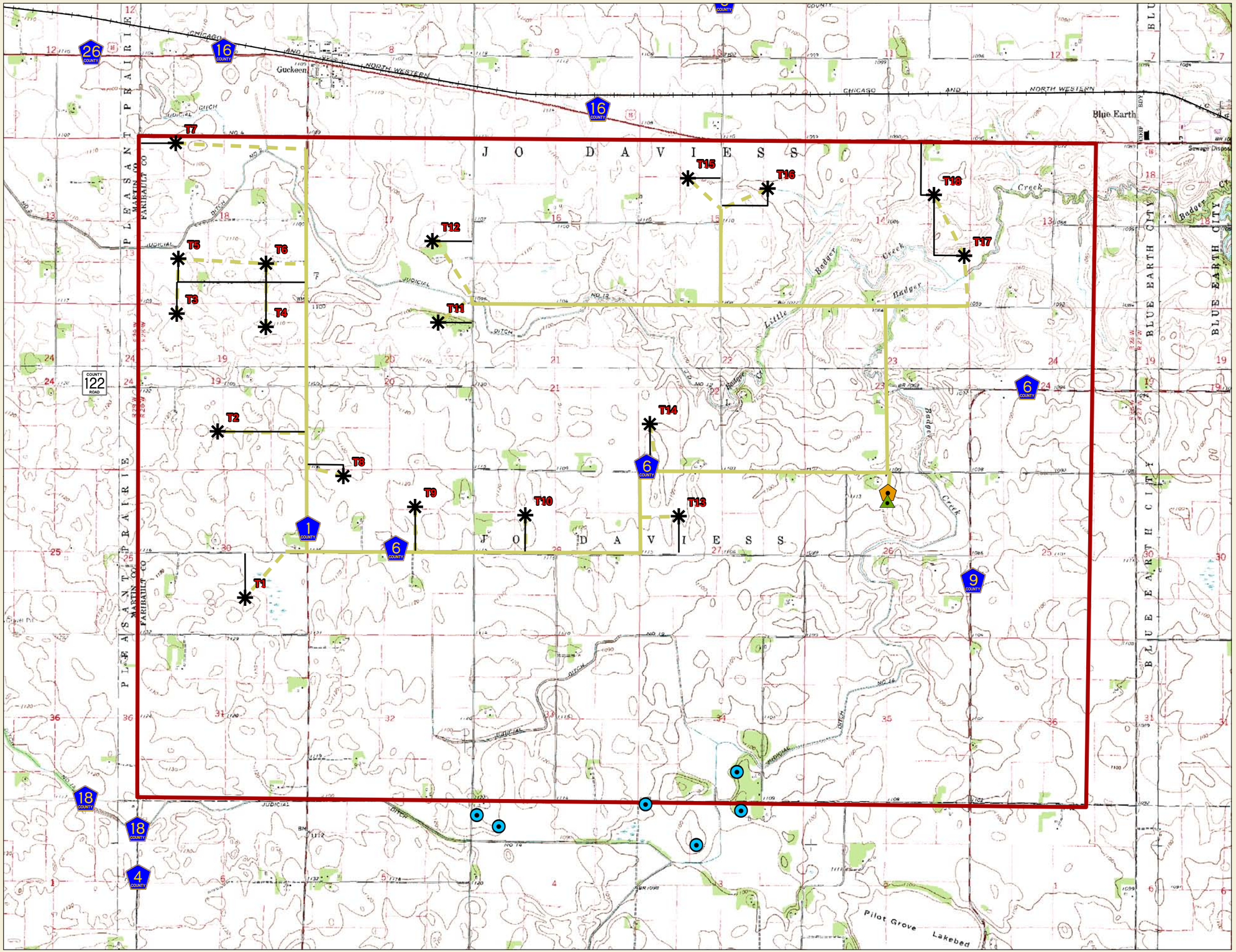
Cultural Study Area/ Historic Probability Map 18 - 2 MW WTG Option

Map 8-A



Legend

- Archaeological Sites
- Preliminary SCADA Building
- Preliminary Substation Site
- Preliminary WTG Tower Locations
- Overhead WTG Collector Line
- Underground WTG Collector Line
- WTG Access Roads
- Project Boundary
- Railroad

Source:
LMIC, USGS, Minnesota State Historic Preservation Office

0 3,000 Feet

LARGE WIND ENERGY CONVERSION SYSTEM
Big Blue Wind Farm
Faribault County, Mn

exergy DEVELOPMENT GROUP

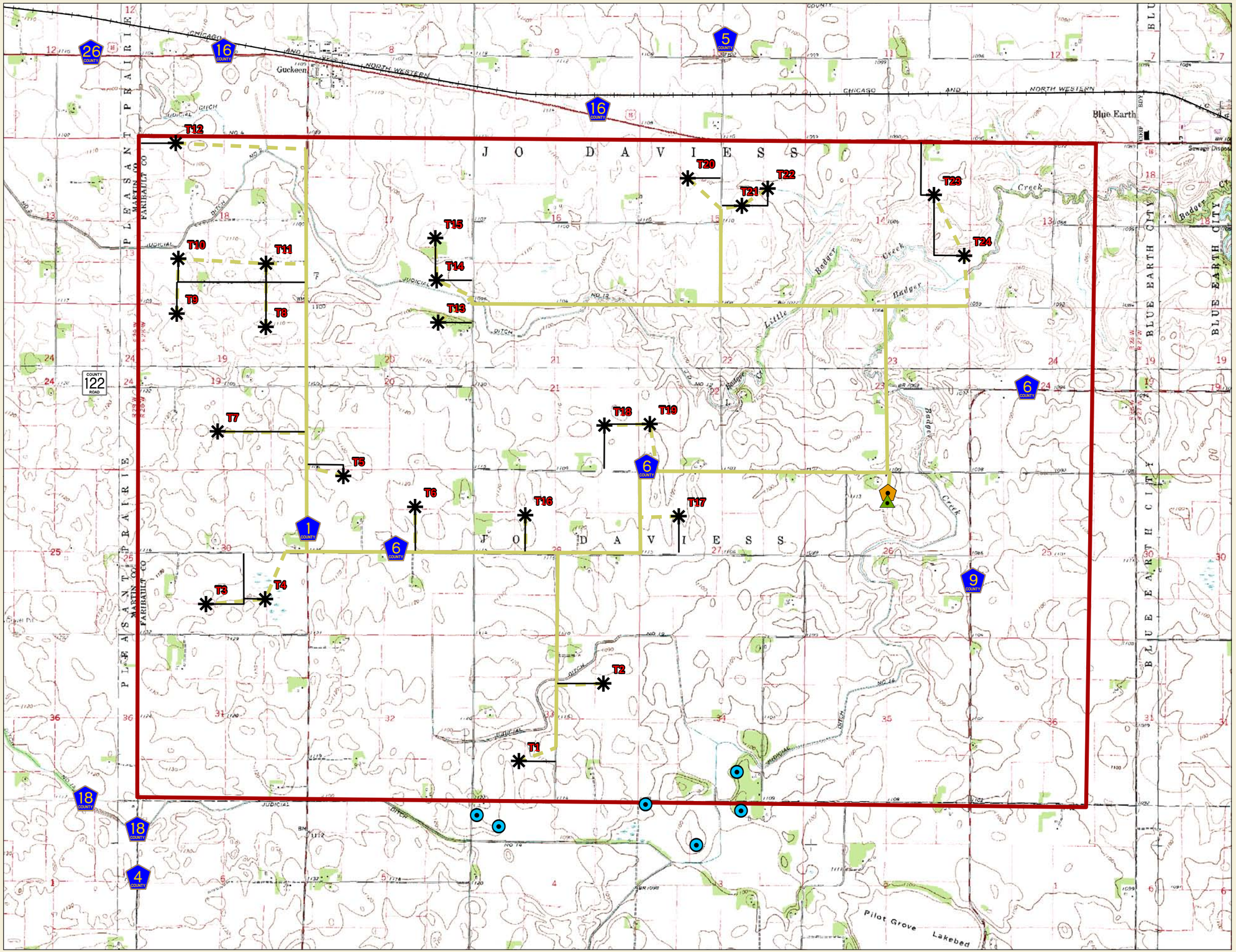
BOLTON & MENK Engineers & Surveyors www.bolton-menk.com

March, 2011

Map Document: (\\arcserver1\gis\PRIV\M32101673\ESRI\Maps\18-2MW WTG Option\101673 Cultural Study Area_Historic Probability Map 11x17.mxd)
3/23/2011 -- 9:40:44 AM

Cultural Study Area/ Historic Probability Map 24 - 1.5 MW WTG Option

Map 8-B



Legend

- Archaeological Sites
- Preliminary SCADA Building
- Preliminary Substation Site
- Preliminary WTG Tower Locations
- Overhead WTG Collector Line
- Underground WTG Collector Line
- WTG Access Roads
- Project Boundary
- Railroad

Source:
LMIC, USGS, Minnesota State Historic Preservation Office

0 3,000 Feet

LARGE WIND ENERGY CONVERSION SYSTEM
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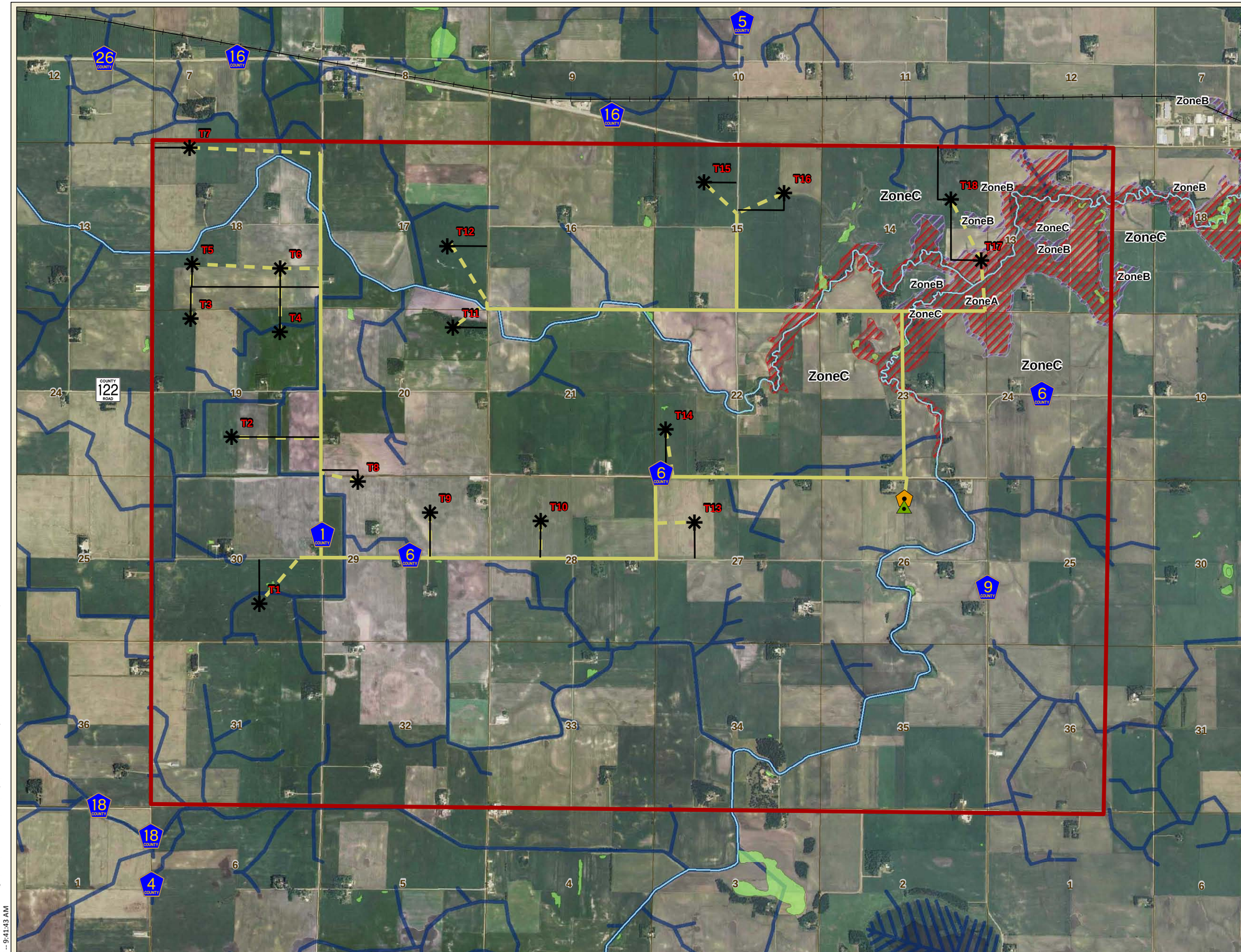
Map Document: (\\arcserver1\gis\PRIV\M32101673\ESRI\Maps\24-2MW WTG Option\101673 Cultural Study Area_Historic Probability Map_11x17.mxd)
3/23/2011 -- 9:40:57 AM

FEMA Floodplain, NWI and Protected Waters
18 - 2 MW WTG Option

Map 9-A



Legend

- National Wetlands Inventory
- Protected Waters-Basins
- Protected Waters-Streams
- Public Drainage Ditch System

FEMA Flood Plain

- ZoneA
- ZoneB
- ZoneC
- Preliminary SCADA Building
- Preliminary Substation Site
- Preliminary WTG Tower Locations
- Overhead WTG Collector Line
- Underground WTG Collector Line
- WTG Access Roads
- Project Boundary
- Section lines
- Railroad

Source:
MnDNR, LMIC, 2008 FSA Photography, FEMA

0 3,000 Feet

LARGE WIND ENERGY CONVERSION SYSTEM
Big Blue Wind Farm
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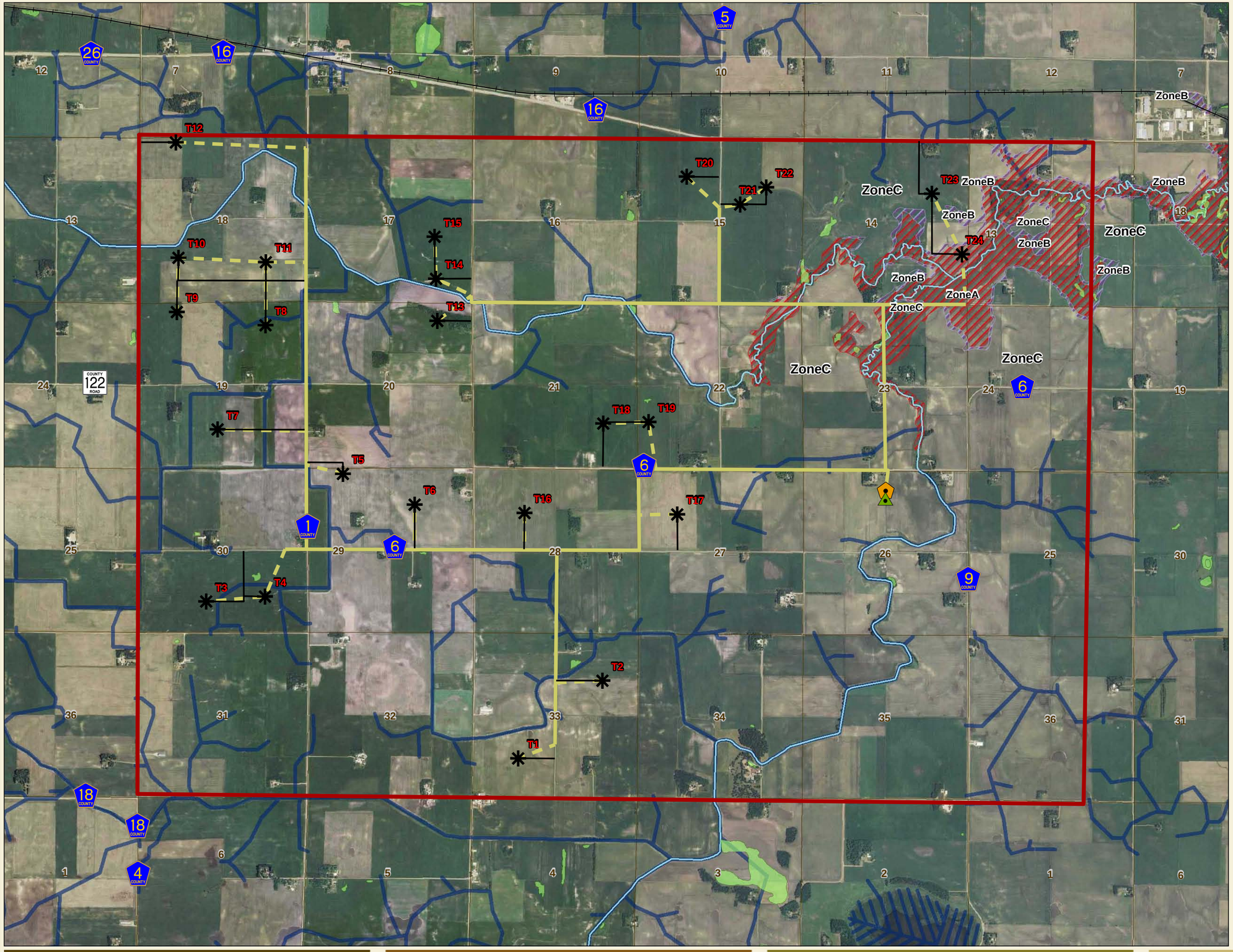
March, 2011

Map Document: (\\arcserver1\gis\PRIV\M32101673\ESRI\Maps\18-2MW WTG Option\101673 NWI & PWI 11x17.mxd)
3/23/2011 -- 9:41:43 AM

FEMA Floodplain, NWI and Protected Waters
24 - 1.5 MW WTG Option

Map 9-B



Legend

- National Wetlands Inventory
- Protected Waters-Basins
- Protected Waters-Streams
- Public Drainage Ditch System

FEMA Flood Plain

- ZoneA
- ZoneB
- ZoneC
- Preliminary SCADA Building
- Preliminary Substation Site
- Preliminary WTG Tower Locations
- Overhead WTG Collector Line
- Underground WTG Collector Line
- WTG Access Roads
- Project Boundary
- Section lines
- Railroad

Source:
MnDNR, LMIC, 2008 FSA Photography, FEMA

0 3,000 Feet

LARGE WIND ENERGY CONVERSION SYSTEM
Big Blue Wind Farm
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Map Document: (\\arcserver1\gis\PRIV\M32101673\ESRI\Maps\24-2MW WTG Option\101673 NWI & PWI_11x17.mxd)
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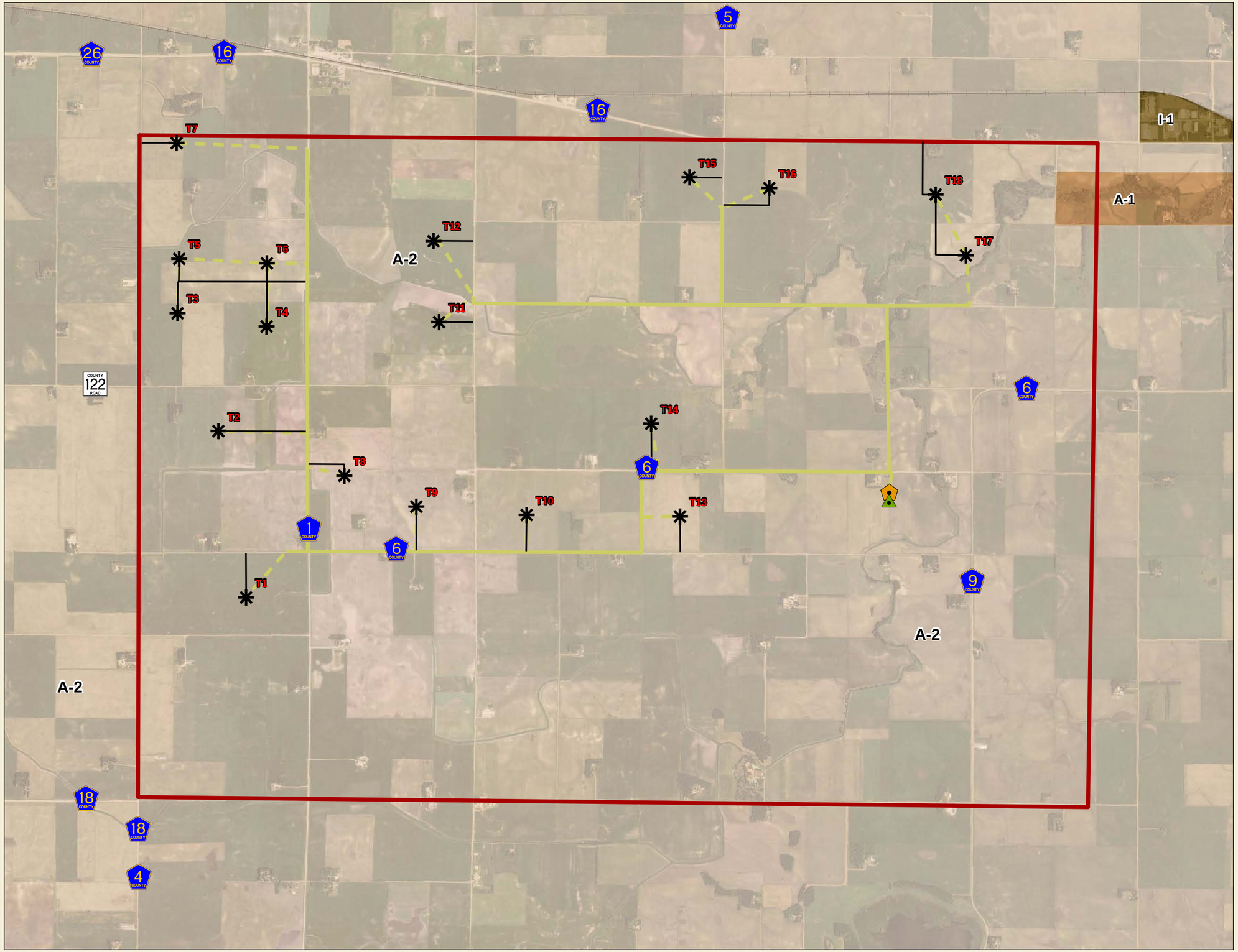
Zoning Map
18 - 2 MW WTG Option

Map 10-A



Legend

Zoning

- A-1 = Shoreland Agriculture District
- A-2 = General Agriculture District
- I-1 = Light Industry District
- Preliminary SCADA Building
- Preliminary Substation Site
- Preliminary WTG Tower Locations
- Overhead WTG Collector Line
- Underground WTG Collector Line
- WTG Access Roads
- Project Boundary
- Railroad

Source:
MnDNR, LMIC, 2008 FSA Photography

0 3,000 Feet

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Map Document: (\\arcserver1\gis\PRJ\VM32101673\ESRI\Maps\18-2MW WTG Option\101673 Zoning Map 11x17.mxd)
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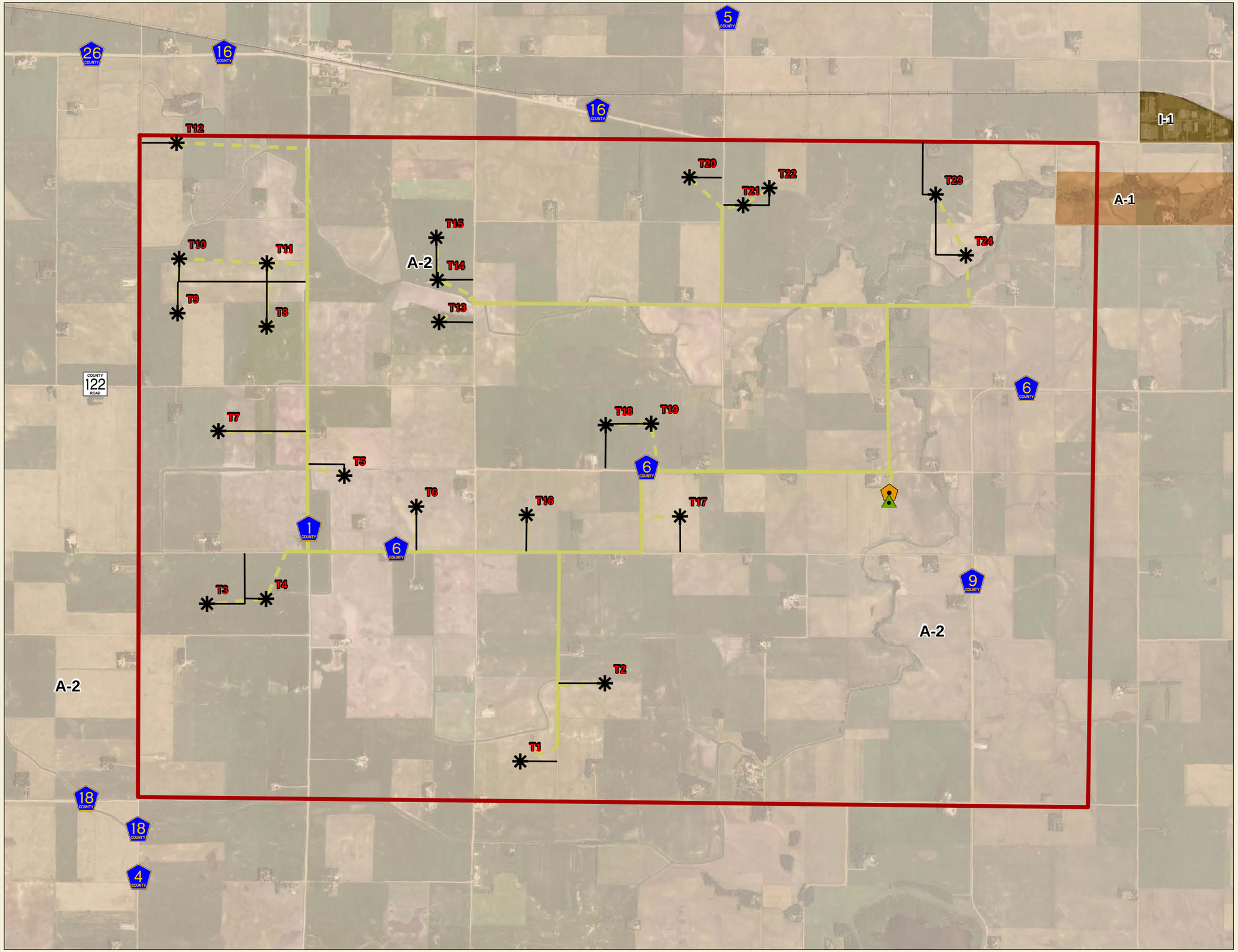


Zoning Map
24 - 1.5 MW WTG Option

Map 10-B

Legend

Zoning

- A-1 = Shoreland Agriculture District
- A-2 = General Agriculture District
- I-1 = Light Industry District
- Preliminary SCADA Building
- Preliminary Substation Site
- Preliminary WTG Tower Locations
- Overhead WTG Collector Line
- Underground WTG Collector Line
- WTG Access Roads
- Project Boundary
- Railroad

Source:
MnDNR, LMIC, 2008 FSA Photography

0 3,000 Feet

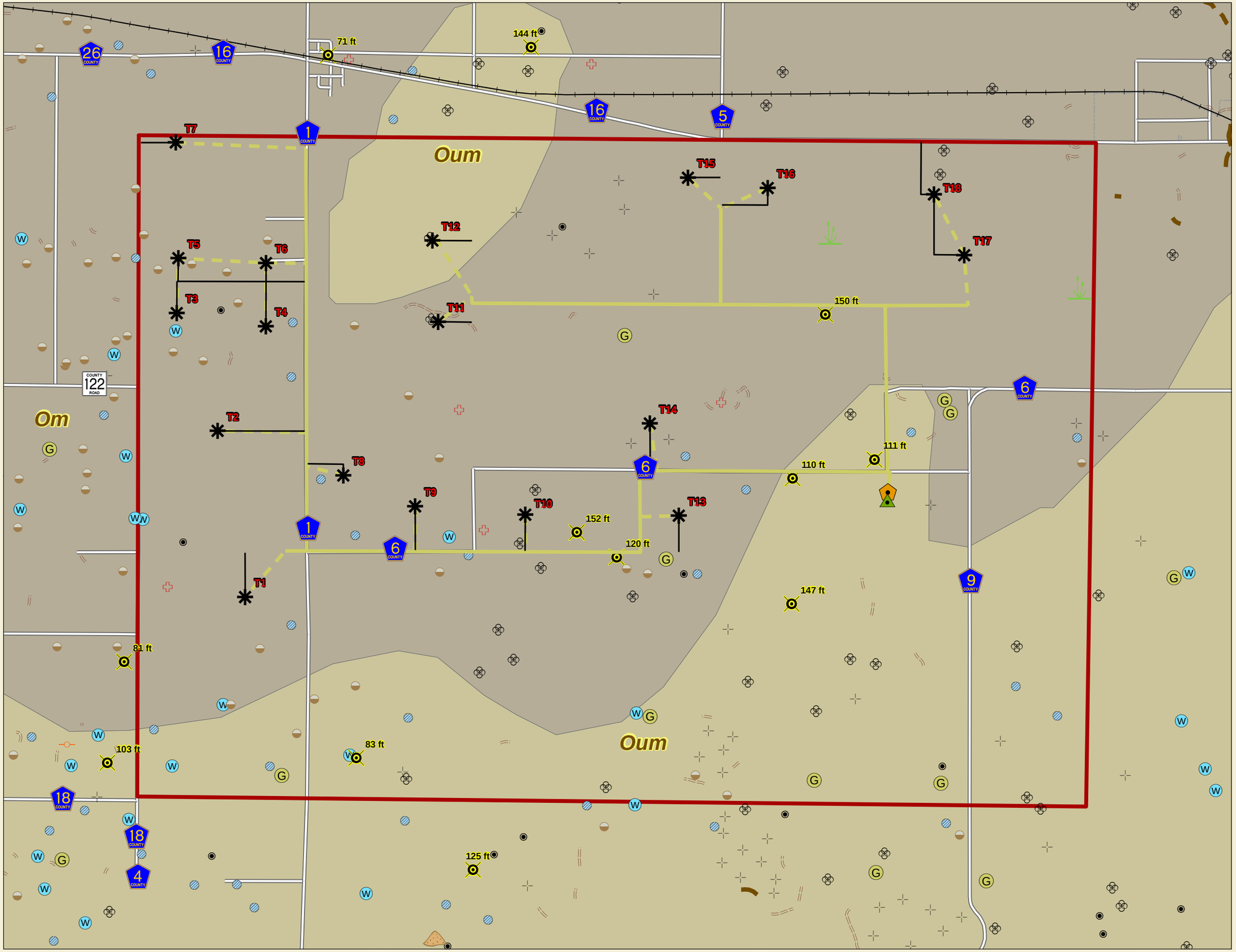
LARGE WIND ENERGY CONVERSION SYSTEM
Big Blue Wind Farm
Faribault County, Mn

March, 2011

Map Document: (\\arcserver1\gis\PRIV\M32101673\ESRI\Maps\24-2MW WTG Option\101673 Zoning Map_11x17.mxd)
3/23/2011 -- 9:43:03 AM

Site Geology and Depth to Bedrock
18 - 2 MW WTG Option

Map 11-A



Legend

- Preliminary SCADA building
- Preliminary Substation Site
- Preliminary WTG Tower Locations
- Overhead WTG Collector Line
- Underground WTG Collector Line
- WTG Access Roads
- Project Boundary
- Municipal Boundaries

Geology Formations

- Cretaceous rocks; undivided
- Ordovician; Prairie Du Chien
- Ordovician;Galena-Maquoketa Fm
- Ordovician;StPeter-Platteville
- Upper Cambrian;Mt.Simon-Jordan
- Depth to Bedrock (From CWI)

SSURGO Surface Features

- High Lime Spot
- Colluvial Spot
- Distrubed Area
- Gravel Pit
- Gravelly Spot
- Marsh
- Small Area of Organic Soil
- Sandy Spot
- Small area of Argiaquoll or Argialboll
- Better Drained Soils Within Wetter Soil
- Wet Spot
- Escarpment, Other Than Bedrock
- Levee
- Short Steep Slope

Source:
NRCS SSURGO Data
Minnesota Geologic Survey - Depth to Bedrock acquired from MGS County Well Index (CWI)

0 3,000 Feet

LARGE WIND ENERGY CONVERSION SYSTEM
Big Blue Wind Farm
Faribault County, Mn

March, 2011

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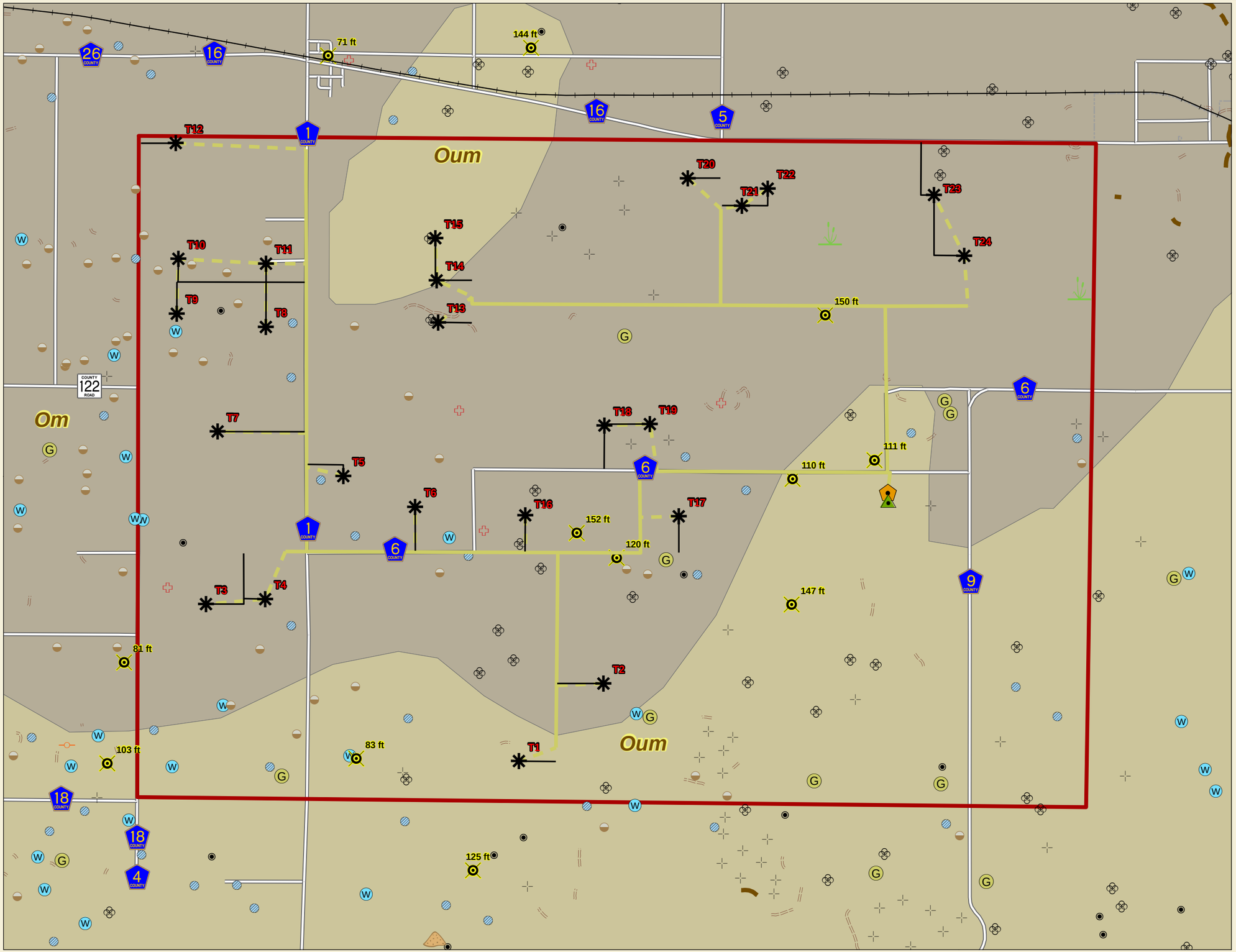
Map Document: (\\arcserver1\gis\PRIV\M32101673\ESRI\Maps\18-2MW WTG Option\101673 Bedrock Depth Site Geology_11x17.mxd)
3/23/2011 -- 9:43:42 AM

Site Geology and Depth to Bedrock
24 - 1.5 MW WTG Option

Map 11-B



Legend

- Preliminary SCADA Building
- Preliminary Substation Site
- Preliminary WTG Tower Location
- Overhead WTG Collector Line
- Underground WTG Collector Line
- WTG Access Roads
- Project Boundary
- Municipal Boundaries

Geology Formations

- Cretaceous rocks; undivided
- Ordovician; Prairie Du Chien
- Ordovician;Galena-Maquoketa Fm
- Ordovician;StPeter-Platteville
- Upper Cambrian;Mt.Simon-Jordan
- Depth to Bedrock (From CWI)

SSURGO Surface Features

- High Lime Spot
- Colluvial Spot
- Distrubed Area
- Gravel Pit
- Gravelly Spot
- Marsh
- Small Area of Organic Soil
- Sandy Spot
- Small area of Argiaquoll or Argialboll
- Better Drained Soils Within Wetter Soil
- Wet Spot
- Escarpment, Other Than Bedrock
- Levee
- Short Steep Slope

Source:
NRCS SSURGO Data
Minnesota Geologic Survey - Depth to Bedrock acquired from MGS County Well Index (CWI)

0 3,000 Feet

LARGE WIND ENERGY CONVERSION SYSTEM
Big Blue Wind Farm
Faribault County, Mn

March, 2011

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Map Document: (\\arcserver1\gis\PRIV\M32101673\ESRI\Maps\24-2MW WTG Option\101673 Bedrock Depth Site Geology_11x17.mxd)
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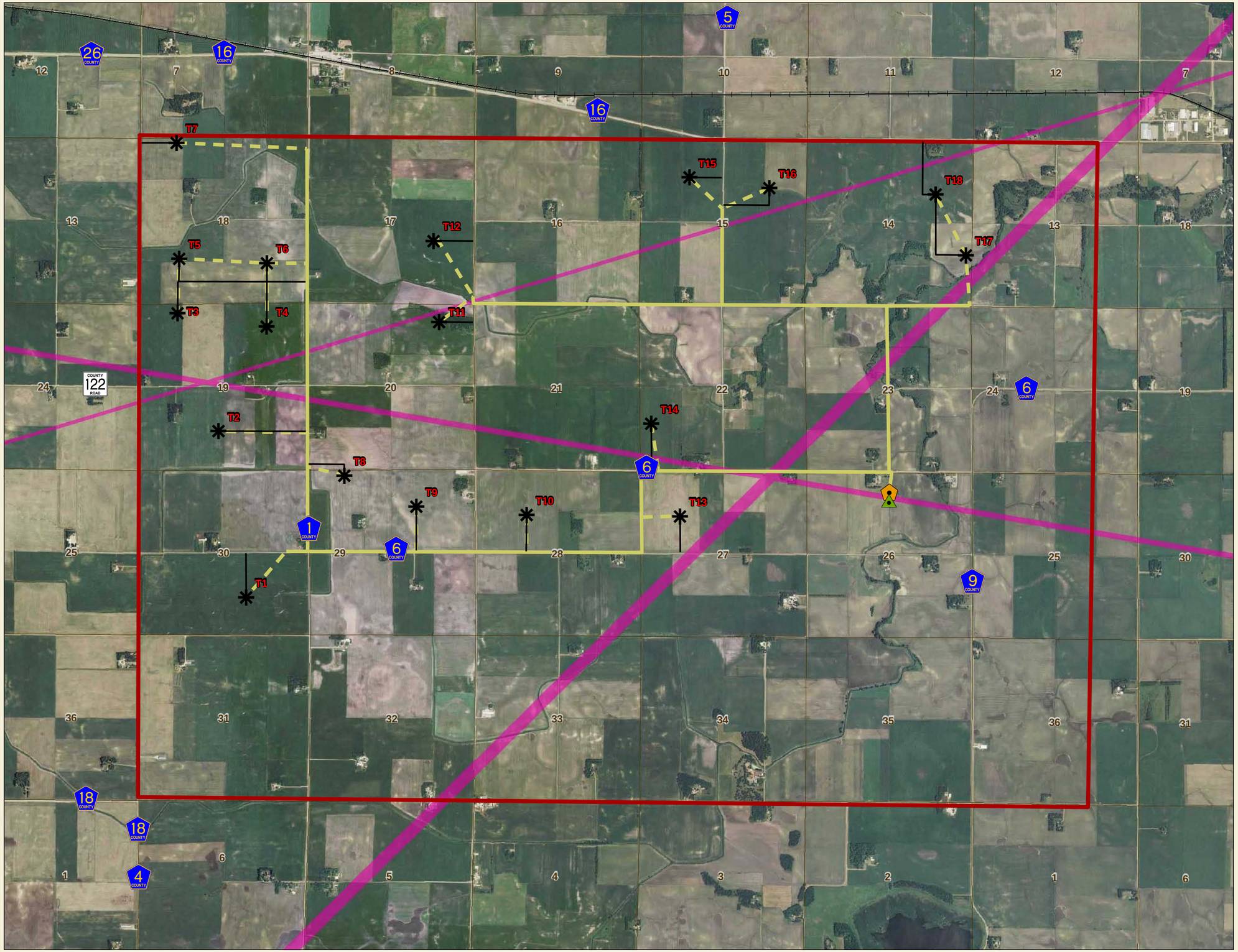

Microwave Beam Path Map
18 - 2 MW WTG Option

Map 12-A

Legend

- Microwave Beam (WCFZ)
- Preliminary SCADA Building
- Preliminary Substation Site
- Preliminary WTG Tower Locations
- Overhead WTG Collector Line
- Underground WTG Collector Line
- WTG Access Roads
- Project Boundary
- Section lines
- Railroad

Source:
MnDNR, LMIC, 2008 FSA Photography

0 3,000 Feet

LARGE WIND ENERGY CONVERSION SYSTEM
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Map Document: (\\arcserver1\gis\PRIV\M32101673\ESRI\Maps\18-2MW WTG Option\101673 Microwaves Beam Path Map_11x17.mxd)
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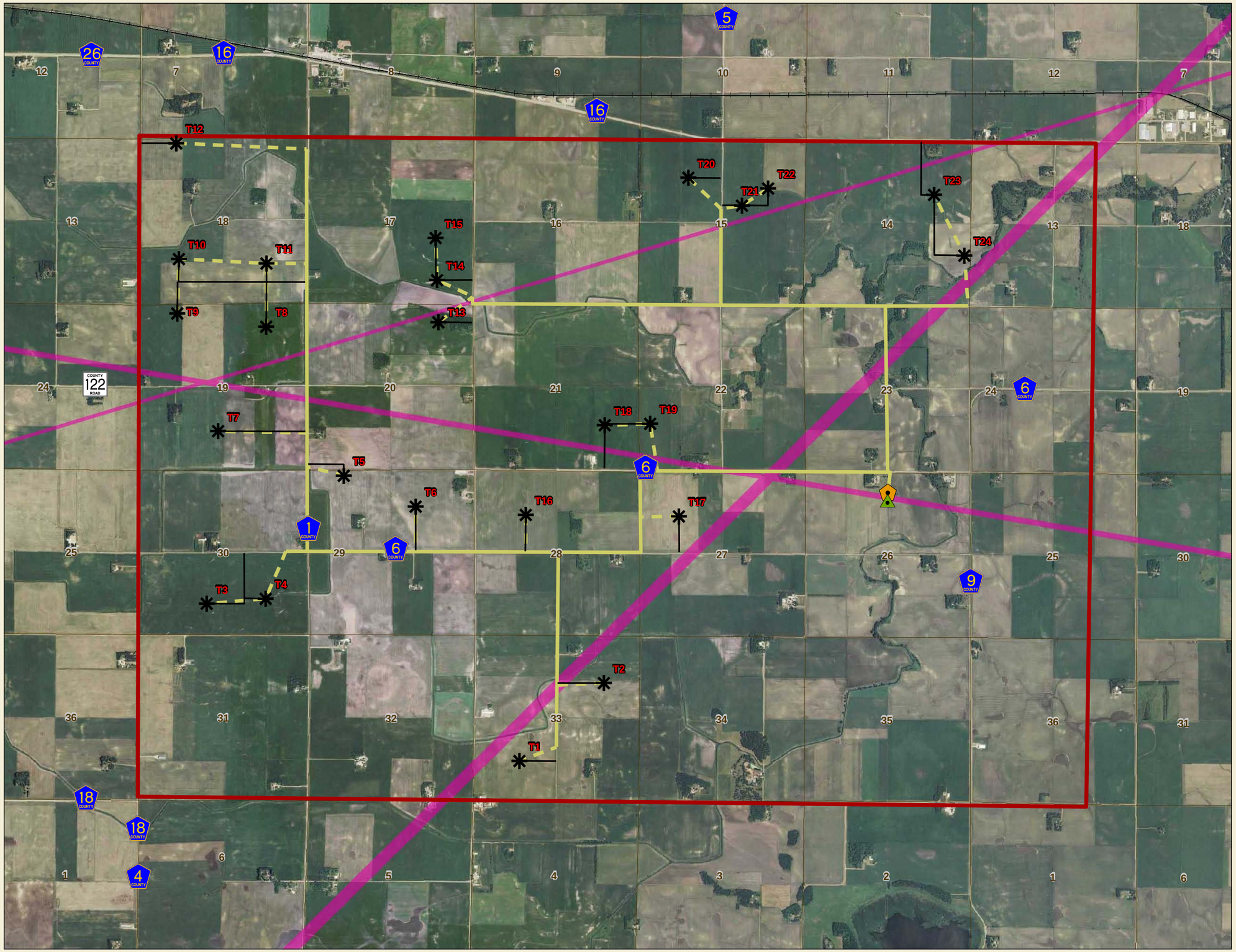

Microwave Beam Path Map
24 - 1.5 MW WTG Option

Map 12-B

Legend

- Microwave Beam (WCFZ)
- Preliminary SCADA Building
- Preliminary Substation Site
- Preliminary WTG Tower Locations
- Overhead WTG Collector Line
- Underground WTG Collector Line
- WTG Access Roads
- Project Boundary
- Section lines
- Railroad

Source:
MnDNR, LMIC, 2008 FSA Photography

0 3,000 Feet

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Map Document: (\\arcserver1\gis\PRIV\M32101673\ESRI\Maps\24-2MW WTG Option\101673 Microwaves Beam Path Map_11x17.mxd)
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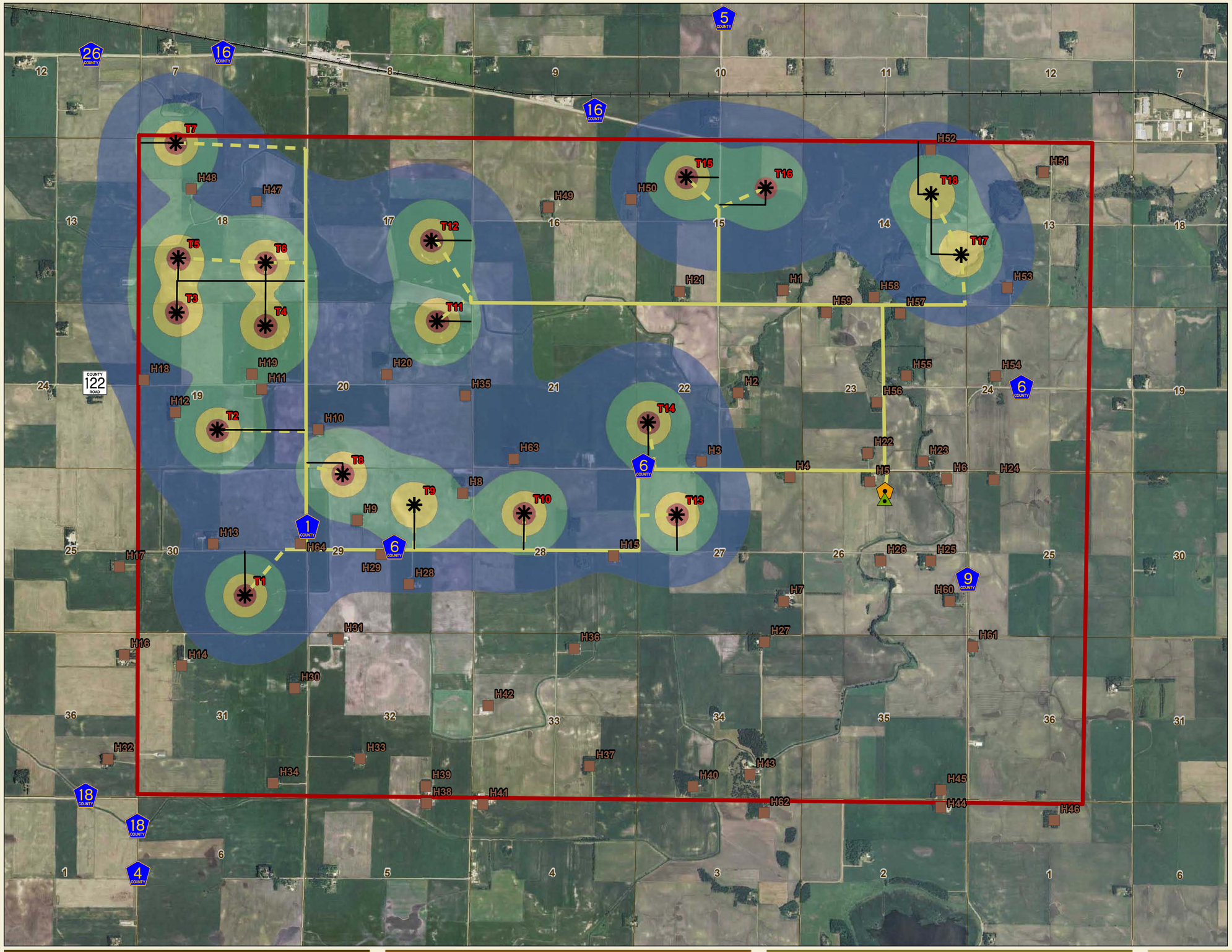

Noise Level Map
18 - 2 MW WTG Option

Map 13-A

Legend

Noise Levels (dB(A)) – L50 Value

- 35
- 40
- 45
- 50
- 55
- Housing Units
- Preliminary SCADA Building
- Preliminary Substation Site
- Preliminary WTG Tower Locations
- Overhead WTG Collector Line
- Underground WTG Collector Line
- WTG Access Roads
- Project Boundary
- Section lines
- Railroad

Source:
MnDNR, LMIC, 2008 FSA Photography

0 3,000 Feet

LARGE WIND ENERGY CONVERSION SYSTEM
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Map Document: (\\arcserver1\gis\PRIV\M32101673\ESRI\Maps\18-2MW WTG Option\101673 Sound & Noise Map_11x17.mxd)
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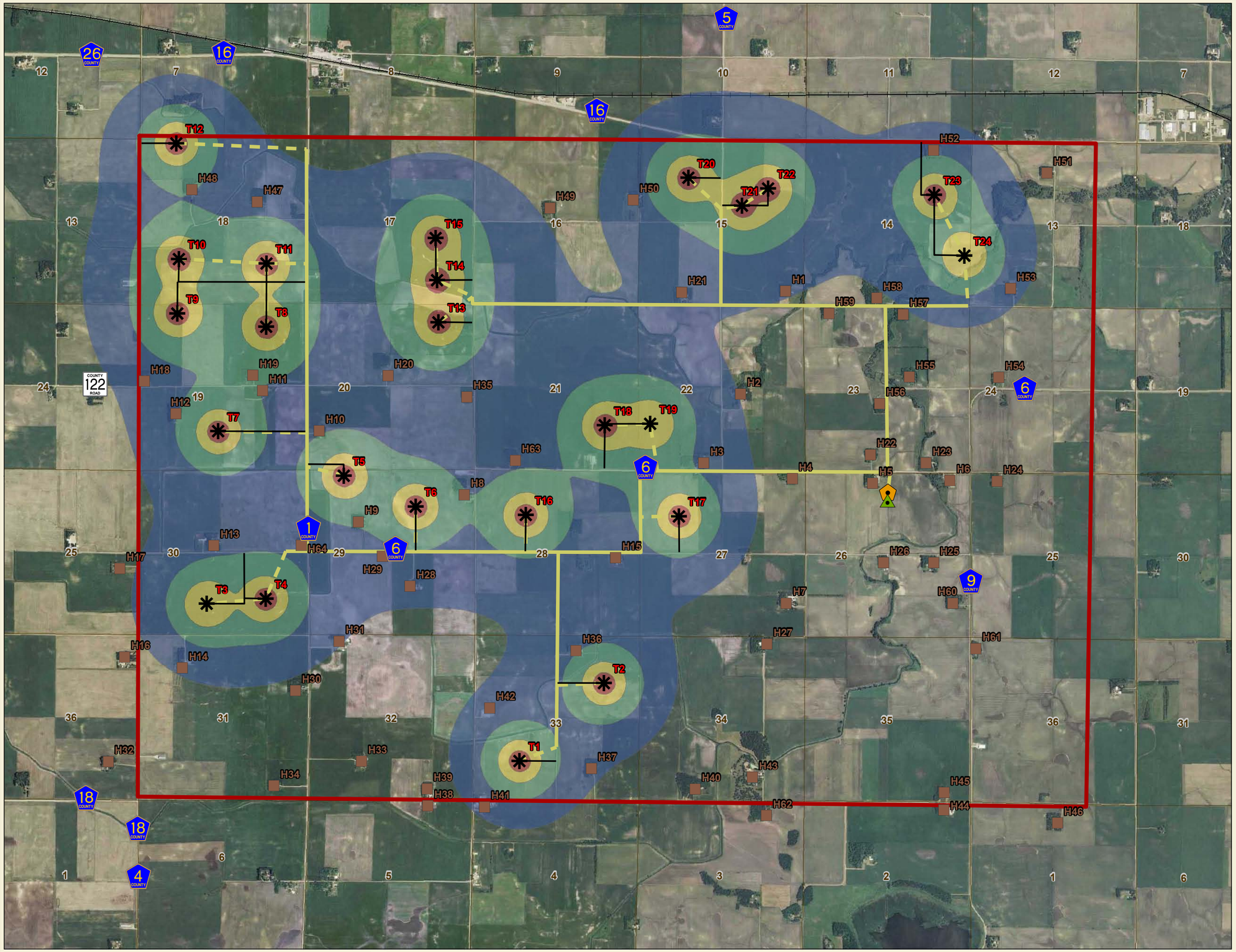

Noise Level Map
24 - 1.5 MW WTG Option

Map 13-B

Legend

Noise Levels (dB(A)) – L50 Value

- 35
- 40
- 45
- 50
- 55
- Housing Units
- Preliminary SCADA Building
- Preliminary Substation Site
- Preliminary WTG Tower Locations
- Overhead WTG Collector Line
- Underground WTG Collector Line
- WTG Access Roads
- Project Boundary
- Section lines
- Railroad

Source:
MnDNR, LMIC, 2008 FSA Photography

0 3,000 Feet

LARGE WIND ENERGY CONVERSION SYSTEM
Big Blue Wind Farm
Faribault County, Mn

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Map Document: (\\arcserver1\gis\PRIV\M32101673\ESRI\Maps\24-2MW WTG Option\101673 Sound & Noise Map_11x17.mxd)
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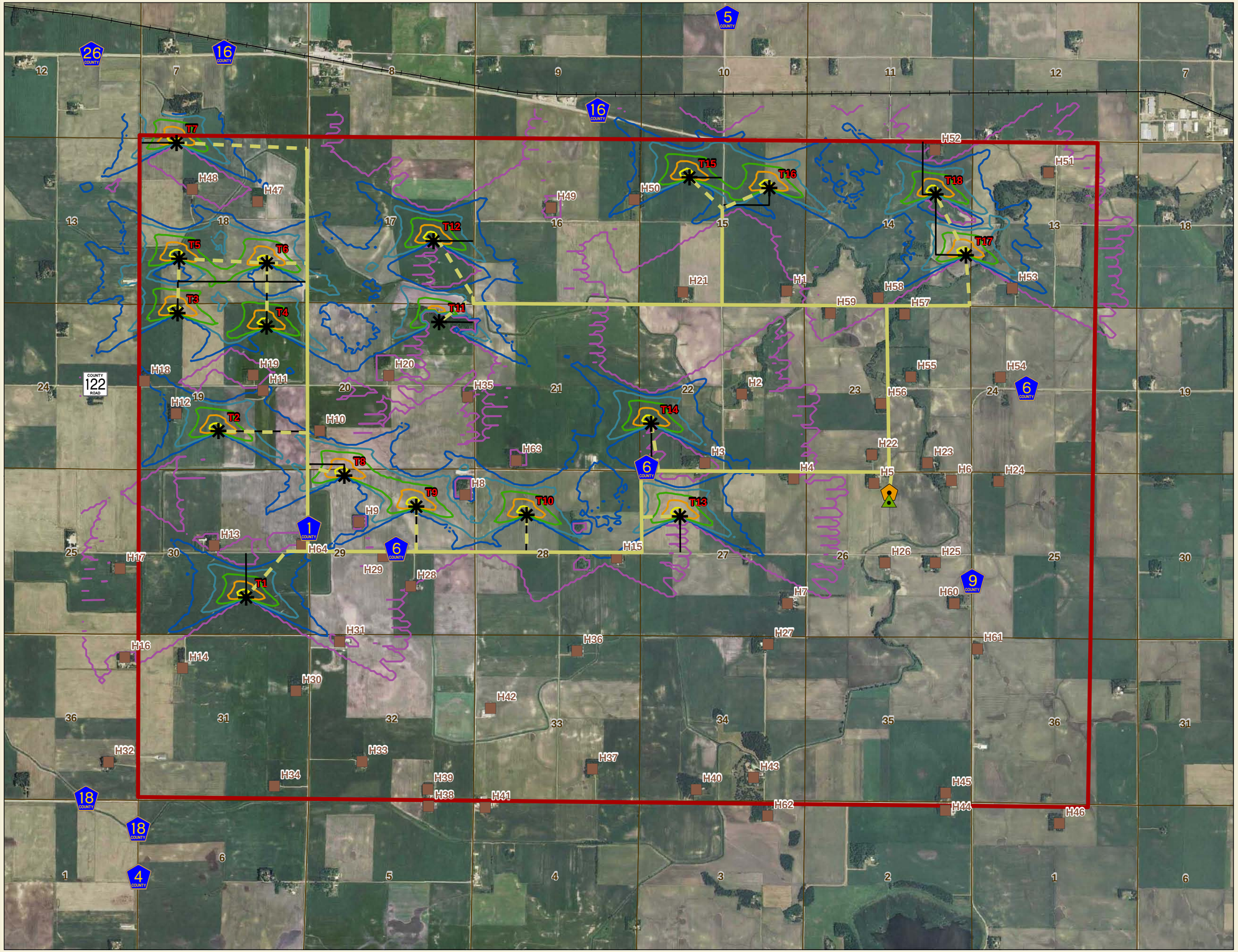

Shadow Flicker Map
18 - 2 MW WTG Option

Map 14-A

Legend

Shadow Flicker (hrs/yr)

- 200
- 100
- 50
- 25
- 10
- 0.015
- Housing Units
- Preliminary SCADA Building
- Preliminary Substation Site
- Preliminary WTG Tower Locations
- Overhead WTG Collector Line
- Underground WTG Collector Line
- WTG Access Roads
- Project Boundary
- Section lines
- Railroad

Source:
MnDNR, LMIC, 2008 FSA Photography

0 3,000 Feet

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Map Document: (\\arcserver1\gis\PRIV\M32101673\ESRI\Maps\18-2MW WTG Option\101673 Shadow Flicker Map_11x17.mxd)
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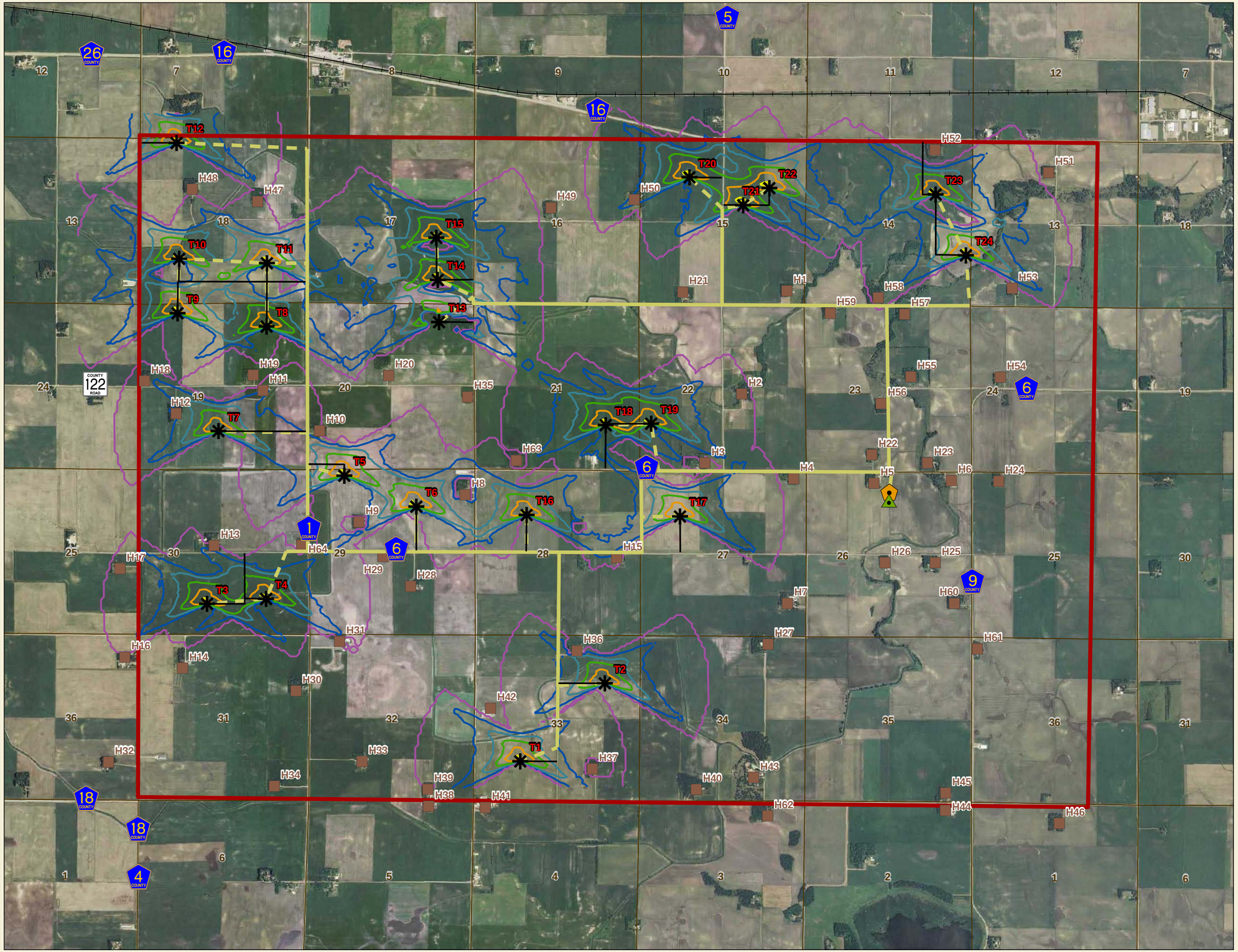

Shadow Flicker Map
24 - 1.5 MW WTG Option

Map 14-B

Legend

Shadow Flicker (hrs/yr)

- 200
- 100
- 50
- 25
- 10
- 0.015
- Housing Units
- Preliminary SCADA Building
- Preliminary Substation Site
- Preliminary WTG Tower Locations
- Overhead WTG Collector Line
- Underground WTG Collector Line
- WTG Access Roads
- Project Boundary
- Section lines
- Railroad

Source:
MnDNR, LMIC, 2008 FSA Photography

0 3,000 Feet

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Map Document: (\\arcserver1\gis\PRIV\M32101673\ESRI\Maps\24-2MW WTG Option\101673 Shadow Flicker Map_11x17.mxd)
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