN State Wild and Scenic River

- Scenic
- Recreational

Hydrography and Wetlands

- NWI Wetland
- PWI Water
- MN Trout Streams
- Impaired Waters

USFWS Easement

- MN SNA
- Metro Park
- Metro Significant
- USFWS WPA
- USFWS NWR

MN WMA

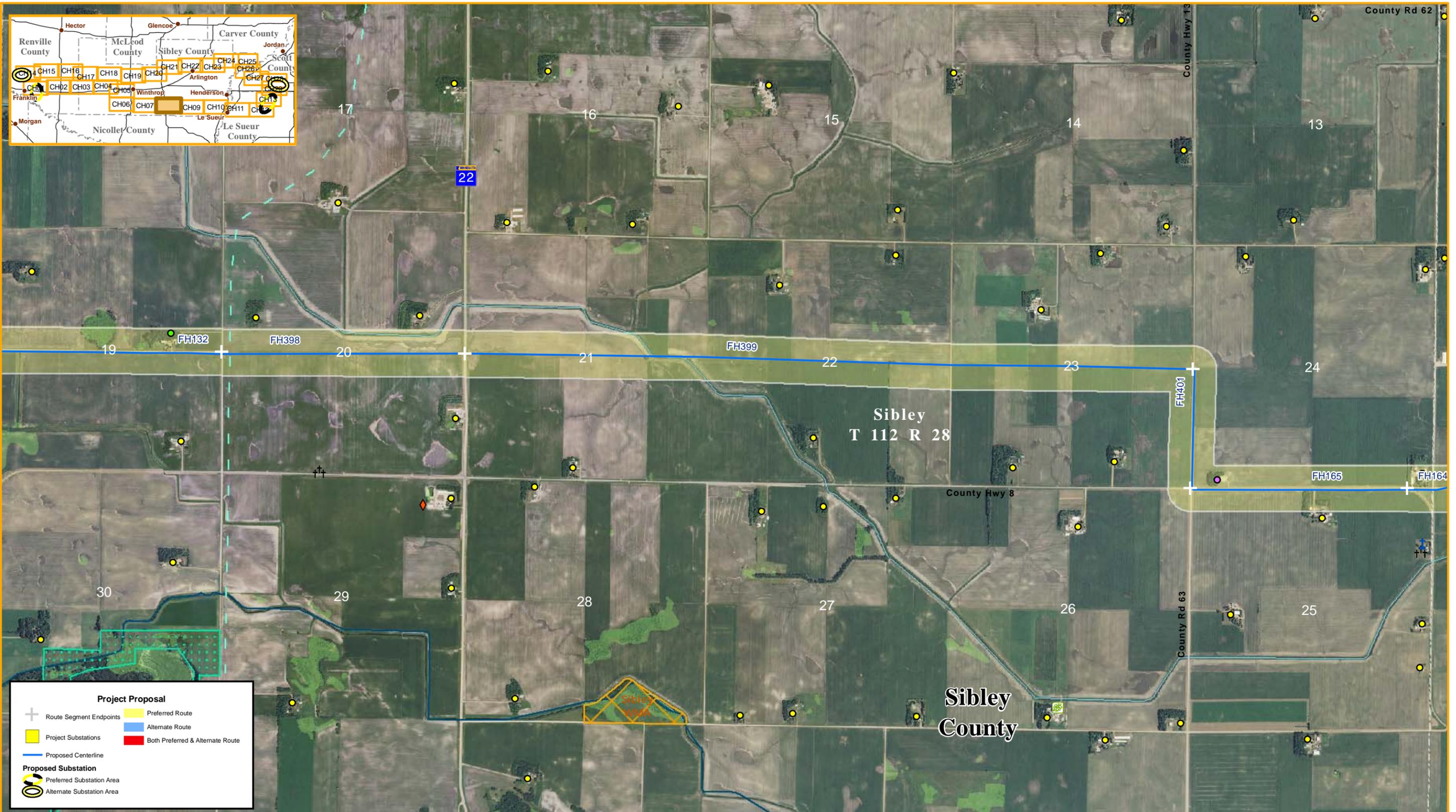
- State Funded
- Federally Funded

Appendix B.5 - Sheet CH6
Cedar Mountain Substation to
Helena Substation
Detailed Route Maps

Route Permit
Brookings County - Hampton
345 kV Transmission Line

mxdRoute_PermitAppendixB5SheetMap_11x17_L_detailed_routes.mxd 11/23/2008

Data Source: Please refer to Section 12



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Data Source: Please refer to Section 12

- Existing Substations**
- Transmission Lines**
- 69 kV - Existing
 - 115 kV - Existing
 - 230 kV - Existing
 - 345 kV - Existing
 - 69 kV - Proposed
 - 115 kV - Proposed
 - 230 kV - Proposed

- Cemetery
- Churches
- Parks and Recreation
- Aggregate Locations
- FCC Telecom Tower
- Certified Organic Farm
- Scenic Byway
- Planned MN DOT Upgrades
- Existing Pipeline

- Railroad Prairie**
- Center Pivot Irrigation
 - MCES Planned Interceptor
- Trails**
- Existing State & Regional Trail
 - Regional Planned & Proposed Trail
 - Snowmobile Trail
- MCBS Biodiversity Significance**
- Moderate Significance
 - High Significance
 - Outstanding Significance

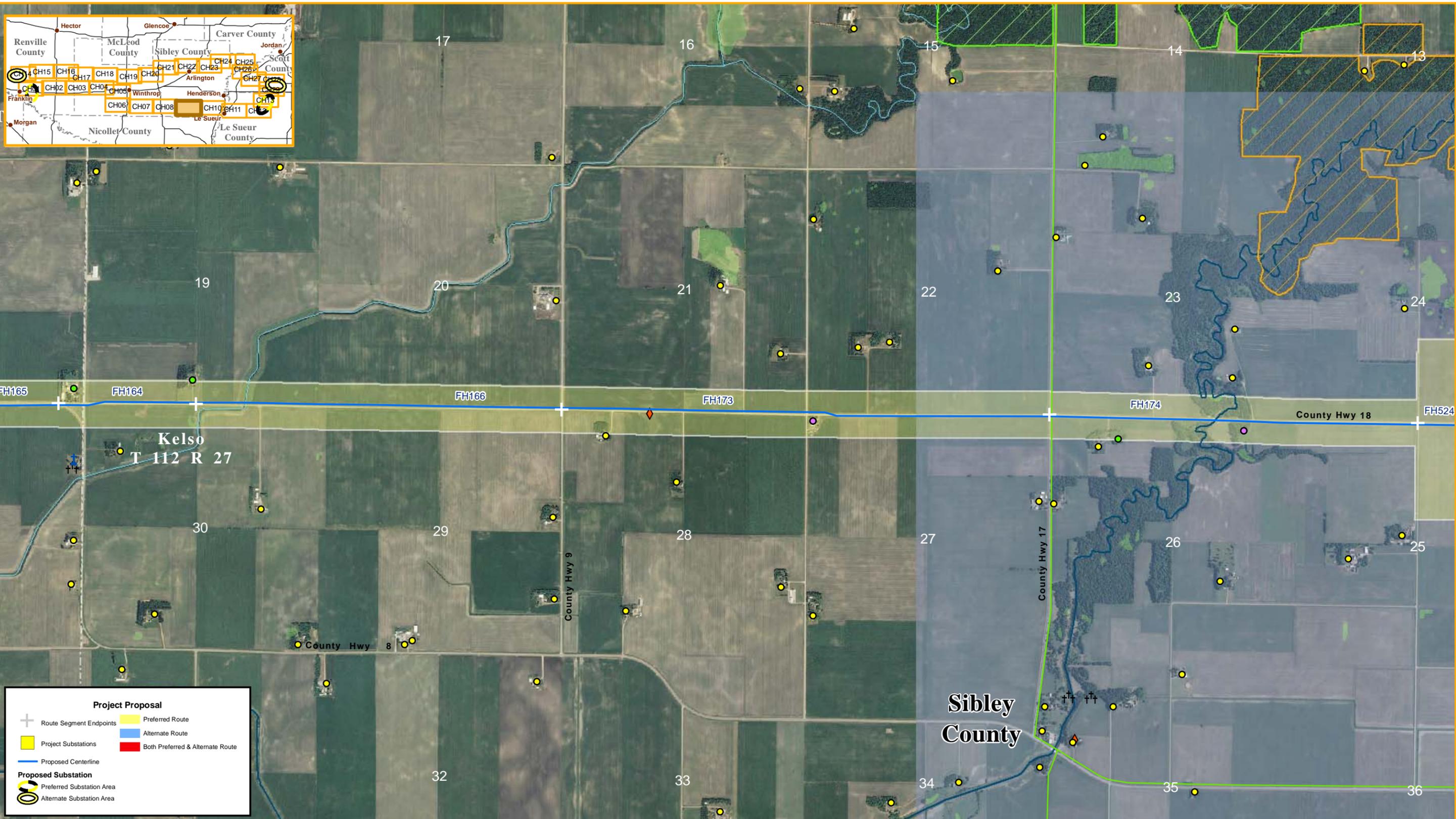
- Homes (from Proposed Centerline)**
- 75 - 150 ft
 - 150 - 300 ft
 - 300 - 500 ft
 - over 500 ft

- MN State Wild and Scenic River**
- Scenic
 - Recreational
- Hydrography and Wetlands**
- NWI Wetland
 - PWI Water
 - MN Trout Streams
 - Impaired Waters

- USFWS Easement
 - MN SNA
 - Metro Park
 - Metro Significant
 - USFWS WPA
 - USFWS NWR
- MN WMA**
- State Funded
 - Federally Funded

Appendix B.5 - Sheet CH8
Cedar Mountain Substation to
Helena Substation
Detailed Route Maps

Route Permit
Brookings County - Hampton
345 kV Transmission Line



Project Proposal

- Route Segment Endpoints
- Project Substations
- Proposed Centerline
- Proposed Substation
 - Preferred Substation Area
 - Alternate Substation Area
- Preferred Route
- Alternate Route
- Both Preferred & Alternate Route

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Transmission Lines

- 69 kV - Existing
- 115 kV - Existing
- 230 kV - Existing
- 345 kV - Existing
- 69 kV - Proposed
- 115 kV - Proposed
- 230 kV - Proposed

- Cemetery
- Churches
- Parks and Recreation
- Aggregate Locations
- FCC Telecom Tower
- Certified Organic Farm
- Scenic Byway
- Planned MN DOT Upgrades
- Existing Pipeline

Trails

- Existing State & Regional Trail
- Regional Planned & Proposed Trail
- Snowmobile Trail

MCBS Biodiversity Significance

- Moderate Significance
- High Significance
- Outstanding Significance

Homes (from Proposed Centerline)

- 75 - 150 ft
- 150 - 300 ft
- 300 - 500 ft
- over 500 ft

MN State Wild and Scenic River

- Scenic
- Recreational

Hydrography and Wetlands

- NWI Wetland
- PWI Water
- MN Trout Streams
- Impaired Waters

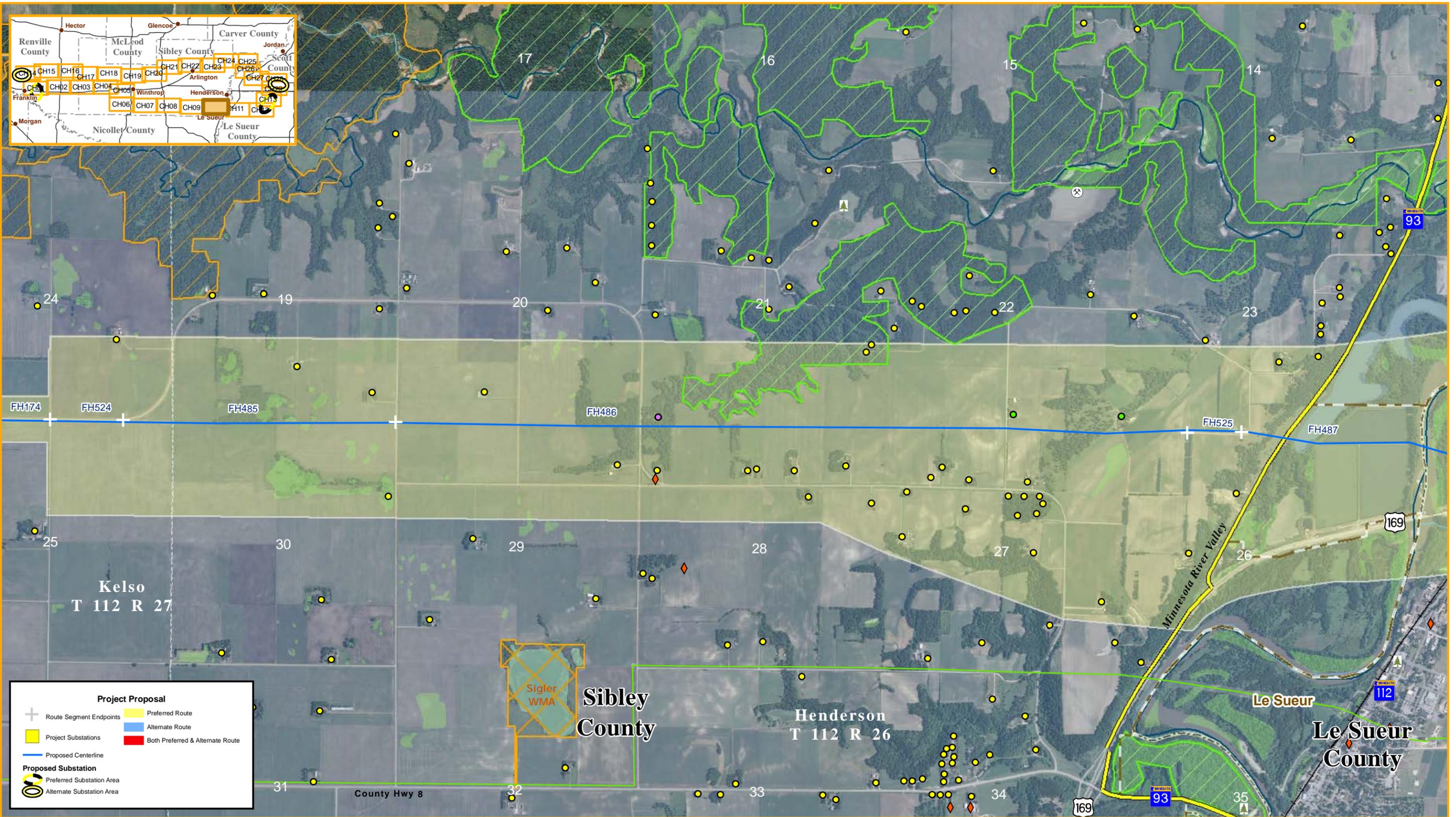
- USFWS Easement
- MN SNA
- Metro Park
- Metro Significant
- USFWS WPA
- USFWS NWR
- MN WMA**
 - State Funded
 - Federally Funded

Appendix B.5 - Sheet CH9
Cedar Mountain Substation to
Helena Substation
Detailed Route Maps

Route Permit
Brookings County - Hampton
345 kV Transmission Line

mxdRoute_PermitAppendixB5SheetMap_11x17_L_detailed_routes.mxd 11/23/2008

Data Source: Please refer to Section 12



Project Proposal

- Route Segment Endpoints
- Project Substations
- Proposed Centerline
- Proposed Substation
 - Preferred Substation Area
 - Alternate Substation Area

Legend

- Preferred Route
- Alternate Route
- Both Preferred & Alternate Route

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Transmission Lines

- 69 kV - Existing
- 115 kV - Existing
- 230 kV - Existing
- 345 kV - Existing
- 69 kV - Proposed
- 115 kV - Proposed
- 230 kV - Proposed

- Cemetery
- Churches
- Parks and Recreation
- Aggregate Locations
- FCC Telecom Tower
- Certified Organic Farm
- Scenic Byway
- Planned MN DOT Upgrades
- Existing Pipeline

Trails

- Existing State & Regional Trail
- Regional Planned & Proposed Trail
- Snowmobile Trail

MCBS Biodiversity Significance

- Moderate Significance
- High Significance
- Outstanding Significance

Homes (from Proposed Centerline)

- 75 - 150 ft
- 150 - 300 ft
- 300 - 500 ft
- over 500 ft

MN State Wild and Scenic River

- Scenic
- Recreational

Hydrography and Wetlands

- NWI Wetland
- PWI Water
- MN Trout Streams
- Impaired Waters

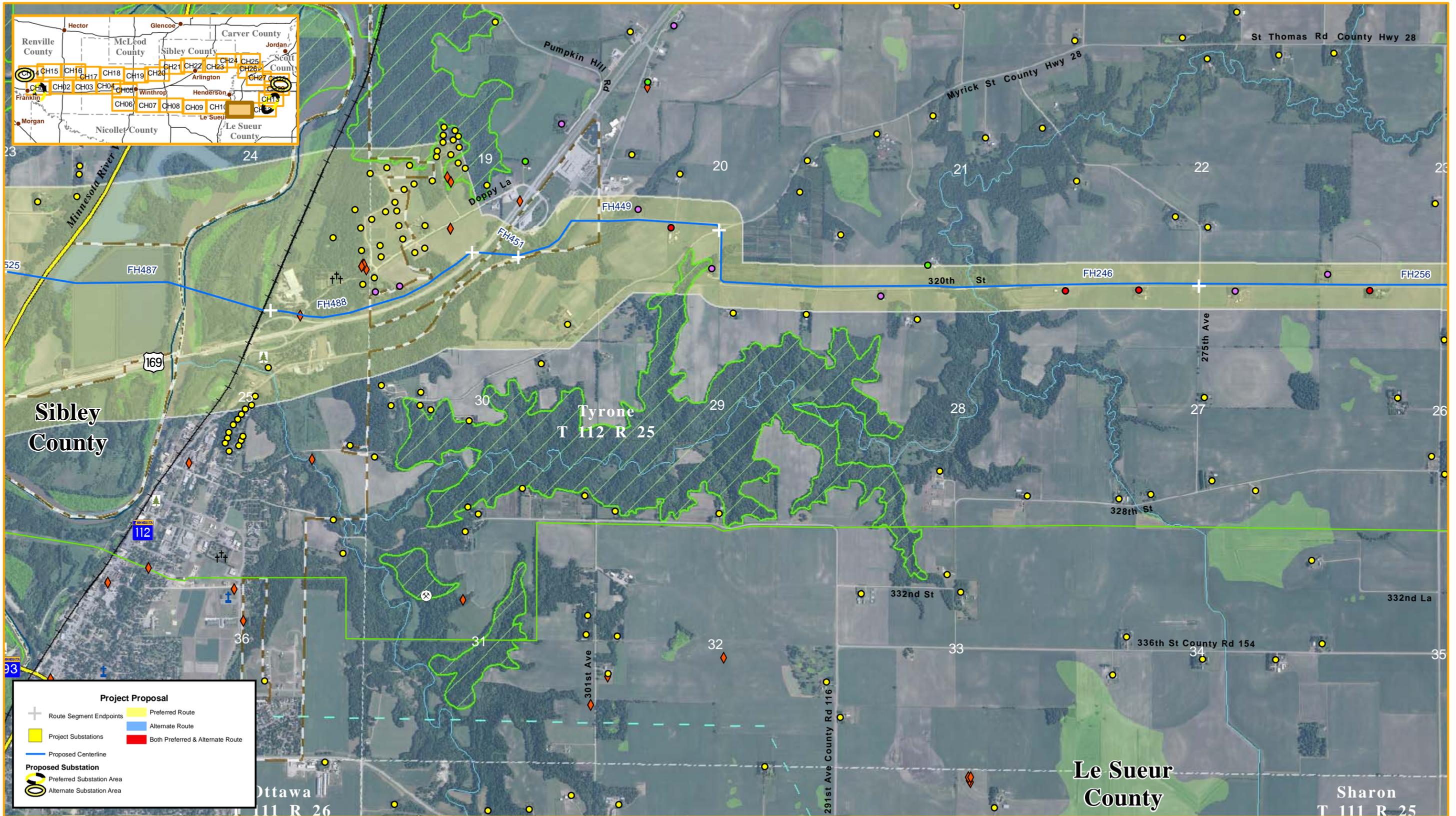
- USFWS Easement
- MN SNA
- Metro Park
- Metro Significant
- USFWS WPA
- USFWS NWR
- MN WMA
 - State Funded
 - Federally Funded

Appendix B.5 - Sheet CH10
Cedar Mountain Substation to
Helena Substation
Detailed Route Maps

Route Permit
Brookings County - Hampton
345 kV Transmission Line

mxdRoute_PermitAppendixB5SheetCH10_11x17_L_detailed_routes.mxd 11/23/2008

Data Source: Please refer to Section 12



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Data Source: Please refer to Section 12

- Existing Substations**
- 69 kV - Existing
 - 115 kV - Existing
 - 230 kV - Existing
 - 345 kV - Existing
 - 69 kV - Proposed
 - 115 kV - Proposed
 - 230 kV - Proposed

- Cemetery
- Churches
- Parks and Recreation
- Aggregate Locations
- FCC Telecom Tower
- Certified Organic Farm
- Scenic Byway
- Planned MN DOT Upgrades
- Existing Pipeline

- Railroad Prairie
- Center Pivot Irrigation
- MCES Planned Interceptor
- Trails
 - Existing State & Regional Trail
 - Regional Planned & Proposed Trail
 - Snowmobile Trail
- MCBS Biodiversity Significance
 - Moderate Significance
 - High Significance
 - Outstanding Significance

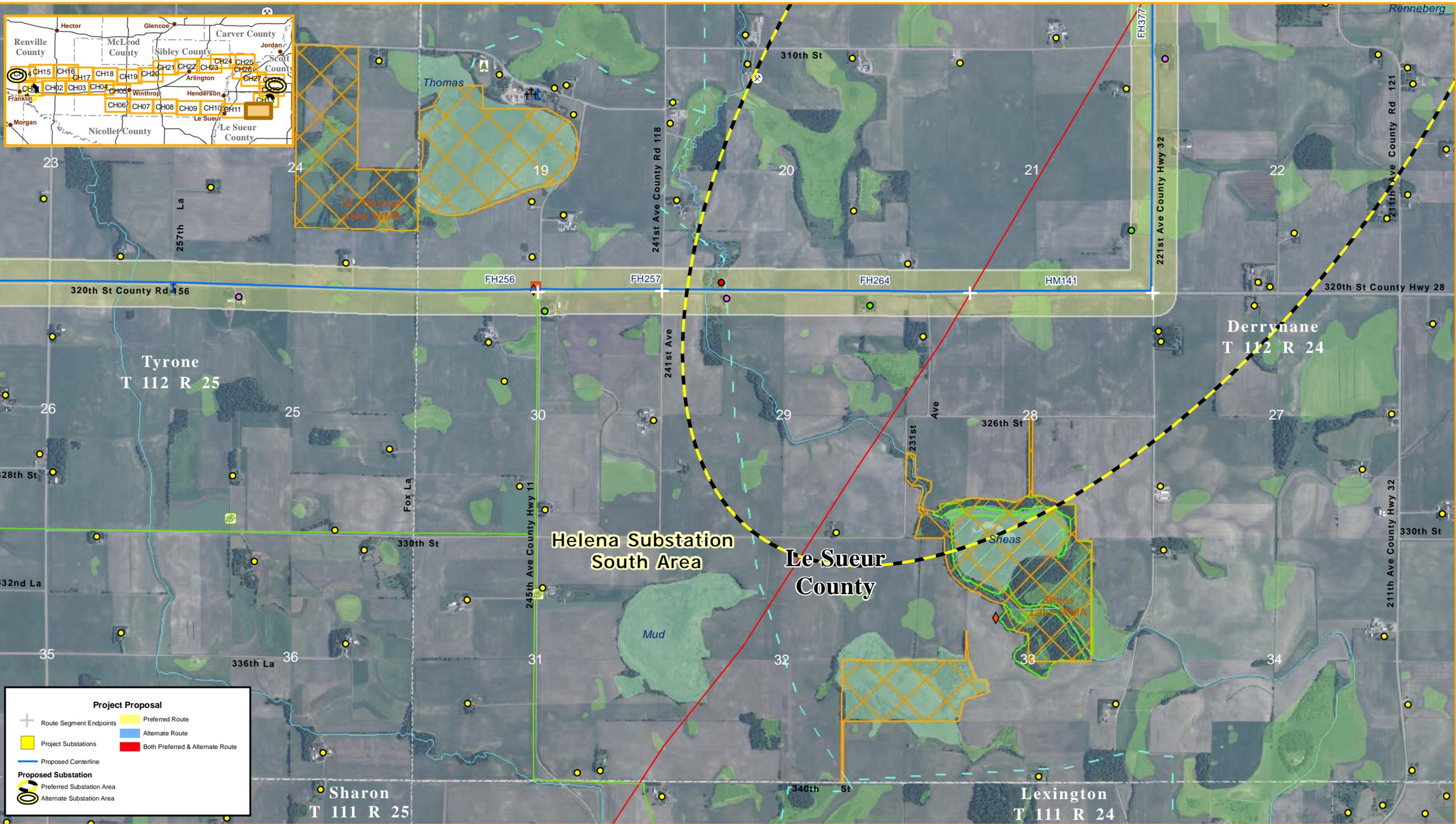
- Homes (from Proposed Centerline)**
- 75 - 150 ft
 - 150 - 300 ft
 - 300 - 500 ft
 - over 500 ft

- MN State Wild and Scenic River**
- Scenic
 - Recreational
- Hydrography and Wetlands**
- NWI Wetland
 - PWI Water
 - MN Trout Streams
 - Impaired Waters

- USFWS Easement
- MN SNA
- Metro Park
- Metro Significant
- USFWS WPA
- USFWS NWR
- MN WMA
 - State Funded
 - Federally Funded

Appendix B.5 - Sheet CH11
Cedar Mountain Substation to
Helena Substation
Detailed Route Maps

Route Permit
Brookings County - Hampton
345 kV Transmission Line



Project Proposal

- Route Segment Endpoints
- Project Substations
- Proposed Centerline
- Proposed Substation
 - Preferred Substation Area
 - Alternate Substation Area
- Preferred Route
- Alternate Route
- Both Preferred & Alternate Route

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- Existing Substations**
- Transmission Lines**
- 69 kV - Existing
 - 115 kV - Existing
 - 230 kV - Existing
 - 345 kV - Existing
 - 69 kV - Proposed
 - 115 kV - Proposed
 - 230 kV - Proposed

- Cemetery
- Churches
- Parks and Recreation
- Aggregate Locations
- FCC Telecom Tower
- Certified Organic Farm
- Scenic Byway
- Planned MN DOT Upgrades
- Existing Pipeline

- Railroad Prairie**
- Center Pivot Irrigation
 - MCES Planned Interceptor
- Trails**
- Existing State & Regional Trail
 - Regional Planned & Proposed Trail
 - Snowmobile Trail
- MCBS Biodiversity Significance**
- Moderate Significance
 - High Significance
 - Outstanding Significance

- Homes (from Proposed Centerline)**
- 75 - 150 ft
 - 150 - 300 ft
 - 300 - 500 ft
 - over 500 ft

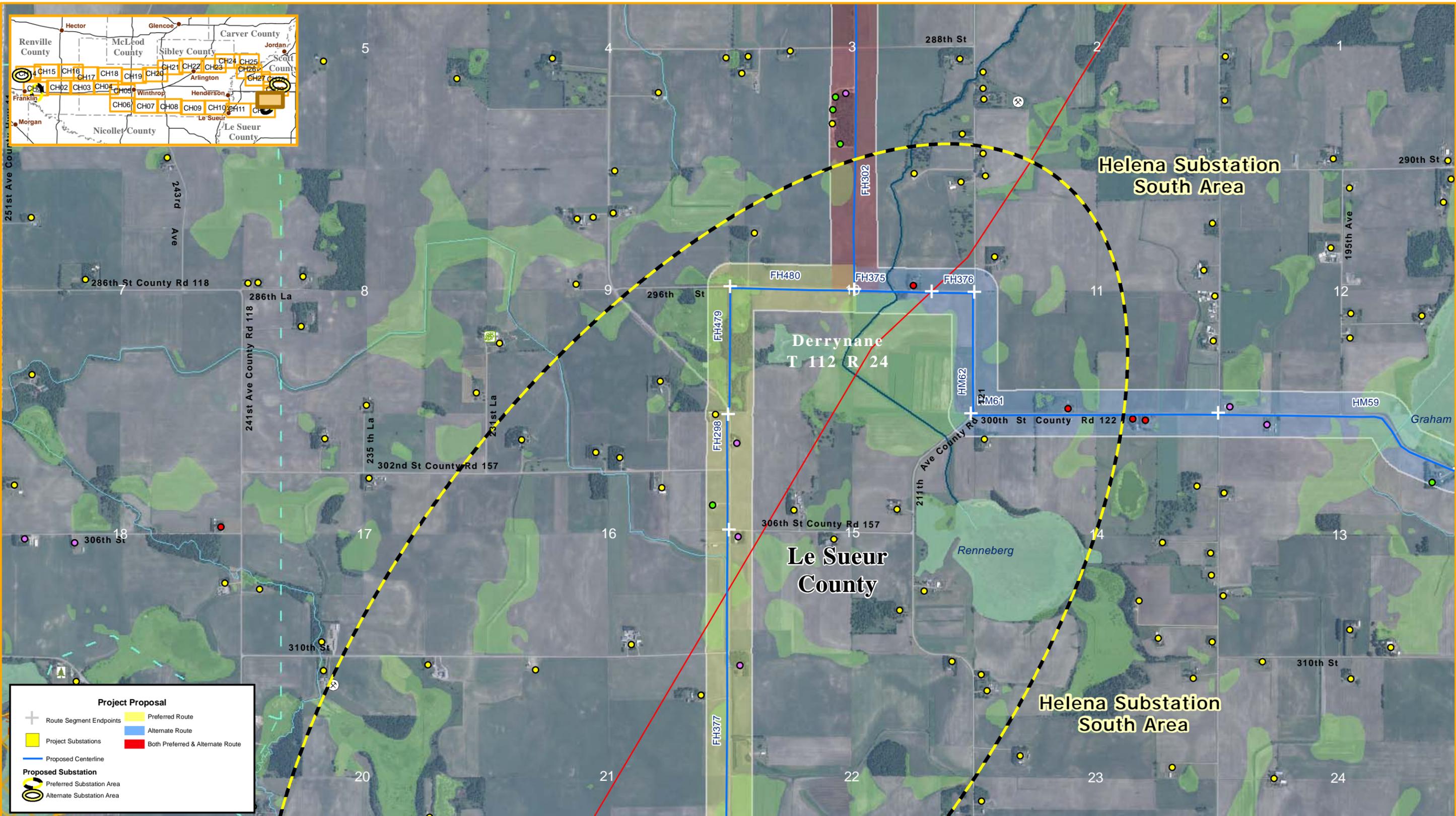
- MN State Wild and Scenic River**
- Scenic
 - Recreational
- Hydrography and Wetlands**
- NWI Wetland
 - PWI Water
 - MN Trout Streams
 - Impaired Waters

- USFWS Easement
- MN SNA
- Metro Park
- Metro Significant
- USFWS WPA
- USFWS NWR
- MN WMA
 - State Funded
 - Federally Funded

Appendix B.5 - Sheet CH12
Cedar Mountain Substation to
Helena Substation
Detailed Route Maps

Route Permit
Brookings County - Hampton
345 kV Transmission Line

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Data Source: Please refer to Section 12

- Existing Substations**
- Transmission Lines**
- 69 kV - Existing
 - 115 kV - Existing
 - 230 kV - Existing
 - 345 kV - Existing
 - 69 kV - Proposed
 - 115 kV - Proposed
 - 230 kV - Proposed

- Cemetery
- Churches
- Parks and Recreation
- Aggregate Locations
- FCC Telecom Tower
- Certified Organic Farm
- Scenic Byway
- Planned MN DOT Upgrades
- Existing Pipeline

- Railroad Prairie**
- Center Pivot Irrigation
 - MCES Planned Interceptor
- Trails**
- Existing State & Regional Trail
 - Regional Planned & Proposed Trail
 - Snowmobile Trail
- MCBS Biodiversity Significance**
- Moderate Significance
 - High Significance
 - Outstanding Significance

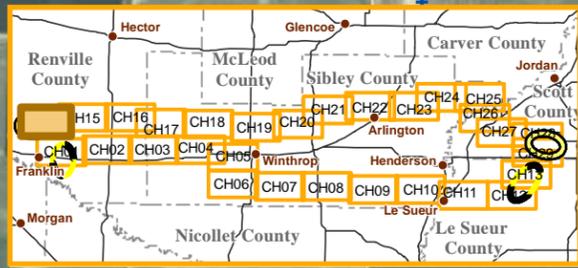
- Homes (from Proposed Centerline)**
- 75 - 150 ft
 - 150 - 300 ft
 - 300 - 500 ft
 - over 500 ft

- MN State Wild and Scenic River**
- Scenic
 - Recreational
- Hydrography and Wetlands**
- NWI Wetland
 - PWI Water
 - MN Trout Streams
 - Impaired Waters

- USFWS Easement
 - MN SNA
 - Metro Park
 - Metro Significant
 - USFWS WPA
 - USFWS NWR
- MN WMA**
- State Funded
 - Federally Funded

Appendix B.5 - Sheet CH13
Cedar Mountain Substation to
Helena Substation
Detailed Route Maps

Route Permit
Brookings County - Hampton
345 kV Transmission Line



Project Proposal

- Route Segment Endpoints
- Preferred Route
- Alternate Route
- Both Preferred & Alternate Route
- Project Substations
- Proposed Centerline

Proposed Substation

- Preferred Substation Area
- Alternate Substation Area

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0 1,000 2,000 Feet
1:24,000

Transmission Lines

- 69 kV - Existing
- 115 kV - Existing
- 230 kV - Existing
- 345 kV - Existing
- 69 kV - Proposed
- 115 kV - Proposed
- 230 kV - Proposed

- Cemetery
- Churches
- Parks and Recreation
- Aggregate Locations
- FCC Telecom Tower
- Certified Organic Farm
- Scenic Byway
- Planned MN DOT Upgrades
- Existing Pipeline

- Railroad Prairie
- Center Pivot Irrigation
- MCES Planned Interceptor

Trails

- Existing State & Regional Trail
- Regional Planned & Proposed Trail
- Snowmobile Trail

MCBS Biodiversity Significance

- Moderate Significance
- High Significance
- Outstanding Significance

Homes (from Proposed Centerline)

- 75 - 150 ft
- 150 - 300 ft
- 300 - 500 ft
- over 500 ft

MN State Wild and Scenic River

- Scenic
- Recreational

Hydrography and Wetlands

- NWI Wetland
- PWI Water
- MN Trout Streams
- Impaired Waters

- USFWS Easement
- MN SNA
- Metro Park
- Metro Significant
- USFWS WPA
- USFWS NWR

MN WMA

- State Funded
- Federally Funded

Appendix B.5 - Sheet CH14
Cedar Mountain Substation to
Helena Substation
Detailed Route Maps

Route Permit
Brookings County - Hampton
345 kV Transmission Line

mxdRoute_PermitAppendixB5SheetMap_11x17_L_detailed_routes.mxd 11/23/2008