

Appendices

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Appendix A

Nashwauk Ordinance and Itasca Resolution

ORDINANCE NO. 215-09

AN ORDINANCE ESTABLISHING A LOCAL REVIEW PROCESS FOR QUALIFYING ELECTRIC PROJECTS

WHEREAS, Minnesota Statutes, Section 216E.05 and Minnesota Rules 7849.6200 allow application to a local unit of government for approval of certain electric projects in lieu of application to the Minnesota Public Utilities Commission; and

WHEREAS, the City of Nashwauk desires to establish a local review process for such applications.

THE NASHWAUK CITY COUNCIL HEREBY ORDAINS:

Section 1. Application. Application may be made to the Nashwauk Planning Commission for approval of qualifying electric projects under Minnesota Statutes Section 216E.05 and Minnesota Rules 7849.6200 pursuant to an application for a conditional use permit under City Code, Section 152.24.

Section 2. Application Requirements. Such application shall satisfy the application requirements of a conditional use permit under City Code, Section 152.24, including applicable fees, as well as the requirements of the local review process pursuant to Minnesota Rules 7849.6200, including the applicant's notice to the Minnesota Public Utilities Commission. In response to a request by the Planning Commission, the applicant shall provide such other information as is necessary and reasonable to adequately review the application.

Section 3. Public Hearing and Findings. Upon receipt in proper form of the application, the Nashwauk Planning Commission shall prepare an environmental assessment (EA) at the applicant's expense and provide the public an opportunity to comment on the scope of the EA in compliance with Minnesota Rules 7849.6200, subpart 5. Further the Nashwauk Planning Commission shall publish notice in the EQB Monitor that the EA is available for review and public comment and provide a copy of the EA to the Minnesota Public Utilities Commission. The Nashwauk Planning Commission shall hold at least one (1) public hearing to consider the application and report its findings and recommendations to the City Council, all pursuant to City Code, Section 152.24.

Section 4. Final Decision. Upon receipt of the Planning Commission's recommendation, the City Council shall not make a final decision on the application until at least ten days after notice of the EA appears in the EQB Monitor.

Section 5. Effective Date. This Ordinance shall be effective immediately upon its passage.

Passed by the City Council of Nashwauk this 12 day of January, 2009.

William Hendricks

Bill Hendricks, Mayor

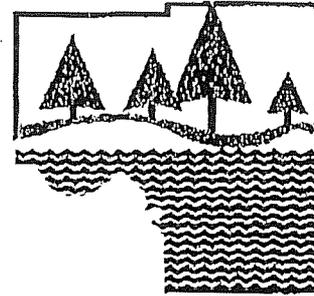
ATTEST:

Ed Bolf
Ed Bolf, City Clerk

Published on the 22 day of January, 2009, in the
John Range, a paper of general circulation within the City.

ITASCA COUNTY

**Courthouse
Administrative Services
123 NE 4th Street
Grand Rapids, MN 55744-2600
Office (218) 327-2847 Fax (218) 327-2848
TDD (218) 327-2806**



March 2, 2009

Mr. Ron Dicklich
Range Association of Municipalities & Schools (RAMS)
121 State Street
PO Box 705
Buhl, MN 55712

Re: County Board Action

Dear Mr. Dicklich;

At the February 24, 2009, Itasca County Board meeting, the Itasca County Board of Commissioners moved to adopt the Resolution Re: Delegating Certain Permitting and Public Hearing Authority Regarding the 115KV Minnesota Power Transmission Line Relocation in Itasca County, which delegates to the City of Nashwauk the environmental review and approval authority for the proposed construction of transmission facilities (project) and that the City of Nashwauk shall inform Itasca County of any environmental concerns it may have regarding the project. (Resolution #02-09-04)

Please find a copy of the above stated resolution attached.

If you have any questions, please feel free to contact the Administrative Services Department at 218-327-2847.

Sincerely,

Amanda Schultz

Amanda Schultz
Deputy Clerk of the County Board

Attachment

cc: Don Dewey, Itasca County Environmental Services Administrator
Jack Muhar, Itasca County Attorney
Mayor William Hendricks, City of Nashwauk

Equal Opportunity Employer

**RESOLUTION
OF THE
COUNTY BOARD OF COMMISSIONERS
ITASCA COUNTY, MINNESOTA**

Adopted February 24, 2009

Commissioner McLynn moved the adoption of the following resolution:

Resolution No. 02-09-04 (Page 1 of 2)

**RE: DELEGATING CERTAIN PERMITTING AND PUBLIC HEARING AUTHORITY REGARDING
THE 115KV MINNESOTA POWER TRANSMISSION LINE RELOCATION IN ITASCA COUNTY**

WHEREAS, Minnesota Power proposes to re-locate and reconstruct a portion (approximately nine miles) of its 115kV Line #28 electrical transmission line, hereafter referred to as Project, within Itasca County, west of and within the municipal boundaries of the City of Nashwauk; and

WHEREAS, the majority of the Project is within the City of Nashwauk; and

WHEREAS, certain environmental review and approvals are necessary for the re-location and re-construction of the electrical transmission line; and

WHEREAS, the City of Nashwauk has agreed to facilitate and oversee the environmental review and Project approval process under Minnesota Statutes Section 216E.05, Minnesota Rules 7849.6200, and the City of Nashwauk local ordinances; and

WHEREAS, for this Project, it is in the best interest of the economy to conduct a single environmental review and approval process; and

WHEREAS, for this Project, the City of Nashwauk has the ability to account for and protect the common interest and concerns of Itasca County.

NOW THEREFORE BE IT RESOLVED by the Itasca County Board, State of Minnesota;

1. The Itasca County Board of Commissioners hereby delegates to the City of Nashwauk the environmental review and approval authorize for the Project.
2. The City of Nashwauk shall inform the Itasca County Board of Commissioners of any environmental concerns it may have regarding the Project.

Resolution 02-09-04 (Continued)
Page 2 of 2

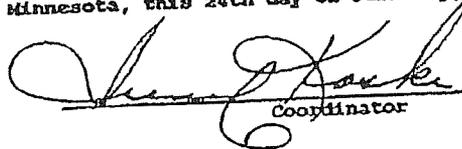
Commissioner Mandich seconded the motion for the adoption of the resolution and it was declared adopted upon the following vote:

Yeas <u> 4 </u>	Nays <u> 0 </u>	District #1 <u> Y </u>	District #2 <u> Y </u>
Other <u> 1 </u>		District #3 <u> Y </u>	District #4 <u> ABSENT </u>
		District #5 <u> Y </u>	

STATE OF MINNESOTA
Office of County Coordinator
ss. County of Itasca

I, IRENE C. KOSKI, Coordinator of County of Itasca, do hereby certify that I have compared the foregoing with the original resolution filed in my office on the 24th day of February A.D. 2009, and that the same is a true and correct copy of the whole thereof.

WITNESS MY HAND AND SEAL OF OFFICE at Grand Rapids, Minnesota, this 24th day of February, A.D. 2009.



Coordinator

By _____ Deputy

Appendix B

Notices and Public Hearing



August 26, 2009

VIA E-FILING

Dr. Burl W. Haar
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101

RE: Minnesota Power 115 kV Line #28 Local Review Route Permit Application

Dear Dr. Haar:

In accordance with the Power Plant Siting Act, Minn. Stat. § 216E.05, subd. 3, this letter serves as the required notice to the Minnesota Public Utilities Commission (Commission) that Minnesota Power elected to seek local review approval for the rerouting and reconstruction of approximately 6.5 miles of 115 kV overhead transmission line.

The proposed route for the 115 kV transmission line is located in Itasca County, primarily within the Nashwauk city limits (T56N Ranges 22 W and 23W and T57N Ranges 22W and 23W). A project map is enclosed for your review.

Minnesota Power intends to permit the project through the City of Nashwauk. A Route Permit application for the project was submitted to the city on August 19, 2009. The City of Nashwauk has been informed that it has 60 days to refer the permitting to the Commission.

Questions regarding this project should be directed to Bryan Adams, City of Nashwauk, at 218-885-1210, or me at 218-355-3542. Thank you for your attention to this matter.

Sincerely,

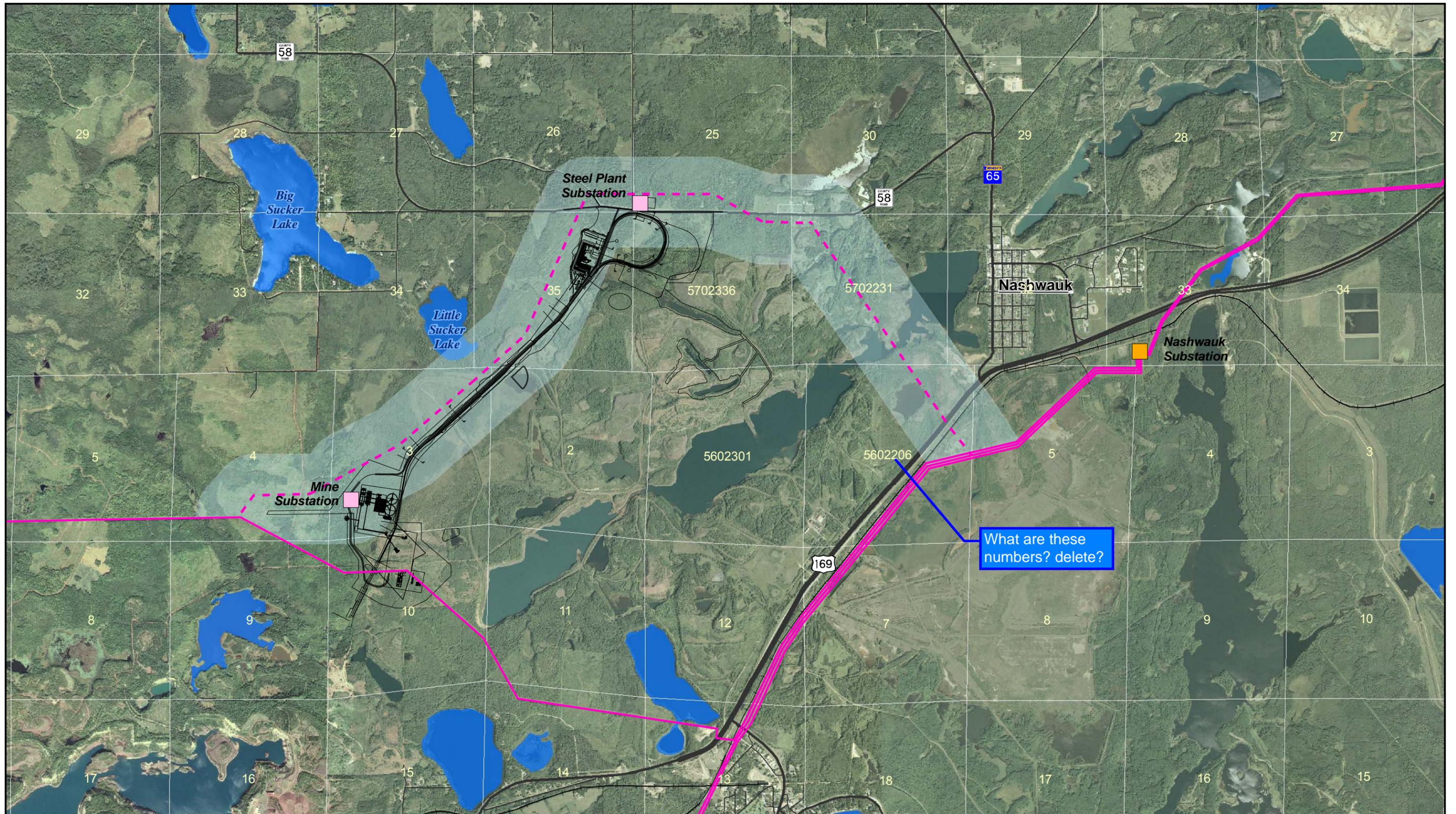
A handwritten signature in cursive script that reads "Bob Lindholm".

Bob Lindholm
Manager—Environmental Strategic Initiatives

Enc.

cc: General List of Interested Persons—w/encl.
Deborah Pile, Office of Energy Security—w/encl.
Bryan Adams, City of Nashwauk

Map Document: \\inspe-gis-file\GISProj\MinPower\110888\map_docs\Route_Application_Figures\11x17_115kv_Routes.mxd
9/25/2009 9:06:32 AM



- Existing Substation
- Potential 115kV Transmission
- Potential 115kV Route
- Proposed Substation
- Existing 115 kV Transmission Line
- DNR Public Water

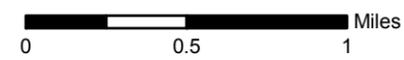


Figure 1 - Project Area
Nashwauk 115 kV Route Application



STATE OF MINNESOTA)
) ss
COUNTY OF ST. LOUIS)

AFFIDAVIT OF SERVICE VIA
E-FILING AND FIRST CLASS MAIL

Susan Romans, of the City of Duluth, County of St. Louis, State of Minnesota, says that on the 26th day of August, 2009, she served Minnesota Power's Notice to Burl Haar via e-Filing and the persons on the Commission's General List of Interested Parties via First Class Mail.

/s/ Susan Romans
Susan Romans

Subscribed and sworn to before
me this 26th day of August, 2009.

/s/ Kristie J. Lindstrom
Kristie J. Lindstrom, Notary Public
Commission Expires on Jan 31, 2010

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280 Zandale Drive
Lexington, KY 40503

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Duluth, MN 55812

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Rochester, MN 55906

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Young America, MN 55368

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BWSR
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St. Paul, MN 55155

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Hawkins, WI 54530

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Landowner
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Jan Wright-Knutson
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Bemidji, MN 56601

Karen Zumach
2350 Wycliff Street
St. Paul, MN 55114

Forum Communications
Pressroom B12C
State Capitol
St. Paul, MN 55155

Resident
PO Box 65036
St. Paul, MN 55165

August 28, 2009

Dear Landowner,

Minnesota Power (MP) submitted an Application (Application for a Route Permit—Minnesota Power 115 kV Line #28 Reroute Project—August 2009) to the Nashwauk Planning Commission on August 19 seeking authorization to reroute and reconstruct a 6.5-mile segment of MP's 115 kV Line #28. The purpose of the reroute project is to dismantle a segment of the existing Line #28 that is located where Essar Steel Minnesota (ESM) plans to construct their taconite plant and develop an open pit mine. MP proposes to relocate and reconstruct Line #28 away from the ESM project area.

The Nashwauk Planning Commission has scheduled a public meeting to provide an opportunity for you to ask questions, provide comments, and suggest issues to be analyzed in an Environmental Assessment to be developed by the Nashwauk Planning Commission.

Nashwauk Planning Commission Meeting Information:

When: 9:30 am, Wednesday, September 16, 2009

Where: Nashwauk City Hall
301 Central Avenue

If you should have any questions now or following the meeting, please contact me at 218-355-3342 (cell 218-590-2349) or Bryan Adams – City of Nashwauk Project Manager at 218.885.1210.

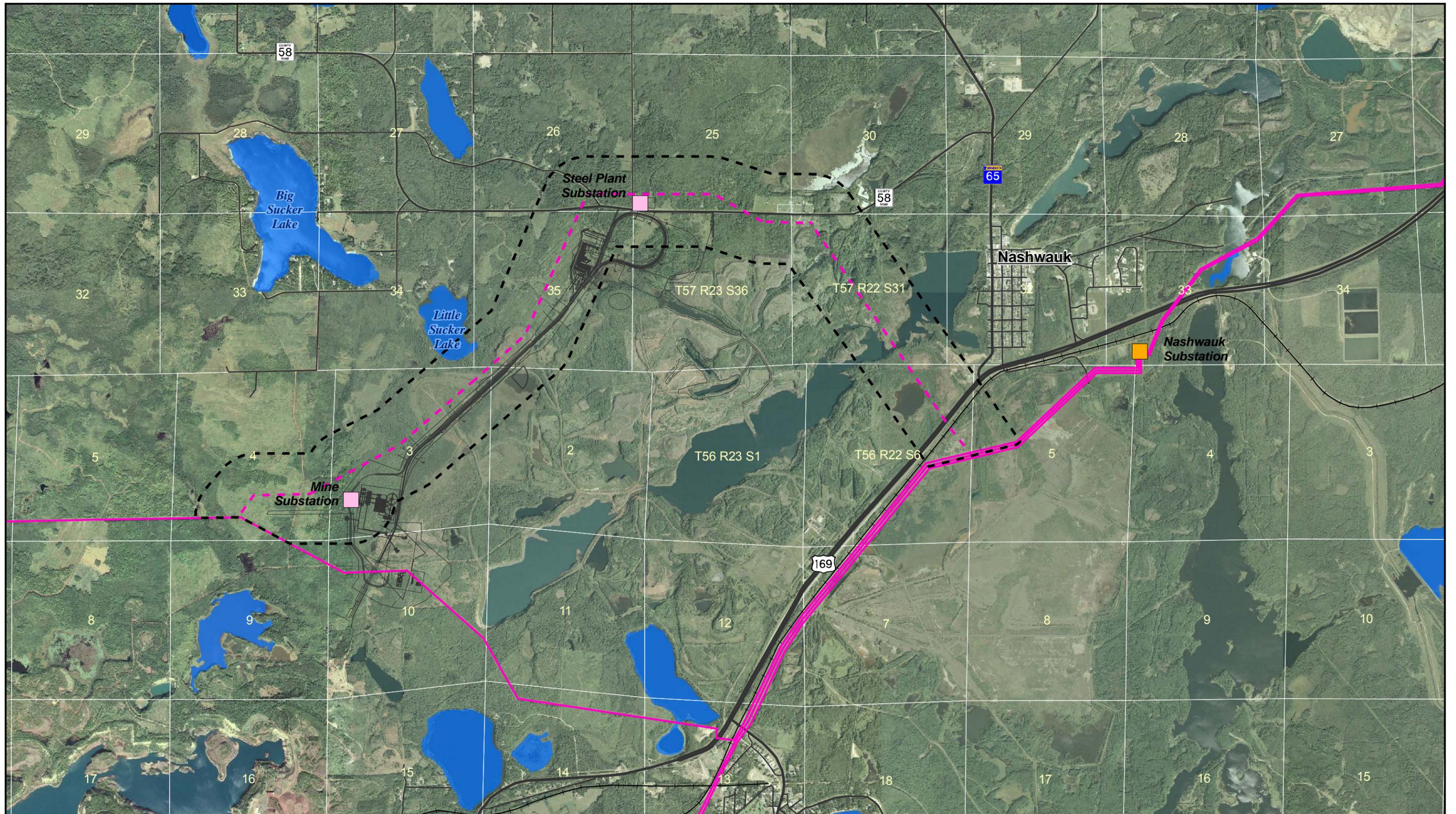
Sincerely,

Bob Lindholm
Manager—Environmental Strategic Initiatives

Nashwauk 115 kV Landowner Mailing List

NAME	ADDRESS	ADDRESS2	ADDRESS3	ADDRESS4
1ST NATIONAL BANK BLDG	GREAT NORTHERN IRON ORE PROP	332 MINNESOTA STREET	SUITE W-1290	ST PAUL MN 55101
BLANDIN PAPER/ FORESTRY	FORESTRY DEPARTMENT	PO BOX 407	GRAND RAPIDS MN 55744-0407	
BUTLER BROTHERS	PO BOX 273	HIBBING MN 55746-0273		
BUTLER BROTHERS	PO BOX 86	NASHWAUK MN 55769-1860		
BUTLER TACONITE	C/O M A HANNA LANDS & LEASES	PO BOX 273	HIBBING MN 55746	
CITY OF NASHWAUK	301 CENTRAL AVE	NASHWAUK MN 55769		
FIRST NAT'L BANK, CHISHOLM	101 W. LAKE ST.	CHISHOLM, MN. 55719		
JAB OF NASHWAUK INC	2 FIFTH STREET	NASHWAUK MN 55769		
JML HEIRS, LLC	210 NORTH FRONT ST 1ST FLOOR	MARQUETTE MI 49855		
LATVALA LUMBER	835 1ST ST	NASHWAUK MN 55769		
LATVALA OIL CO INC	PO BOX 27	NASHWAUK, MN 55769		
LATVALA, SUSAN J, TRUSTEE	16078 E MAPLE KNOLL DR	PENGILLY MN 55775		
NASHWAUK ALLIANCE CHURCH	318 CENTRAL AVE	NASHWAUK, MN 55769		
R M BENNETT HEIRS	PO BOX 650	HIBBING, MN 55746		
STATE OF MINNESOTA	DEPARTMENT OF TRANSPORTATION	MAILSTOP 631 (DP)	395 JOHN IRELAND BLVD	ST PAUL MN 55155
TAX FORFEIT				
TOWN OF NASHWAUK	C/O KAREN CALAGUIRE, CLERK	131 4TH ST	NASHWAUK MN 55769	
WRIGHT, JODY & DONNA	18354 LITTLE SUCKER LK RD	NASHWAUK MN 55769		

Map Document: (\\inspe-gis-file\GISProj\MinPower\110888\map_docs\Route_Application_Figures\11x17_115kv_Routes.mxd) 7/15/2009 -- 2:27:19 PM



-  Proposed 115 kV Route
-  Proposed 115 kV Transmission Line
-  Existing Substation
-  Existing 115 kV Transmission Line
-  Proposed Substation
-  DNR Public Water

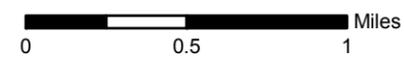


Figure 1 - Project Area
Minnesota Power 115 kV Route Application





Minnesota Power 115 kV Line #28 Reroute Project

Project Description:

- The proposed Project consists of rerouting and reconstructing approximately 6.5 miles of the existing Minnesota Power (MP) 115 kV Line #28.
- The reroute is necessary to provide Essar Steel Minnesota (ESM) room to construct taconite mining facilities and open pit mining operations where the present Line #28 is located.
- The proposed alignment for the reroute is parallel and adjacent to the proposed alignment for portions of three 230 kV transmission lines that would serve the ESM Project.
- Project endpoints are just west of the proposed Mine Substation (on ESM property) on the west; south of the city of Nashwauk, and south of Highway 169 on the east.
- Minnesota Power (MP) proposes to primarily use wood H-Frame structures. The typical height of the structures would be 55-80 feet.

Local Approval Process:

- The City has the jurisdiction under the Power Plant Siting Act (Minn. Rules Chapter 7849.6200) to provide local review of a Route Permit Application through the City ordinance passed in January 2009.
- Minnesota Power submitted an application to the City for approval in August 2009. (Minn. Rules Chapter 7849.6200 subp. 1).
- Minnesota Power provided the Minnesota Public Utilities Commission (MPUC) notification within 10 days of submitting the permit application that they have elected to seek local approval of the proposed project (Minn. Rules Chapter 7849.6200, subp. 3). Within the same 10-day period, MP notified the MPUC general notification list for new projects (Minn. Rules 7849.6200, subp. 3).
- Minnesota Power supplemented the Nashwauk Planning Commission's normal notification of the September 16, 2009, Commission meeting by sending notice to all landowners (19) of record potentially affected by construction of the transmission line within the proposed route.
- The September 16 Nashwauk Planning Commission meeting serves as the required Environmental Assessment (EA) Scoping and Public Information meeting. The public is provided this opportunity to suggest issues and alternative routes that shall be analyzed in the EA.

Next Steps in the Process:

- The City (or assigned consultant) is responsible for preparing an Environmental Assessment (EA). Prior to preparation, the City obtains input on the scope of the EA from interested parties (Minn. Rules 7849.6200, subp. 5).
- Upon completion of the EA, the City publishes notice in the Environmental Quality Board (EQB) Monitor with information about how copies can be obtained and how comments can be submitted (Minn. Rules Chapter 7849.6200, subp. 5).
- The City provides the MPUC with a copy of the EA (Minn. Rules Chapter 7849.6200, subp. 5).
- The City makes a decision on the Route Permit Application at least 10 days after the EQB notice was published (Minn. Rules Chapter 7849.6200, subp.5).
- The City issues or denies a Route Permit to Minnesota Power (Minn. Rules Chapter 7849.6200, subp.1).

**Public Hearing
September 16, 2009
Regarding 115 KV line #28 Reroute Project**

Chairman Mitchell called the hearing to order at 9:30 am

**Members Present: Mitchell, Cianni, Brown, Benolken
Members Absent: Latvala**

Discussion was held on the reroute project and presentations were given by Lydia Nelson and Bob Lindholm. After a question and answer period the commission Accepted the application as submitted for the reroute and proceed thru the EA process

***Motion by Cianni, seconded by Brown to proceed with the EA and to recommend to the Nashwauk City council for approval at a future meeting
Ayes all present—motion carried**

**Motion by Brown, seconded by Benolken to adjourn the public hearing at 9:45 am
Ayes all present—motion carried**

Public Hearing 9-16-09

Beth Hooper Superior Mineral

Sandra Roberts

Tim Mickelson - GREAT RIVER ENERGY

Rick Sealing - Lake Country Power

Bob Lindholm - Miami Power

Ray Adams Nashua

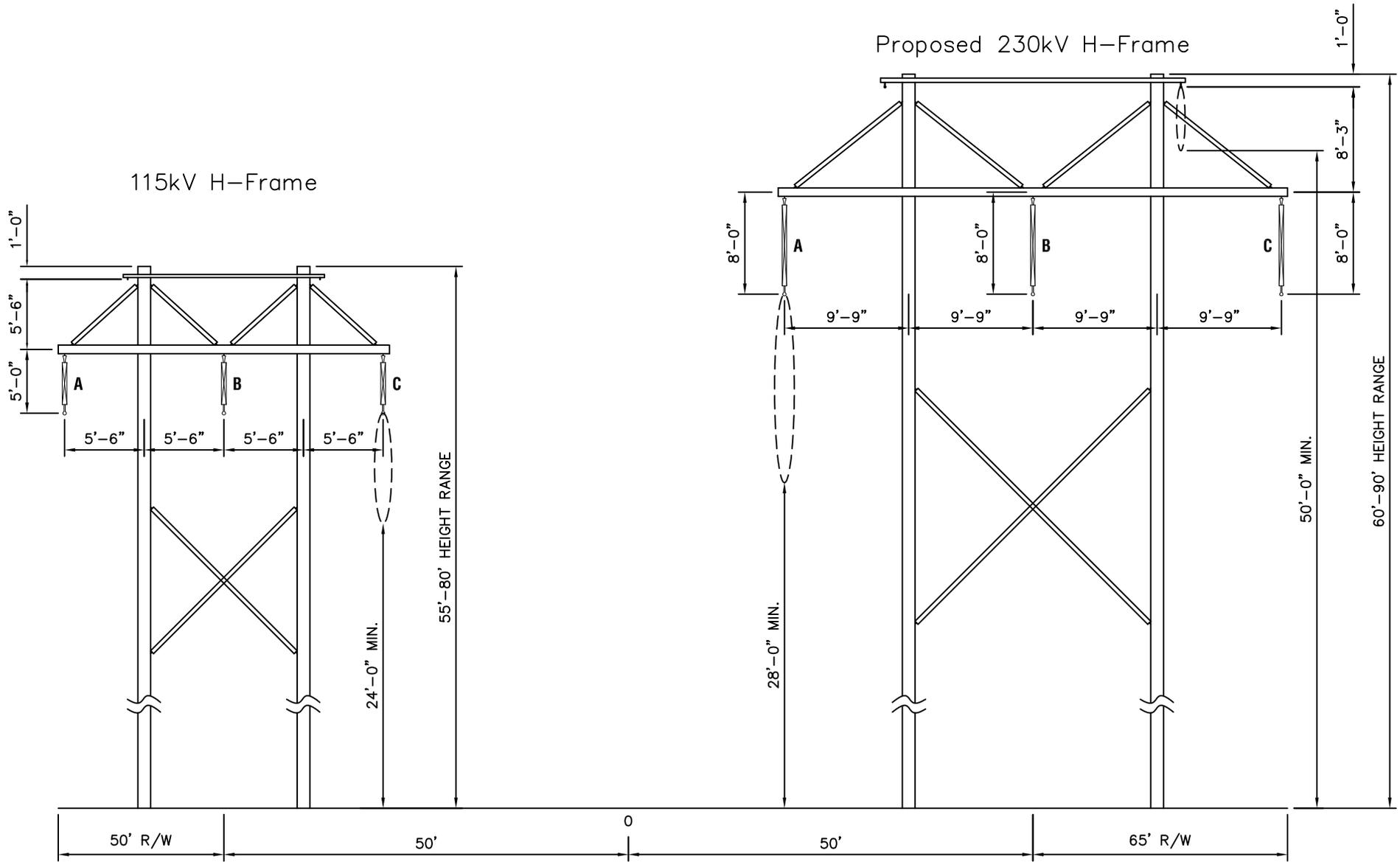
Charlie Kautte Nashua

Hydra Nelson HOR

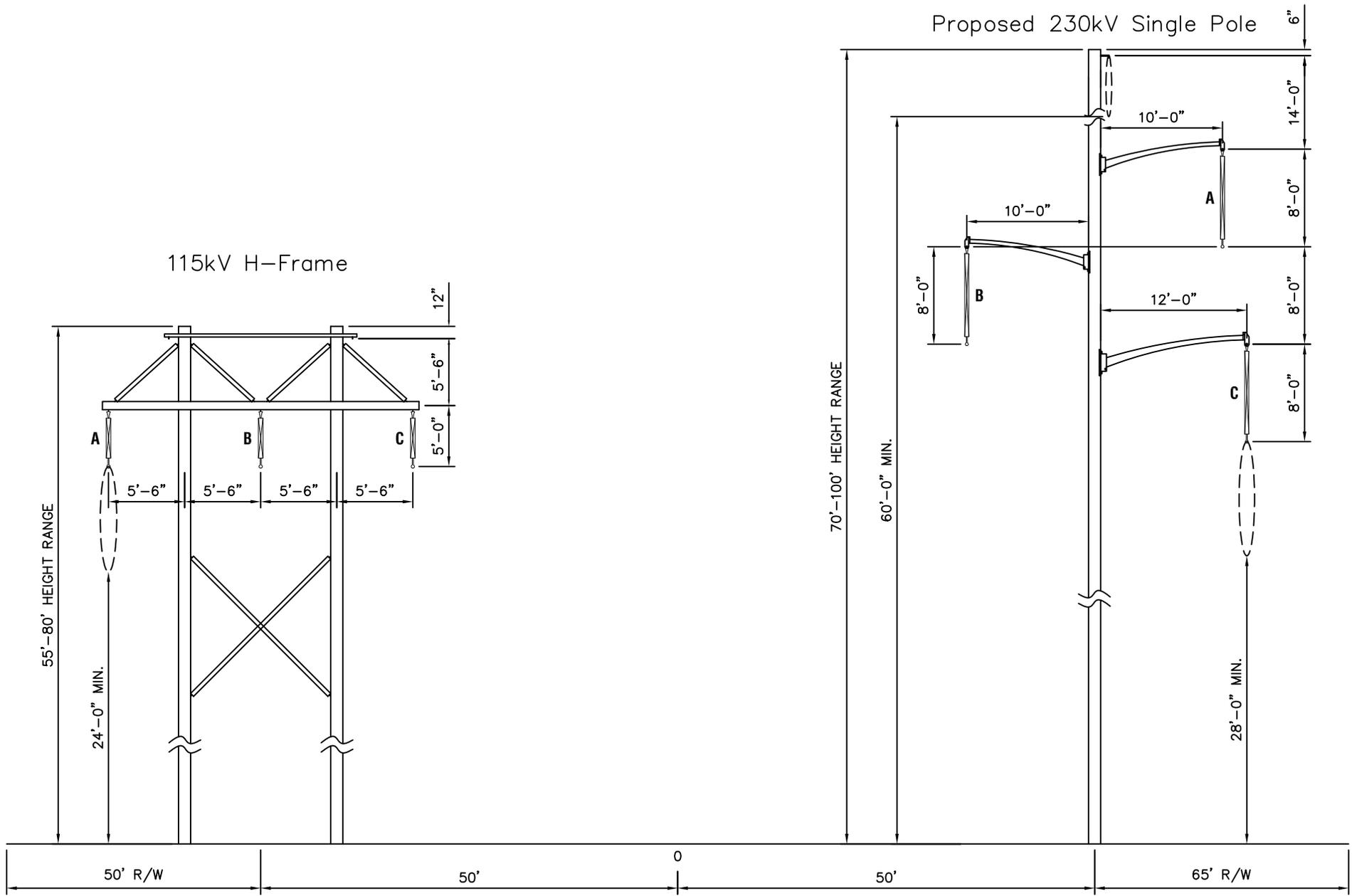
Pamela Sabu City of Nashua

Appendix C

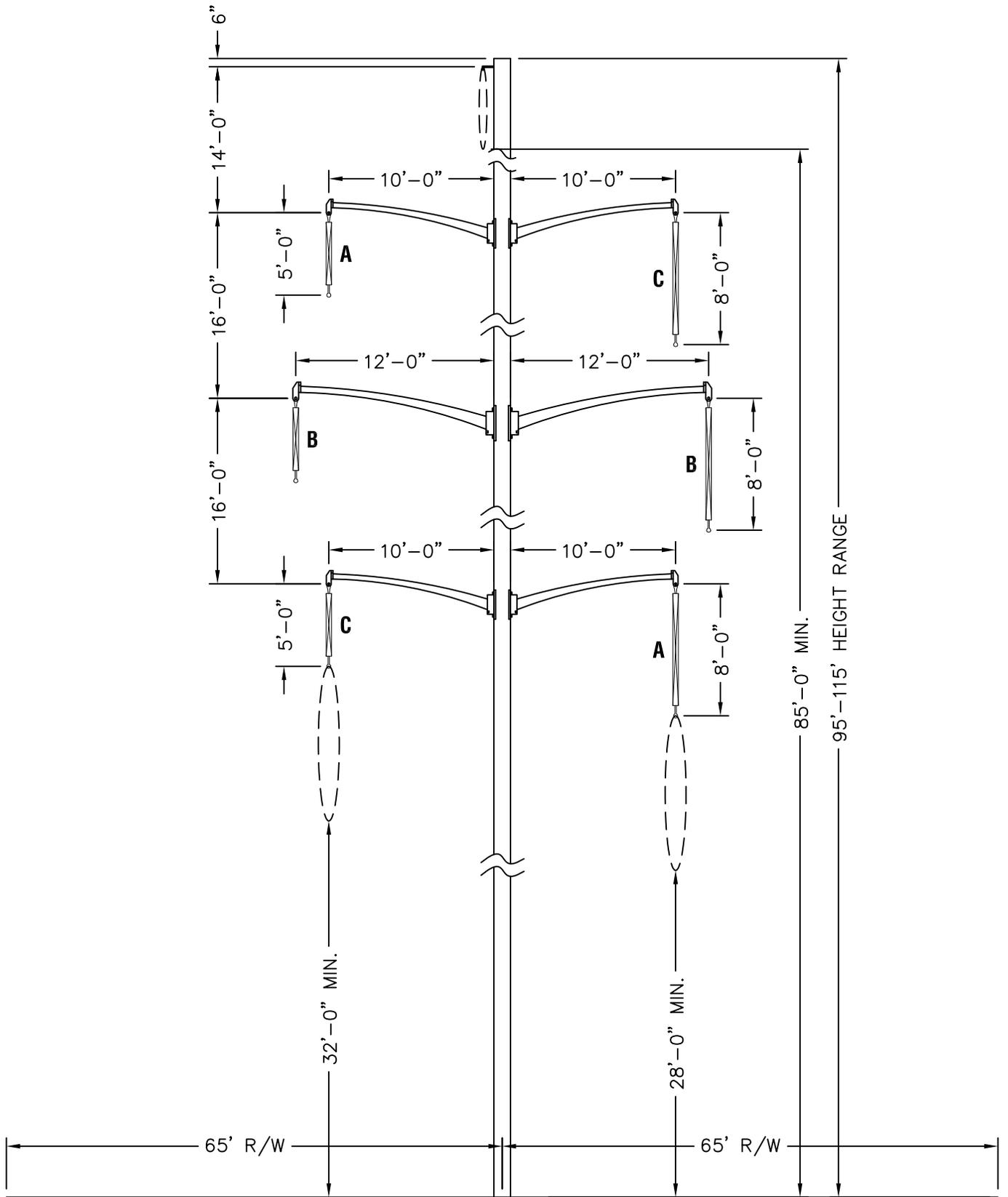
Structure Drawings



TYPICAL 115kV H-FRAME on SHARED RIGHT-OF-WAY with PROPOSED 230kV H-FRAME



TYPICAL 115kV H-FRAME on SHARED
RIGHT-OF-WAY with PROPOSED 230kV SINGLE POLE



TYPICAL 230/115kV SINGLE POLE DOUBLE CIRCUIT

Appendix D

Soils Data

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Units

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot
-  Spoil Area
-  Stony Spot

-  Very Stony Spot
-  Wet Spot
-  Other

Special Line Features

-  Gully
-  Short Steep Slope
-  Other

Political Features

-  Cities

Water Features

-  Oceans
-  Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads

MAP INFORMATION

Map Scale: 1:50,800 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: UTM Zone 15N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Itasca County, Minnesota
Survey Area Data: Version 7, Dec 4, 2008

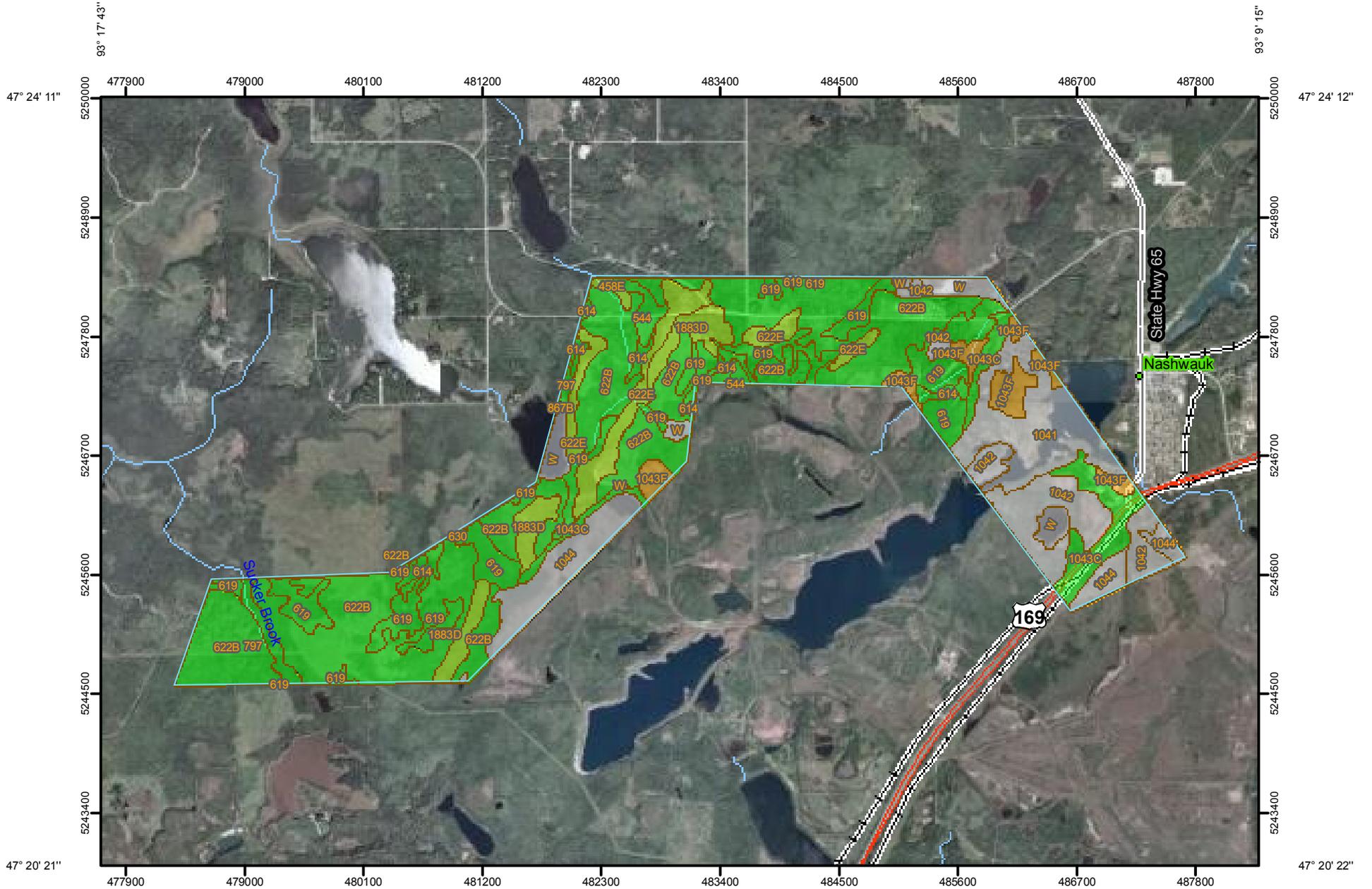
Date(s) aerial images were photographed: 8/16/2003; 8/18/2003

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

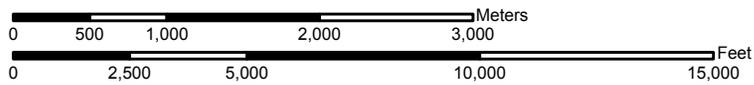
Map Unit Legend

Itasca County, Minnesota (MN061)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
458E	Menahga loamy sand, 10 to 30 percent slopes	11.3	0.4%
544	Cathro muck	35.2	1.2%
614	Blackhoof muck	59.5	2.0%
619	Keewatin silt loam	393.8	13.0%
622B	Nashwauk fine sandy loam, 1 to 10 percent slopes	1,197.9	39.5%
622E	Nashwauk fine sandy loam, 12 to 35 percent slopes	165.6	5.5%
630	Wildwood muck	2.2	0.1%
797	Mooselake and Lupton mucky peats	35.5	1.2%
867B	Menahga and Graycalm soils, 0 to 8 percent slopes	1.5	0.0%
1041	Pits, mine	237.7	7.8%
1042	Dumps, mine	221.3	7.3%
1043C	Udorthents, nearly level to rolling	153.2	5.1%
1043F	Udorthents, very steep	107.0	3.5%
1044	Slickens	188.7	6.2%
1883D	Nashwauk-Rock outcrop complex, 6 to 25 percent slopes	125.3	4.1%
W	Water	97.0	3.2%
Totals for Area of Interest		3,032.9	100.0%

Erosion Hazard (Off-Road, Off-Trail)—Itasca County, Minnesota
(MP 115 kV Line #28 Reroute)



Map Scale: 1:50,800 if printed on A size (8.5" x 11") sheet.



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Units

Soil Ratings

 Very severe

 Severe

 Moderate

 Slight

 Not rated or not available

Political Features

 Cities

Water Features

 Oceans

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

MAP INFORMATION

Map Scale: 1:50,800 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: UTM Zone 15N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Itasca County, Minnesota
Survey Area Data: Version 7, Dec 4, 2008

Date(s) aerial images were photographed: 8/16/2003; 8/18/2003

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Erosion Hazard (Off-Road, Off-Trail)

Erosion Hazard (Off-Road, Off-Trail)— Summary by Map Unit — Itasca County, Minnesota						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
458E	Menahga loamy sand, 10 to 30 percent slopes	Moderate	Menahga (95%)	Slope/erodibility (0.50)	11.3	0.4%
544	Cathro muck	Slight	Cathro (95%)		35.2	1.2%
614	Blackhoof muck	Slight	Blackhoof (85%)		59.5	2.0%
619	Keewatin silt loam	Slight	Keewatin (90%)		393.8	13.0%
622B	Nashwauk fine sandy loam, 1 to 10 percent slopes	Slight	Nashwauk (85%)		1,197.9	39.5%
622E	Nashwauk fine sandy loam, 12 to 35 percent slopes	Moderate	Nashwauk (90%)	Slope/erodibility (0.50)	165.6	5.5%
630	Wildwood muck	Slight	Wildwood (85%)		2.2	0.1%
797	Mooselake and Lupton mucky peats	Slight	Mooselake (48%)		35.5	1.2%
			Lupton (48%)			
867B	Menahga and Graycalm soils, 0 to 8 percent slopes	Slight	Menahga (48%)		1.5	0.0%
			Graycalm (48%)			
1041	Pits, mine	Not rated	Pits, mine (95%)		237.7	7.8%
1042	Dumps, mine	Not rated	Dumps, mine (95%)		221.3	7.3%
1043C	Udorthents, nearly level to rolling	Slight	Udorthents, nearly level to rolling (90%)		153.2	5.1%
1043F	Udorthents, very steep	Severe	Udorthents, very steep (90%)	Slope/erodibility (0.75)	107.0	3.5%
1044	Slickens	Not rated	Slickens (95%)		188.7	6.2%
1883D	Nashwauk-Rock outcrop complex, 6 to 25 percent slopes	Moderate	Nashwauk (55%)	Slope/erodibility (0.50)	125.3	4.1%
W	Water	Not rated	Water (100%)		97.0	3.2%
Totals for Area of Interest					3,032.9	100.0%

Erosion Hazard (Off-Road, Off-Trail)— Summary by Rating Value		
Rating	Acres in AOI	Percent of AOI
Slight	1,878.8	61.9%
Moderate	302.2	10.0%
Severe	107.0	3.5%

Erosion Hazard (Off-Road, Off-Trail)— Summary by Rating Value		
Rating	Acres in AOI	Percent of AOI
Null or Not Rated	744.8	24.6%
Totals for Area of Interest	3,032.9	100.0%

Description

The ratings in this interpretation indicate the hazard of soil loss from off-road and off-trail areas after disturbance activities that expose the soil surface. The ratings are based on slope and soil erosion factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance.

The ratings are both verbal and numerical. The hazard is described as "slight," "moderate," "severe," or "very severe." A rating of "slight" indicates that erosion is unlikely under ordinary climatic conditions; "moderate" indicates that some erosion is likely and that erosion-control measures may be needed; "severe" indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and "very severe" indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

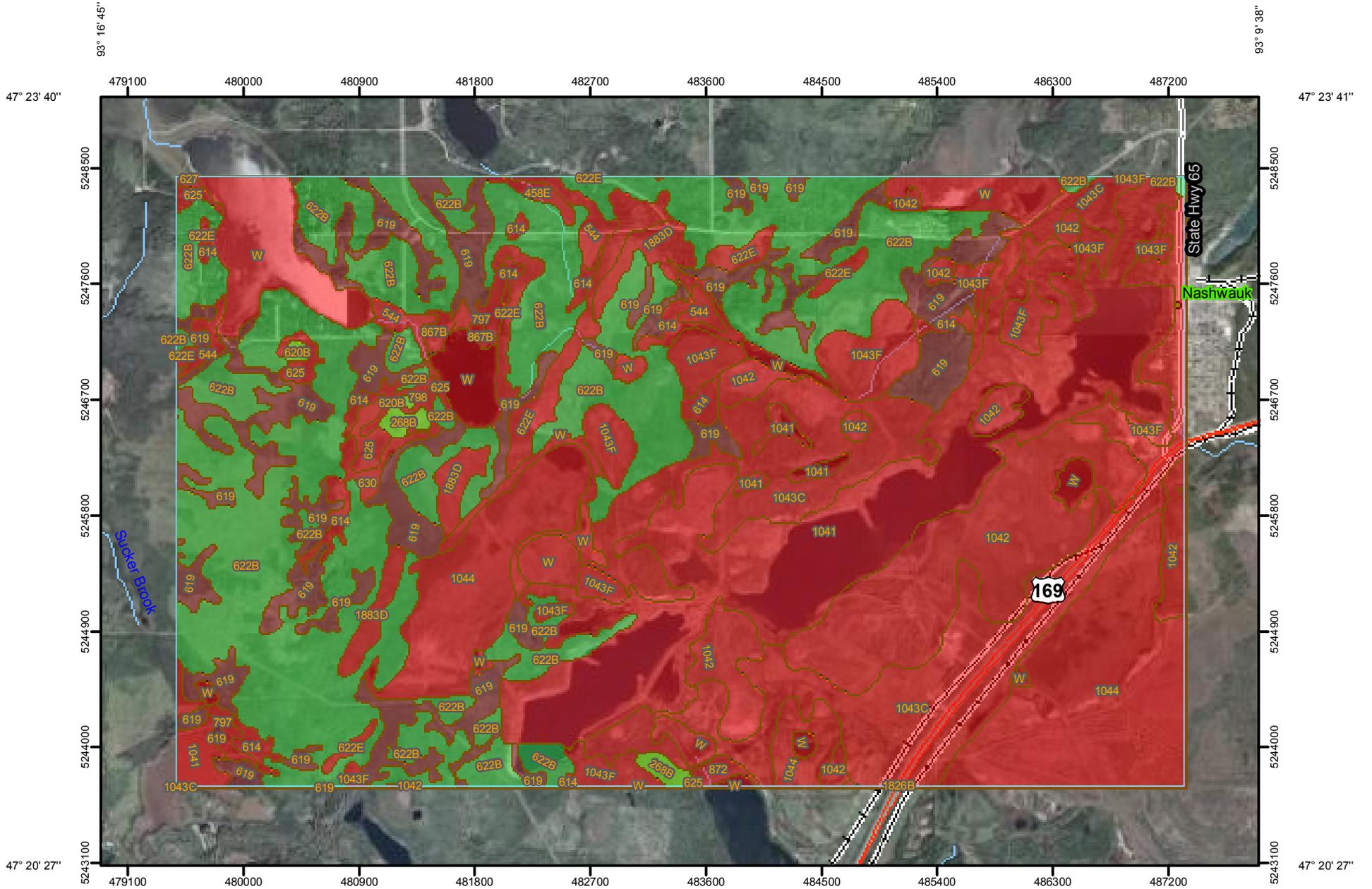
Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Farmland Classification—Itasca County, Minnesota
(MP 115 kV Line #28 Reroute)



Map Scale: 1:42,800 if printed on A size (8.5" x 11") sheet.



Farmland Classification—Itasca County, Minnesota
(MP 115 kV Line #28 Reroute)

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Units

Soil Ratings

-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

-  Prime farmland if subsoiled, completely removing the root inhibiting soil layer
-  Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
-  Prime farmland if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance
-  Farmland of local importance
-  Farmland of unique importance
-  Not rated or not available

Political Features

 Cities

Water Features

-  Oceans
-  Streams and Canals

Transportation

-  Rails
-  Interstate Highways

-  US Routes
-  Major Roads

MAP INFORMATION

Map Scale: 1:42,800 if printed on A size (8.5" x 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: UTM Zone 15N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Itasca County, Minnesota
Survey Area Data: Version 7, Dec 4, 2008

Date(s) aerial images were photographed: 8/16/2003;
8/18/2003

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Farmland Classification

Farmland Classification— Summary by Map Unit — Itasca County, Minnesota				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
268B	Cromwell fine sandy loam, 1 to 10 percent slopes	Farmland of statewide importance	33.9	0.4%
458E	Menahga loamy sand, 10 to 30 percent slopes	Not prime farmland	17.8	0.2%
544	Cathro muck	Not prime farmland	85.2	0.9%
614	Blackhoof muck	Not prime farmland	149.3	1.6%
619	Keewatin silt loam	Prime farmland if drained	933.2	10.1%
620B	Cutaway loamy sand, 0 to 8 percent slopes	Farmland of statewide importance	8.7	0.1%
622B	Nashwauk fine sandy loam, 1 to 10 percent slopes	All areas are prime farmland	2,319.2	25.2%
622E	Nashwauk fine sandy loam, 12 to 35 percent slopes	Not prime farmland	188.9	2.1%
625	Sandwick loamy fine sand	Not prime farmland	59.5	0.6%
627	Tawas muck	Not prime farmland	3.6	0.0%
630	Wildwood muck	Not prime farmland	25.0	0.3%
797	Mooselake and Lupton mucky peats	Not prime farmland	49.3	0.5%
798	Sago and Roscommon soils	Not prime farmland	15.2	0.2%
867B	Menahga and Graycalm soils, 0 to 8 percent slopes	Not prime farmland	19.4	0.2%
872	Pengilly-Winterfield association	Not prime farmland	16.6	0.2%
1041	Pits, mine	Not prime farmland	1,289.6	14.0%
1042	Dumps, mine	Not prime farmland	790.8	8.6%
1043C	Udorthents, nearly level to rolling	Not prime farmland	1,229.1	13.4%
1043F	Udorthents, very steep	Not prime farmland	379.6	4.1%
1044	Slickens	Not prime farmland	950.2	10.3%
1826B	Nashwauk-Menahga complex, 1 to 10 percent slopes	Farmland of statewide importance	1.0	0.0%
1883D	Nashwauk-Rock outcrop complex, 6 to 25 percent slopes	Not prime farmland	126.8	1.4%
W	Water	Not prime farmland	508.4	5.5%
Totals for Area of Interest			9,200.4	100.0%

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Hydric Rating by Map Unit–Itasca County, Minnesota
(MP 115 kV Line #28 Reroute)

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Units

Soil Ratings

 All Hydric

 Partially Hydric

 Not Hydric

 Unknown Hydric

 Not rated or not available

Political Features

 Cities

Water Features

 Oceans

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

MAP INFORMATION

Map Scale: 1:50,800 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: UTM Zone 15N NAD83

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Survey Area Data: Version 7, Dec 4, 2008

Date(s) aerial images were photographed: 8/16/2003; 8/18/2003

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Hydric Rating by Map Unit

Hydric Rating by Map Unit— Summary by Map Unit — Itasca County, Minnesota				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
458E	Menahga loamy sand, 10 to 30 percent slopes	Not Hydric	11.3	0.4%
544	Cathro muck	All Hydric	35.2	1.2%
614	Blackhoof muck	All Hydric	59.5	2.0%
619	Keewatin silt loam	Not Hydric	393.8	13.0%
622B	Nashwauk fine sandy loam, 1 to 10 percent slopes	Not Hydric	1,197.9	39.5%
622E	Nashwauk fine sandy loam, 12 to 35 percent slopes	Not Hydric	165.6	5.5%
630	Wildwood muck	All Hydric	2.2	0.1%
797	Mooselake and Lupton mucky peats	All Hydric	35.5	1.2%
867B	Menahga and Graycalm soils, 0 to 8 percent slopes	Not Hydric	1.5	0.0%
1041	Pits, mine	Unknown Hydric	237.7	7.8%
1042	Dumps, mine	Unknown Hydric	221.3	7.3%
1043C	Udorthents, nearly level to rolling	Not Hydric	153.2	5.1%
1043F	Udorthents, very steep	Not Hydric	107.0	3.5%
1044	Slickens	Unknown Hydric	188.7	6.2%
1883D	Nashwauk-Rock outcrop complex, 6 to 25 percent slopes	Unknown Hydric	125.3	4.1%
W	Water	Unknown Hydric	97.0	3.2%
Totals for Area of Interest			3,032.9	100.0%

Description

This rating indicates the proportion of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is designated as "all hydric," "partially hydric," "not hydric," or "unknown hydric," depending on the rating of its respective components.

"All hydric" means that all components listed for a given map unit are rated as being hydric, while "not hydric" means that all components are rated as not hydric. "Partially hydric" means that at least one component of the map unit is rated as hydric, and at least one component is rated as not hydric. "Unknown hydric" indicates that at least one component is not rated so a definitive rating for the map unit cannot be made.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Absence/Presence

Tie-break Rule: Lower