



Public Utilities Commission

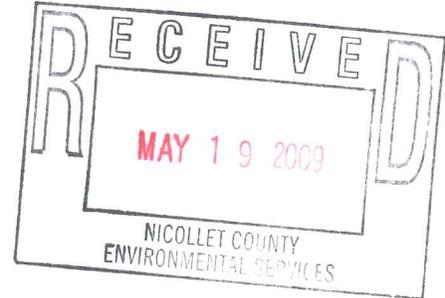
City of New Ulm

Administration
310 First North Street
New Ulm, Minnesota 56073

Telephone: (507)-359-8264
Fax: (507)-354-7318
E-mail:

May 12, 2009

County of Nicollet-Department of Highways
1700 Sunrise Drive
P.O. Box 518
Saint Peter, MN 56082-0518



Re: Application for Utility Permit on County Road Right-of-Way

Dear Sir or Madam,

The New Ulm Public Utilities Commission (NUPUC) hereby submits an "Application for Utility Permit on County Highway Right-of-Way" to construct a 34.5 kV transmission line as described.

We appreciate your timely response to this application. Please address any questions or comments to me:

Patrick Wrase, P.E.
Utilities Planning and Development Engineer
New Ulm Public Utilities
310 First North Street
New Ulm, MN 56073
(507) 359-8202 office
(507) 354 7318 fax
patrick.wrase@ci.new-ulm.mn.us

Sincerely,

Patrick Wrase, P.E.
New Ulm Public Utilities Commission

Cc: Gary Gleisner, New Ulm Public Utilities
Hugh Nierengarten, New Ulm City Attorney
Brian Gramentz, New Ulm City Manager
Edgar Preissner, Sargent & Lundy, LLC
Leslie Knapp, EDAW|AECOM
Keith Anderson, Howard R. Green Company

**APPLICATION FOR UTILITY PERMIT on
COUNTY HIGHWAY RIGHT OF WAY**

Board of County Commissioners
Nicollet County, Minnesota
Attn: County Highway Engineer

C.S.A.H. 7
C.R. Township Roads 601st Ave. and

Application is hereby made for permission to place, construct and thereafter maintain a 597th Ave. See Attachment A
along or across County Highway No. _____ from _____

to _____
feet from center line on the _____ (east, west, north, or south) side of the county highway in accordance
with the sketch shown on the inside hereof, or attached thereto.

I. AERIAL CONSTRUCTION

- | | |
|--|--|
| <input checked="" type="checkbox"/> Single pole | <input type="checkbox"/> Open wire |
| <input type="checkbox"/> H-Frame | <input type="checkbox"/> Cable |
| <input type="checkbox"/> Single pole and H-Frame | <input type="checkbox"/> Vertical |
| <input type="checkbox"/> Steel tower | <input type="checkbox"/> Cross-arm |
| <input type="checkbox"/> Other | <input checked="" type="checkbox"/> Vertical and cross-arm |

VOLTAGE 34,500 Volts	NUMBER OF CONDUCTORS 1 per Phase (3 total)	SIZE OF CONDUCTORS 336 Aluminum Conductor Steel Reinforced
-------------------------	---	--

Minimum height of conductor: * 20 ft. along highway * 20 ft. at crossing over highway

*=NGSC 2007 + 1.5 foot tolerance

EXTENT AND LOCATION OF TREE TRIMMING AND/OR CLEARING

No tree trimming and/or clearing is anticipated.

II. UNDERGROUND CONSTRUCTION

CONDUIT

- | | |
|--|---|
| <input type="checkbox"/> Multiple tile | <input type="checkbox"/> Sectional concrete |
| <input type="checkbox"/> Transite | <input type="checkbox"/> Steel pipe |
| <input type="checkbox"/> Clay tile | <input type="checkbox"/> Other |

CASING

- | | | |
|-------------------------------------|---|--------------------------------|
| <input type="checkbox"/> Steel pipe | <input type="checkbox"/> Sectional concrete | <input type="checkbox"/> Other |
|-------------------------------------|---|--------------------------------|

SIZE	DEPTH
------	-------

VOLTAGE	NUMBER OF CONDUCTORS	SIZE OF CONDUCTORS
---------	----------------------	--------------------

METHOD OF INSTALLING UNDER ROADBEDS (if open trench, explain why necessary)

- | | | | |
|--------------------------------------|----------------------------------|---------------------------------|--|
| <input type="checkbox"/> Open Trench | <input type="checkbox"/> Jacking | <input type="checkbox"/> Boring | <input type="checkbox"/> Pneuma Gopher |
|--------------------------------------|----------------------------------|---------------------------------|--|

EXTENT AND LOCATION OF TREE CLEARING:

- | | |
|---------------------------------------|---|
| <input type="checkbox"/> New Facility | <input type="checkbox"/> Replacement Facility |
|---------------------------------------|---|

III. Work to start on or after June 2009 and to be completed on or before October 2010

IV. The applicant is carrying on any and all of the work herein above mentioned or referred to in its application and in the Permit issued herefor, shall strictly conform to the terms of such Permit, and the regulations of the Board of County Commissioners, as set forth herein together with the Special Provisions, all of which are made a part hereof. The applicant specifically agrees to be bound hereby. The applicant shall also comply with the regulations of all other governmental agencies for the protection of the public. The work shall be accomplished in a manner that will not be detrimental to the highway and that will safeguard the public.

Dated this 7th day of May, 2009.

New Ulm Public Utilities Commission
Name of Company making application

Signature 
Patrick Wrase, PE

By

Title

Address 310 First North Street, New Ulm, MN 56073

Proposed New Ulm Public Utilities Commission 34.5 kV Transmission Line Attachment A

Description of the Proposed 34.5 kV Transmission Line Route

The New Ulm Public Utilities Commission (NUPUC) proposes to construct a new 34.5 kV overhead transmission line from the intersection of Nicollet County State Aid Highway (CSAH) 7 and 370th Street south along the east side of CSAH 7 for approximately 2.2 miles. The transmission line would then span CSAH 5 and continue south along the east side of 601st Avenue for approximately 1.4 miles until it reaches 591st Avenue. At 591st Avenue the transmission line would make a 45 degree turn, spanning 601st Avenue and continue along the west side of 597th Avenue for approximately 0.5 miles before connecting into the existing NUPUC 69 kV transmission line (Figure 1). The transmission line would be located approximately 25 feet from the center line of all county roads within existing road right-of-way (ROW). Figure 2 shows typical tangent structure arrangements for a 34.5 kV overhead transmission line.

The 34.5 kV line would be routed to intersect with an existing 69 kV NUPUC wooden pole line on 597th Avenue south of the intersection of 591st Avenue just outside of the existing Fort Ridgley substation. There the new 34.5 kV line would be underbuilt on the existing 69 kV wooden pole line for approximately 2.5 miles to the NUPUC North Side Substation. The 34.5 kV line conductors would be on crossarms or line post insulators to meet clearance requirements. The line would cross the Fritsche Creek Wildlife Management Area (WMA) and the Minnesota River as an underbuild on the existing 69 kV NUPUC line as a part of this route (Figure 3). This existing line is located on a berm within the WMA.

Construction of the 34.5 kV Transmission Line

Where new transmission line is constructed it would use wooden poles to support three conductors with a single overhead shield wire (Figure 4). The conductors would be located on crossarms or line post insulators and would be designed in a compact arrangement to minimize pole height (Figure 5). Poles would be direct embedded by auguring a hole in soil, inserting the wooden pole, and backfilling the hole with a well compacted granular aggregate or concrete. Wooden corner poles would use down guys or consist of self-supporting poles, depending on available right of way (ROW) (Figure 6). Steel poles may be required at select locations and would be a function of sharp or acute turns in line routings and/or potential restriction of width within the ROW. If used, tubular steel poles would be embedded in a concrete foundation as necessary for support required by site conditions. All construction is expected to occur within existing Nicollet County road ROW.

The transmission line would be supported on wooden poles spaced approximately 250 feet apart along the principal portion of the route. Pole spacing adjustments would be made to accommodate identified particular easement conditions and to avoid sensitive resources, such as wetlands, during the detailed design phase.

The NUPUC engineering consultants will confirm the ROW conditions prior to issuance of construction drawings.

Construction, Restoration and Maintenance

The line construction procedure for the new 34.5 kV line typically occurs as described below:

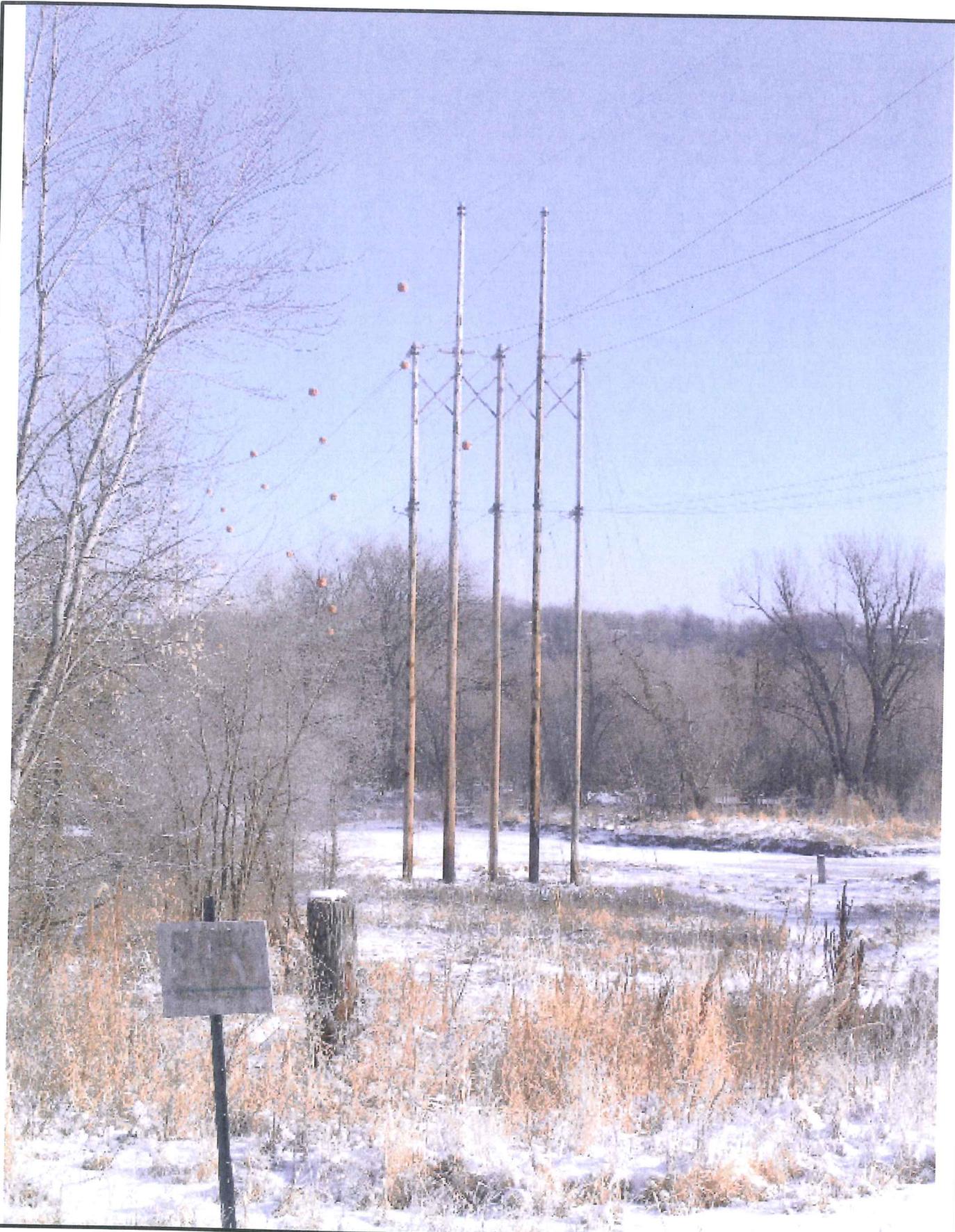
1. Poles locations are surveyed or marked in the field. Underground utilities are marked.
2. Material is delivered and distributed along the transmission line route.
3. Poles are assembled on the ground, i.e. insulators, guide connections, cross bars etc.
4. Holes are augured for pole installation and the poles are set.
5. Conductors are loosely strung on the poles.
6. Conductors are tightened and attached to the poles.
7. Construction area is cleaned up, excess material is picked up, and site restoration is completed.
8. Final end connections are made to the substations and line is energized
Subsequent to construction, maintenance procedures are followed.

The planning estimated cost of the transmission line was developed using actual construction database costs. The planning estimated cost is \$660,000; however, since the database was developed, there has been a reduction in economic construction material costs and equipment. It is believed that with the NUPUC's access to lower cost labor and materials the estimate may be considered somewhat on the conservative side. Construction costs will be refined during the detailed engineering design phase.

34.5 kV Transmission Line Interconnection Substation

The 34.5kV line would terminate at the existing New Ulm North Side Substation in a new line bay within the existing substation fence. The line would be connected through a new 34.5 kV breaker to a 10 MVA 34/13.2 kV transformer and connected into existing 12 kV switchgear in the control building. Protection for the transformer would include differential and overcurrent protection that can be located in the switchgear cubicle as well as line protection for the 34.5 kV breaker that can include distance, breaker failure, and reclose functionality.

FIGURES



Prepared By:

 Howard R. Green Company
EDAW | AECOM

Prepared For:

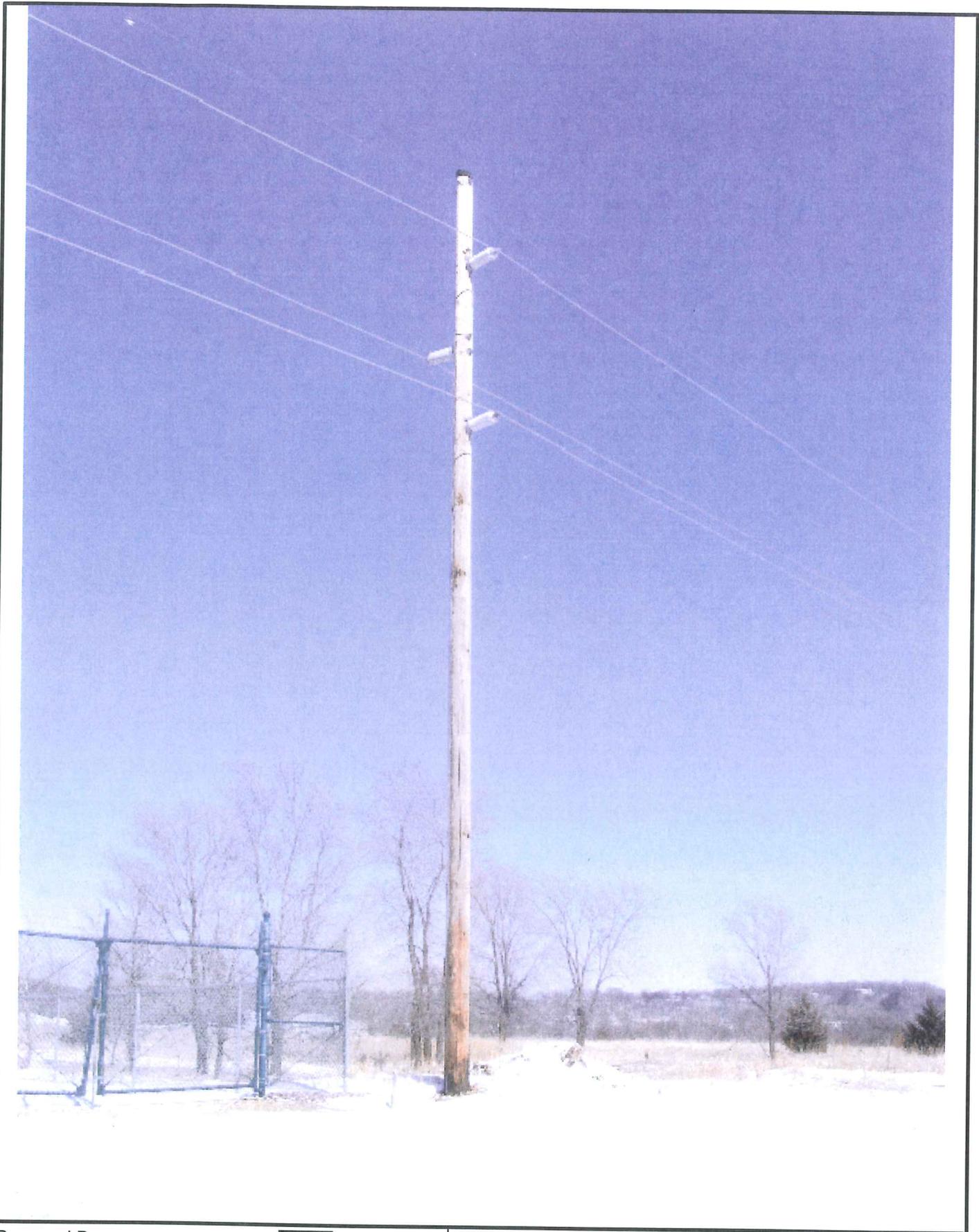


MAY 2009

FIGURE 3
EXISTING 69 kV LINE AT RIVER CROSSING

NEW ULM PUBLIC UTILITIES COMMISSION
PROPOSED 34.5 kV TRANSMISSION PROJECT
NICOLLET COUNTY, MINNESOTA

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 Howard R. Green Company
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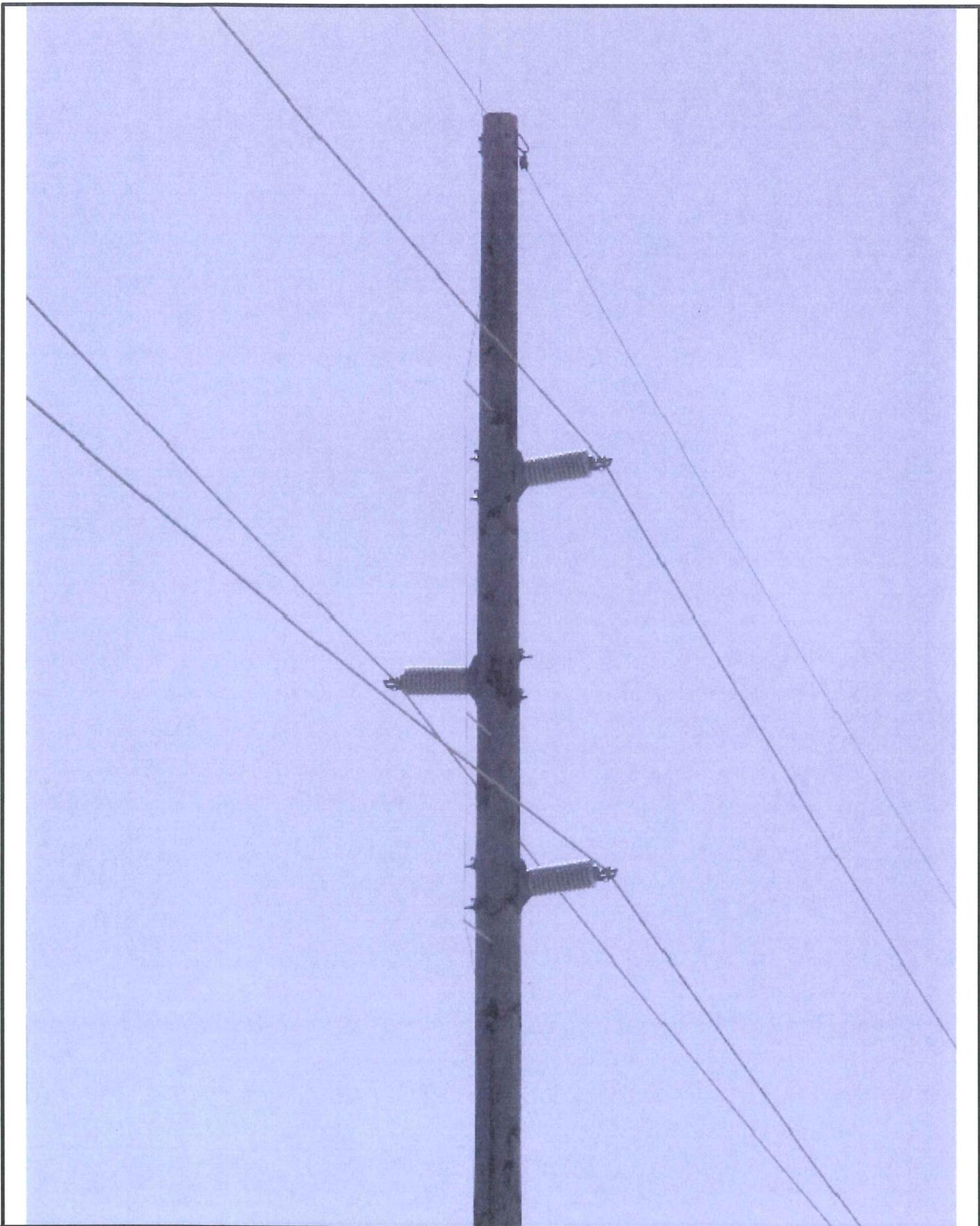
New Ulm Public
Utilities
Commission

Prepared For: MAY 2009

FIGURE 4
VIEW OF PROPOSED 34.5 kV WOOD POLE

NEW ULM PUBLIC UTILITIES COMMISSION
PROPOSED 34.5 kV TRANSMISSION PROJECT
NICOLLET COUNTY, MINNESOTA

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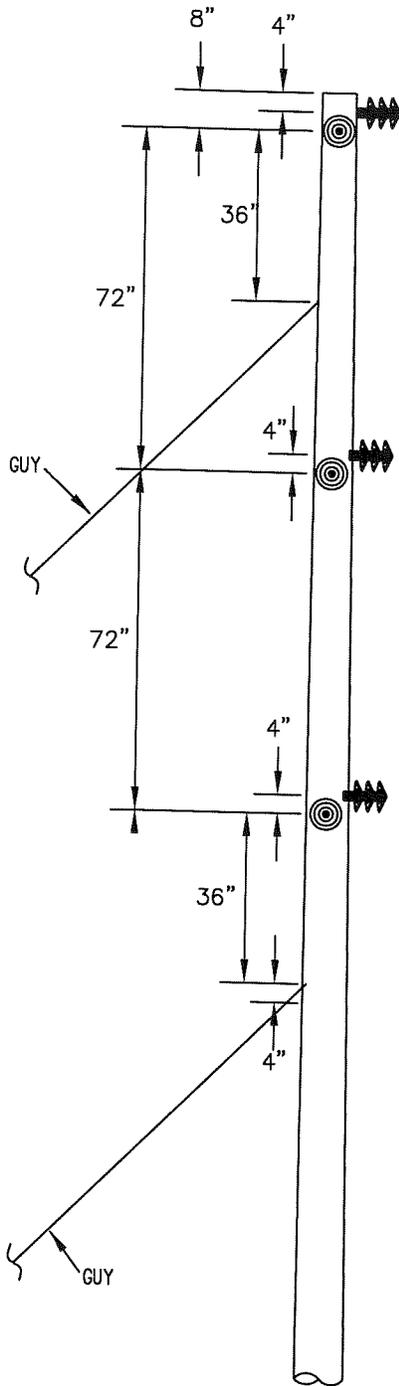


Prepared For: **New Ulm Public Utilities Commission** MAY 2009

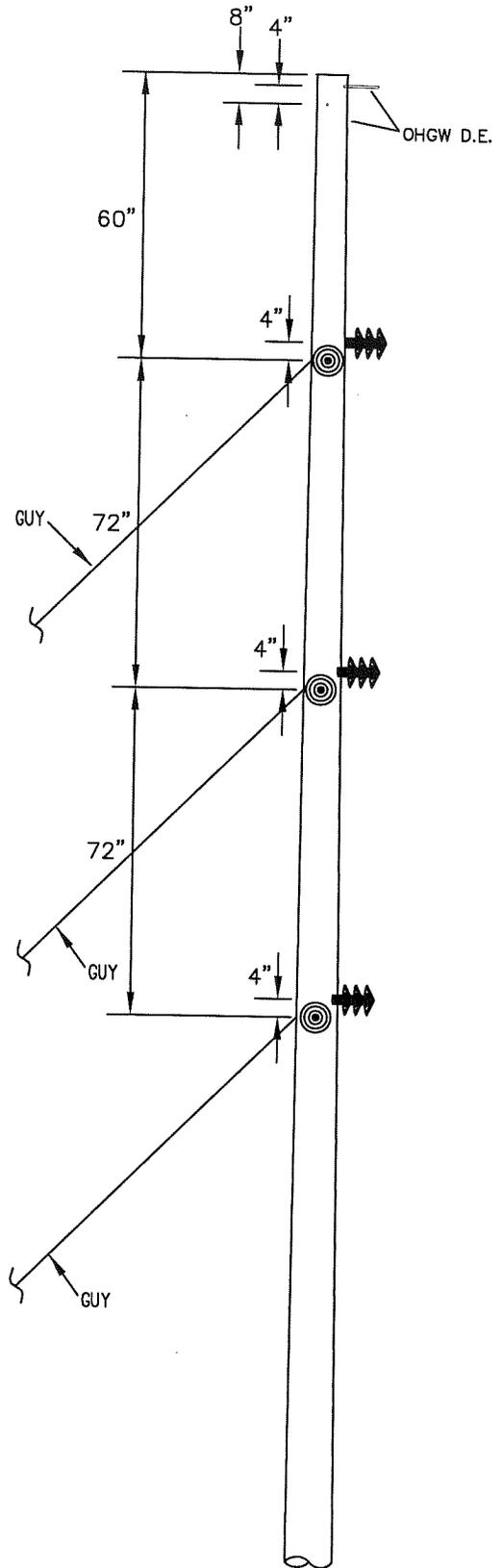
FIGURE 5
VIEW OF PROPOSED 34.5 kV CONDUCTORS

NEW ULM PUBLIC UTILITIES COMMISSION
PROPOSED 34.5 kV TRANSMISSION PROJECT
NICOLLET COUNTY, MINNESOTA

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34kV Unshielded
Heavy Angle Vertical Deadend
No Neutral



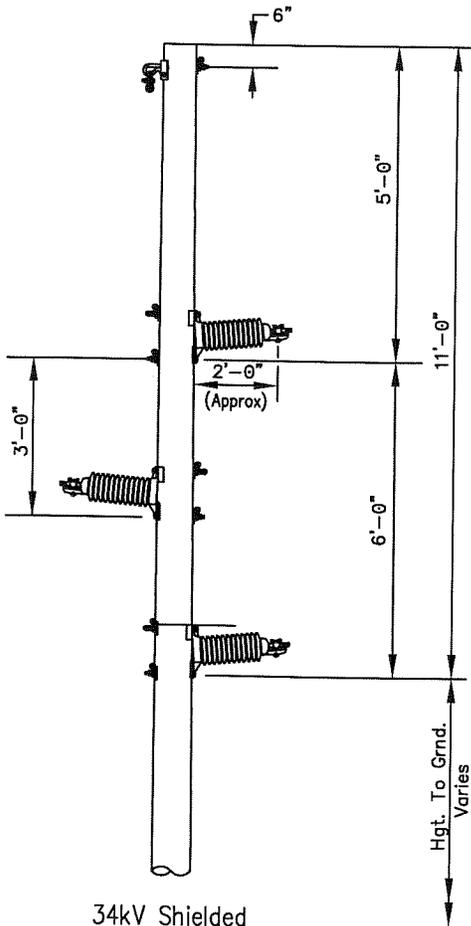
34kV Shielded
Heavy Angle Vertical Deadend
No Neutral

PRELIMINARY

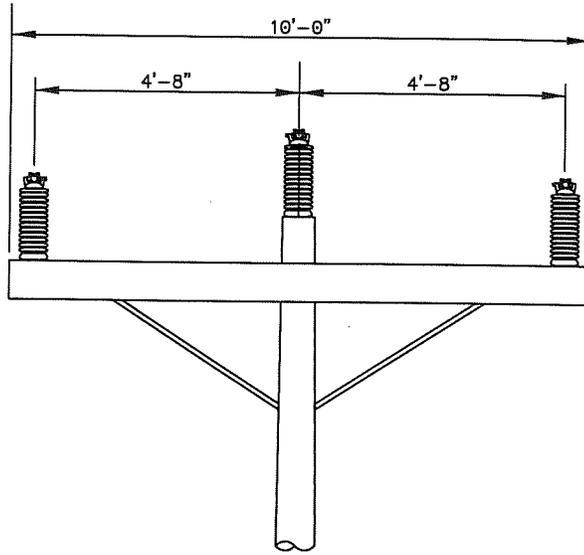


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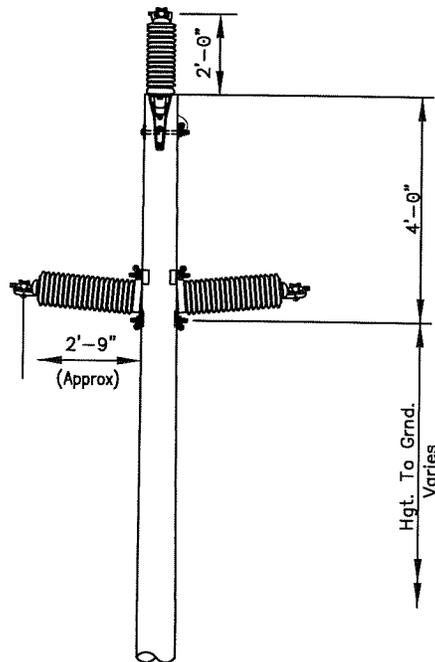
SARGENT & LUNDY LLC
34KV DISTRIBUTION
TYPICAL VERTICAL DEAD-END
STRUCTURE ARRANGEMENTS
FOR NEW ULM



34kV Shielded
Tangent w/ Post Ins.
No Neutral



34kV Unshielded
Tangent w/ Crossarm & Pin Ins.
No Neutral



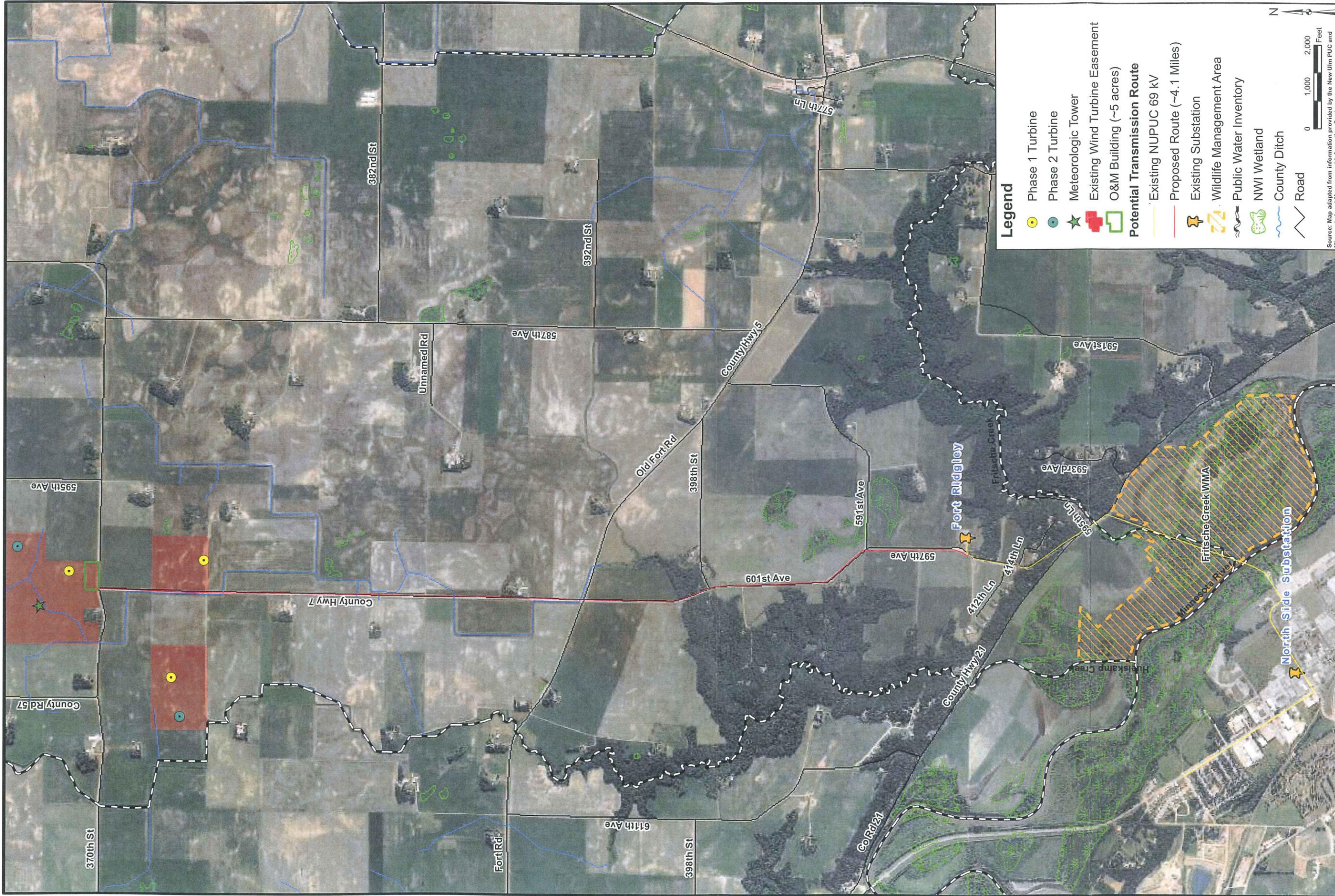
34kV Unshielded
Tangent w/ Post Ins.
No Neutral



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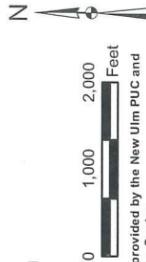
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SARGENT & LUNDY LLC
34KV DISTRIBUTION
TYPICAL TANGENT
STRUCTURE ARRANGEMENTS
FOR NEW ULM



Legend

- Phase 1 Turbine
- Phase 2 Turbine
- ★ Meteorologic Tower
- + Existing Wind Turbine Easement
- O&M Building (~5 acres)
- Potential Transmission Route**
- Existing NUPUC 69 kV
- Proposed Route (~4.1 Miles)
- 📌 Existing Substation
- ▨ Wildlife Management Area
- ~ Public Water Inventory
- ~ NWI Wetland
- ~ County Ditch
- Road



Source: Map adapted from information provided by the New Ulm PUC and Minnesota Land Management Information Center.

FIGURE 1
PROPOSED TRANSMISSION ROUTE
 NEW ULM PUBLIC UTILITIES COMMISSION
 PROPOSED 34.5 kV TRANSMISSION PROJECT
 NICOLLET COUNTY, MINNESOTA



Prepared For:
 New Ulm Public Utilities Commission

Prepared By:
 Howard R. Green Company
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MAY 2009

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