
APPENDIX C
PUBLIC CORRESPONDENCE

Appendix C.1
MnDNR NHIS Response



Minnesota Department of Natural Resources

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August 19, 2010

Correspondence # ERDB 20100019

Mr. Tom Janssen
Merjent, Inc.
615 First Ave. NE, Suite 425
Minneapolis, MN 55413

RE: Natural Heritage information in the vicinity of the proposed St. Cloud Loop BEN-MHW Project; T36N R31W Sections 11-14, 23-25, & 36 and T36N R30W Sections 19, 30, & 31; Benton County

Dear Mr. Janssen,

As requested, the Minnesota Natural Heritage Information System has been queried to determine if any rare species or other significant natural features are known to occur within an approximate one-mile radius of the proposed project area. Based on this query, rare features have been documented within the search area (for details, see the enclosed database reports; please visit the Rare Species Guide at <http://www.dnr.state.mn.us/rsg/index.html> for more information on the biology, habitat use, and conservation measures of these rare species). Please note that the following **rare features may be impacted** by the proposed project:

- Blanding's turtles (*Emydoidea blandingii*), a state-listed threatened species, have been reported from the vicinity of the proposed project and may be encountered on site. If Blanding's turtles are found on the site, please remember that state law and rules prohibit the destruction of threatened or endangered species, except under certain prescribed conditions. If turtles are in imminent danger they should be moved by hand out of harm's way, otherwise they should be left undisturbed.

For your information, I have attached a Blanding's turtle fact sheet that describes the habitat use and life history of this species. The fact sheet also provides two lists of recommendations for avoiding and minimizing impacts to this rare turtle. **Please refer to the first list of recommendations for your project.** If greater protection for turtles is desired, the second list of additional recommendations can also be implemented. The attached flyer should be given to all contractors working in the area.

- The Minnesota County Biological Survey (MCBS) has identified a Site of Moderate Biodiversity Significance in T36N R31W Sections 13 & 14 (see enclosed map and MCBS Guidelines). Sites of Biodiversity Significance have varying levels of native biodiversity and are ranked based on the relative significance of this biodiversity at a statewide level. Sites ranked as Moderate contain occurrences of rare species and/or moderately disturbed native plant communities, and/or landscapes that have a strong potential for recovery. This particular Site contains a Prairie Rich Fen native plant community (EO ID #27298 on enclosed reports; GIS shapefiles of MCBS Sites of Biodiversity Significance and MCBS Native Plant Communities can be downloaded from the DNR Data Deli at <http://deli.dnr.state.mn.us>). Prairie Rich Fens have a conservation status rank of 3; they are considered vulnerable to extirpation within Minnesota. As such, we recommend that this ecologically significant area be considered an avoidance area within the project boundary.

If the line is routed adjacent to the MCBS Site, actions to minimize disturbance may help to protect the native plant communities, especially from the effects of invasive species. Actions to minimize disturbance may include, but are not limited to, the following recommendations: (1) Confine construction activities to

the opposite side of the road from the Sites of Biodiversity. If this is not feasible confine construction activities to the existing road rights-of-way and, as much as possible, operate within already-disturbed areas; (2) Minimize vehicular disturbance in the area (allow only vehicles necessary for installation); (3) Inspect and clean all equipment prior to bringing it to the site to prevent the introduction and spread of exotic species; (4) Do not park equipment or stockpile supplies in the area; (5) If possible, do work in autumn or winter, to avoid damaging plants during the growing season; (6) Reduce runoff by completing the work as rapidly as possible and using erosion control measures such as straw bales or silt fencing; (7) Revegetate disturbed soil with native species suitable to the local habitat as soon after construction as possible; (8) Use only invasive-free mulches, topsoils, and seed mixes.

The Natural Heritage Information System (NHIS), a collection of databases that contains information about Minnesota's rare natural features, is maintained by the Department of Natural Resources, Division of Ecological Resources. The NHIS is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, native plant communities, and other natural features. However, the NHIS is not an exhaustive inventory and thus does not represent all of the occurrences of rare features within the state. Therefore, ecologically significant features for which we have no records may exist within the project area.

The enclosed results include an Index Report and a Detailed Report of records in the Rare Features Database, the main database of the NHIS. To control the release of specific location information, which might result in the destruction of a rare feature, both reports are copyrighted.

The Index Report provides rare feature locations only to the nearest section, and may be reprinted, unaltered, in an environmental review document (e.g., EAW or EIS), municipal natural resource plan, or report compiled by your company for the project listed above. If you wish to reproduce the index report for any other purpose, please contact me to request written permission. **The Detailed Report is for your personal use only as it may include specific location information that is considered nonpublic data under *Minnesota Statutes*, section 84.0872, subd. 2. If you wish to reprint or publish the Detailed Report for any purpose, please contact me to request written permission.**

This letter does not constitute review or approval by the Department of Natural Resources as a whole. Instead, it identifies issues regarding known occurrences of rare features and potential effects to these rare features. Additional rare features for which we have no data may be present in the project area, or there may be other natural resource concerns associated with the proposed project. Thank you for consulting us on this matter, and for your interest in preserving Minnesota's rare natural resources. An invoice will be mailed to you under separate cover.

Sincerely,



Lisa Joyal
Natural Heritage Review Coordinator

enc. Rare Features Database: Index Report
Rare Features Database: Detail Report
Rare Features Database Reports: An Explanation of Fields
Blanding's Turtle Fact Sheet and Flyer
MCBS Guidelines
Conservation Status Ranks for Native Plant Communities
Map

cc: Jamie Schrenzel

Printed July 2010
 Data valid for one year

Minnesota Natural Heritage Information System
Index Report of records within 1 mile radius of:
 ERDB #20110019 - St. Cloud Loop BEN-MHW Project
 Multiple TRS
 Benton County

Rare Features Database:

Element Name and Occurrence Number	Federal Status	MN Status	State Rank	Global Rank	Last Observed Date	EO ID #
Vertebrate Animal						
<u>Emydoidea blandingii</u> (Blanding's Turtle) #104 T124N R28W S14, T124N R28W S12, T124N R28W S11, T124N R28W S13; Stearns County		THR	S2	G4	1977-06	7292
<u>Emydoidea blandingii</u> (Blanding's Turtle) #499 T36N R31W S25, T36N R30W S31, T36N R30W S30, T36N R31W S36; Benton County		THR	S2	G4	1990-09-23	11234
<u>Myotis septentrionalis</u> (Northern Myotis) #14 T124N R28W S12, T124N R28W S13; Stearns County		SPC	S3	G4	1952-12-31	25097
<u>Pipistrellus subflavus</u> (Eastern Pipistrelle) #27 T124N R28W S12, T124N R28W S13; Stearns County		SPC	S3	G5	1952-12-31	25096
Animal Assemblage						
<u>Bat Colony</u> (Bat Concentration) #39 T36N R31W S36, T124N R28W S12, T35N R31W S1, T124N R28W S13; Benton, Sherburne, Stearns County		N/A	SNR	GNR	1992-01	25095
Vascular Plant						
<u>Oxypolis rigidior</u> (Cowbane) #47 T36N R31W S13; Benton County		NON	SNR	G5	2000-08-15	28529
Terrestrial Community - Other Classification						
<u>Native Plant Community, Undetermined Class</u> #1785 T36N R31W S13, T36N R30W S18; Benton County	(NPC Code:)	N/A	SNR	GNR	1973-08	1115
<u>Prairie Rich Fen Class</u> #75 T36N R31W S14, T36N R31W S13; Benton County	(NPC Code: OPp91)	N/A	S3	GNR	2000-08-15	27298
<u>Wet Prairie (Southern) Type</u> #6 T36N R31W S13, T36N R30W S18; Benton County	(NPC Code: WPs54b)	N/A	S2	GNR	1973-08	1242

Records Printed = 9

Minnesota's endangered species law (*Minnesota Statutes*, section 84.0895) and associated rules (*Minnesota Rules*, part 6212.1800 to 6212.2300 and 6134) prohibit the taking of threatened or endangered species without a permit. For plants, taking includes digging or destroying. For animals, taking includes pursuing, capturing, or killing.

The Division of Ecological Resources recently adopted a new database system called Biotics. As a result of this change, the layout and contents of the database reports have been revised. Many of the fields included in the new reports are the same or similar to the previous report fields, however there are several new fields and some of the field definitions have been slightly modified. We recommend that you familiarize yourself with the latest field explanations.

Rare Features Database Reports: An Explanation of Fields

The Rare Features Database (Biotics) is part of the Natural Heritage Information System, and is maintained by the Division of Ecological Resources, Minnesota Department of Natural Resources (DNR).

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Field Name: [Full (non-abbreviated) field name, if different]. Further explanation of field.

-E-

Element Name and Occ #: [Element Name and Occurrence Number]. The Element is the name of the rare feature. For plant and animal species records, this field holds the scientific name followed by the common name in parentheses; for all other elements (such as native plant communities, which have no scientific name) it is solely the element name. Native plant community names correspond to Minnesota's Native Plant Community Classification (Version 2.0). The Occurrence Number, in combination with the Element Name, uniquely identifies each record.

EO Data: [Element Occurrence Data]. For species elements, this field contains data collected on the biology of the Element Occurrence* (EO), including the number of individuals, vigor, habitat, soils, associated species, peculiar characteristics, etc. For native plant community elements, this field is a summary text description of the vegetation of the EO, including structure (strata) and composition (dominant/characteristic species), heterogeneity, successional stage/dynamics, any unique aspects of the community or additional noteworthy species (including animals). Note that this is a new field and it has not been filled out for many of the records that were collected prior to conversion to the new database system. Some of the information meeting the field definition may be found in the General Description field.

EO ID#: [Element Occurrence Identification Number]. Unique identifier for each Element Occurrence record.

EO Rank: [Element Occurrence Rank]. An evaluation of the quality and condition of an Element Occurrence (EO) from A (highest) to D (lowest). Represents a comparative evaluation of: 1) quality as determined by representativeness of the occurrence especially as compared to EO specifications and including maturity, size, numbers, etc. 2) condition (how much has the site and the EO itself been damaged or altered from its optimal condition and character). 3) viability (the long-term prospects for continued existence of this occurrence - used in ranking species only). EO Ranks are assigned based on recent fieldwork by knowledgeable individuals.

Extent Known?: A value that indicates whether the full extent of the Element is known (i.e., it has been determined through field survey) at that location. If null, the value has not been determined.

-F-

Federal Status: Status of species under the U.S. Endangered Species Act: LE = endangered; LT = threatened; LE,LT = listed endangered in part of its range, listed threatened in another part of its range; LT,PDL = listed threatened, proposed for delisting; C = candidate for listing. If null or "No Status" the species has no federal status.

First Observed Date: Date that the Element Occurrence was first reported at the site in format YYYY-MM-DD. A year followed by "Pre" indicates that the observed date was sometime prior to the date listed, but the exact date is unknown.

-G-

General Description: General description or word picture of the area where the Element Occurrence (EO) is located (i.e., the physical setting/context surrounding the EO), including a list of adjacent communities. When available, information on surrounding land use may be included. Note that the information tracked in this field is now more narrowly defined than it was in the old database system, and some of the information still in this field more accurately meets the definition of the new EO Data field. We are working to clean up the records so that the information in the two fields corresponds to the current field explanations described herein. Also note that the use of uppercase in sentences in this field is not significant but rather an artifact of transferring data from the old database system to the new system.

Global Rank: The global (i.e., range-wide) assessment of the relative rarity or imperilment of the species or community. Ranges from G1 (critically imperiled due to extreme rarity on a world-wide basis) to G5 (demonstrably secure, though perhaps rare in parts of its range). Global ranks are determined by NatureServe, an international network of natural heritage programs and conservation data centers.

-L-

Last Observed Date: Date that the Element Occurrence was last observed to be extant at the site in format YYYY-MM-DD.

Last Survey Date: Date of the most recent field survey for the Element Occurrence, regardless of whether it was found during the visit. If the field is blank, assume the date is the same as the Last Observed Date.

Location Description: County or Counties in which the Element Occurrence was documented followed by Township, Range, and Section information (not listed in any particular order). Each unique Township, Range, and Section combination is separated by a comma. In some cases, there are too many Township, Range, and Section combinations to list in the field, in which case, the information will be replaced with, "Legal description is too lengthy to fit in allotted space".

-M-

Managed Area(s): Name of the federally, state, locally, or privately managed park, forest, refuge, preserve, etc., containing the occurrence, if any. If this field is blank, the element probably occurs on private land. If "(Statutory Boundary)" occurs after the name of a managed area, the location may be a private inholding within the statutory boundary of a state forest or park.

MN Status: [Minnesota Status]. Legal status of plant and animal species under the Minnesota Endangered Species Law: END = endangered; THR = threatened; SPC = special concern; NON = tracked, but no legal status. Native plant communities, geological features, and colonial waterbird nesting sites do not have any legal status under the Endangered Species Law and are represented by a N/A.

-N-

NPC Classification (v1.5): Native plant community name in Minnesota's Native Vegetation: A Key to Natural Communities (Version 1.5). This earlier classification has been replaced by Minnesota's Native Plant Community Classification (Version 2.0).

-O-

Observed Area: The total area of the Element Occurrence, in acres, which is measured or estimated during fieldwork. If null, the value has not been determined.

Ownership Type: Indicates whether the land on which the Element Occurrence was located was publicly or privately owned; for publicly owned land, the agency with management responsibility is listed, if known.

-S-

Site Name: The name of the site(s) where the Element Occurrence is located. Sites are natural areas of land with boundaries determined and mapped according to biological and ecological considerations.

Survey Site #/Name: The name of the survey site, if applicable, where the Element Occurrence is located. Survey sites are sites that provide a geographic framework for recording and storing data, but their boundaries are not based on biological and ecological considerations. Minnesota County Biological Survey site numbers, if applicable, are also listed in this field.

Survey Type: Information on the type of survey used to collect information on the Element Occurrence.

Surveyor(s): Name(s) of the person(s) that collected survey information on the Element Occurrence.

State Rank: Rank that best characterizes the relative rarity or endangerment of the taxon or plant community in Minnesota. The ranks do not represent a legal status. They are used by the Minnesota Department of Natural Resources to set priorities for research, inventory and conservation planning. The state ranks are updated as inventory information becomes available. S1 = Critically imperiled in Minnesota because of extreme rarity or because of some factor(s) making it especially vulnerable to extirpation from the state. S2 = Imperiled in Minnesota because of rarity or because of some factor(s) making it very vulnerable to extirpation from the state. S3 = Vulnerable in Minnesota either because rare or uncommon, or found in a restricted range, or because of other factors making it vulnerable to extirpation. S4 = Apparently secure in Minnesota, usually widespread. S5 = Demonstrably secure in Minnesota, essentially ineradicable under present conditions. SH = Of historical occurrence in the state, perhaps having not been verified in the past 20 years, but suspected to be still extant. An element would become SH without the 20-year delay if the only known occurrences in the state were destroyed or if it had been extensively and unsuccessfully looked for. SNR = Rank not yet assessed. SU = Unable to rank. SX = Presumed extinct in Minnesota. SNA = Rank not applicable. S#S# = Range Rank: a numeric range rank (e.g., S2S3) is used to indicate the range of uncertainty about the exact status of the element. S#B, S#N = Used only for migratory animals, whereby B refers to the breeding population of the element in Minnesota and N refers to the non-breeding population of the element in Minnesota.

-V-

Vegetation Plot: Code(s) for any vegetation plot data that have been collected within this Element Occurrence (i.e., either Releve Number or the word "RELEVE" indicates that a releve has been collected).

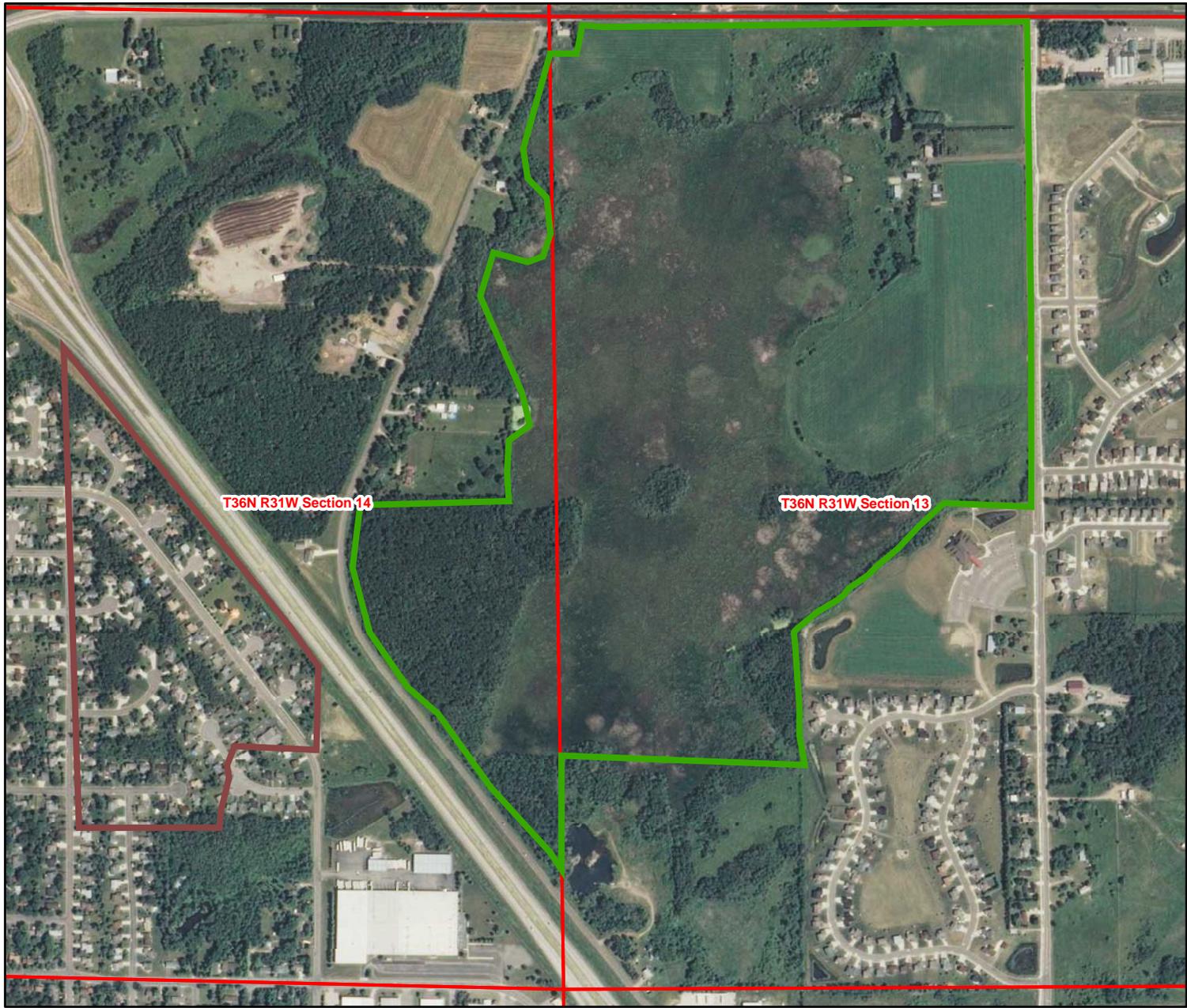
* Element Occurrence – an area of land and/or water in which an Element (i.e., a rare species or community) is, or was, present, and which has practical conservation value for the Element as evidenced by potential continued (or historical) presence and/or regular recurrence at a given location. Specifications for each species determine whether multiple observations should be considered 1 Element Occurrence or 2, based on minimum separation distance and barriers to movement.

Data Security

Locations of some rare features must be treated as sensitive information because widespread knowledge of these locations could result in harm to the rare features. For example, wildflowers such as orchids and economically valuable plants such as ginseng are vulnerable to exploitation by collectors; other species, such as bald eagles, are sensitive to disturbance by observers. For this reason, we prefer that publications not identify the precise locations of vulnerable species. We suggest describing the location only to the nearest section. If this is not acceptable for your purposes, please call and discuss this issue with the Endangered Species Environmental Review Coordinator at (651) 259-5109.

ERDB #20110019 - St. Cloud Loop BEN-MHW Project Benton County

GIS shapefiles of MCBS Sites of Biodiversity Significance and MCBS Native Plant Communities can be downloaded from the DNR Data Deli at <http://deli.dnr.state.mn.us>.



Legend

MCBS Sites of Biodiversity

- Outstanding (purple box)
- High (blue box)
- Moderate (green box)
- Below (brown box)

PLS Sections

- (red box)



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Rare Feature, Prairie Railroad Survey, Native Plant Community, and Sites of Biodiversity Significance data are from the Natural Heritage Information System. The absence of rare features for a particular location should not be construed to mean that the DNR is confident rare features are absent from that location.

Guidelines for Assigning Statewide Biodiversity Significance Ranks to Minnesota County Biological Survey Sites

Biodiversity significance ranks are a measure of the statewide importance of Minnesota County Biological Survey (MCBS) sites for native biological diversity. They are assigned by MCBS ecologists at the conclusion of work in a survey region and are based on the presence of rare species at a site, the size and condition of native plant communities (NPCs) within the site, and the landscape context of the site. Biodiversity significance ranks are used to prioritize and guide conservation and management of MCBS sites.

To assign biodiversity significance ranks, MCBS sites are grouped and rated for each of Minnesota’s ecological classification system (ECS) subsections. Ranking sites by subsection helps to highlight the best examples of Minnesota’s rare species and native plant communities in all of the state’s diverse landscapes. There are four biodiversity significance ranks—**outstanding**, **high**, **moderate**, and **below**—which are defined in the table below. Explanations of technical terms are provided on the following page.

	OUTSTANDING Sites containing the best occurrences of the rarest species, the most outstanding examples of the rarest native plant communities, and/or the largest, most intact functional landscapes. These sites are characterized by one or more of the criteria (I, II, III) below.	HIGH Sites containing very good quality occurrences of the rarest species, high-quality examples of rare NPCs, and/or important functional landscapes. These sites are characterized by one or more of the criteria (I, II, III) below.	MODERATE Sites containing occurrences of rare species, moderately disturbed NPCs, and/or landscapes that have strong potential for recovery. These sites are characterized by one or more of the criteria (I, II, III) below.
Rare Species	<p>I. One of the best occurrences of a G1, G2, S1, or S2 species. or A concentration (four or more) of excellent or good occurrences (A or B rank) of S1, S2, or S3 species, at least one of which is an S1 or S2 species.</p> <p>These species occurrences must be in an NPC assigned a Condition Rank of C or above (except for special circumstances where plant communities are not present, such as a bat cave or mussel bed).</p>	<p>I. A B or C rank occurrence of a G1, G2, S1, or S2 species. or A concentration (four or more) of A or B rank occurrences of S3 species.</p> <p>These species occurrences must be in an NPC assigned a Condition Rank of C or above (except for special circumstances where plant communities are not present, such as a bat cave or mussel bed).</p>	<p>I. A C or D rank occurrence of a G1, G2, S1, or S2 species. or A single A or B rank occurrence of an S3 species. or Two or more BC or C rank occurrences of an S3 species.</p> <p>These species occurrences must be in an NPC assigned a Condition Rank of C or above (except for special circumstances where plant communities are not present, such as a bat cave or mussel bed).</p>
Native Plant Community	<p>II. One of the highest quality examples (based on Condition Rank, size, and context) in an ECS subsection of the rarest (i.e., S1, S2, or S3) NPCs. or A group of important NPCs (S1, S2, or S3) that together are of sufficient size and quality to constitute one of the highest quality natural areas in an ECS subsection.</p>	<p>II. A high-quality example (based on Condition Rank of B or higher, size, and context)—though not among the best in an ECS subsection—of one of the rarest (S1, S2, or S3) NPCs.</p>	<p>II. An occurrence of an NPC with a Condition Rank of C or above. or An occurrence of an S1 or S2 NPC with a Condition Rank of CD that is among the largest for the NPC type in an ECS subsection.</p>
Landscape Context	<p>III. One of the largest, least-fragmented, least-developed landscape areas in an ECS subsection, with the full spectrum of matrix to small patch NPCs (any S rank; mostly A to BC Condition Ranks) and the highest potential for intact ecological functioning (e.g., fire, natural patch dynamics, natural water-level fluctuations).</p>	<p>III. A little-fragmented, little-developed landscape area that has the full spectrum of matrix to small-patch native plant communities (any S rank), high potential for intact ecological functioning, and also fits one of the following descriptions:</p> <ul style="list-style-type: none"> - It is mostly composed of A to BC Condition Rank NPCs but is not one of the largest landscape areas in the ECS subsection. <p>or</p> <ul style="list-style-type: none"> - It is one of the largest landscape areas in the ECS subsection but has significant amounts of human-induced disturbance such that the Condition Ranks of most NPCs are BC or less. 	<p>III. A little-developed landscape area that is not among the largest in an ECS subsection and is not mostly composed of A to BC Condition Rank NPCs, but has high potential to recover the full spectrum from matrix to small patch NPCs and intact ecological functioning.</p>
<p>BELOW Sites below the minimum threshold for statewide biodiversity significance. These sites lack occurrences of rare species and natural features, or do not meet MCBS standards for Outstanding, High, or Moderate rank. These sites may include areas of conservation value at the local level such as habitat for native plants and animals, corridors for animal movements, buffers surrounding higher quality natural areas, or areas with good potential for restoration of native habitat.</p>			

Terms Used in Guidelines for Assigning Biodiversity Significance Ranks

Native Plant Community

A native plant community (NPC) is a group of native plants that interact with each other and with their environment in ways not greatly altered by modern human activity or by introduced organisms. These groups of native plant species form recognizable units, such as oak savannas, pine forests, or marshes, that tend to repeat over space and time. Native plant communities are classified and described by considering vegetation, hydrology, landforms, soils, and natural disturbance regimes. Examples of natural disturbances include wildfires, severe droughts, windstorms, and floods. For an overview of Minnesota's NPCs, see <http://www.dnr.state.mn.us/npc/classification.html>.

Ecological Classification System Subsection

An ecological classification system (ECS) subsection is a unit of the Minnesota Department of Natural Resources' hierarchical system for ecological mapping and landscape classification. Subsections are defined using glacial deposition processes, surface bedrock formations, local climate, topographic relief, and the distribution of plants, especially trees. Minnesota has 26 subsections. For more information, see <http://www.dnr.state.mn.us/ecs/index.html>.

G-ranks and S-ranks for Rare Species and Native Plant Communities

The rare species and native plant communities documented by MCBS have been assigned conservation status ranks according to a method developed by the conservation organization NatureServe and its member natural heritage programs. These ranks reflect the relative imperilment of the world's species and native plant communities. Conservation status ranks are assigned on a scale of 1 to 5:

- 1 = critically imperiled
- 2 = imperiled
- 3 = vulnerable to extirpation or extinction
- 4 = apparently secure
- 5 = demonstrably widespread, abundant, and secure.

Assignment of these ranks is based on a variety of factors, including abundance, distribution, trends, and threats. Conservation status is determined at three geographic scales: global (G), national (N), and state or province (S). As a result, there are three sets of ranks, each consisting of a letter indicating the geographic scale of the assigned rank, followed by a number indicating the imperilment of the species or plant community at that scale. For example, a "G1" species or native plant community is critically imperiled across its entire range (i.e., globally) and is regarded as being at very high risk for extirpation. An "S3" species or community, in comparison, is vulnerable and at moderate risk within a particular state, although it may be secure elsewhere.

Occurrence Ranks for Rare Species

Occurrence ranks for rare species are intended to reflect the likelihood that an occurrence or population of a rare plant or animal species will persist under current conditions. The criteria used in ranking rare species occurrences include population size and occupied area, habitat conditions, and landscape context. Ranks are assigned on a scale of A to D.

A-rank occurrences have large population size and occupy large areas of good quality habitat in favorable landscape settings and are therefore very likely to persist for the foreseeable future in their current condition or better.

B-rank occurrences have population size, area and quality of habitat, and landscape settings that make them likely to persist for the foreseeable future in their current condition or better.

C-rank occurrences are unlikely to persist under current conditions, or may persist for the foreseeable future with appropriate protection or management, or are likely to persist but may not maintain current or historical levels of population size or genetic variability.

D-rank occurrences have high risk of extirpation because of small population size or area of occupancy, deteriorated habitat, poor conditions for reproduction, inappropriate management, or other factors.

Condition Ranks for Native Plant Communities

Condition Ranks for native plant communities reflect the degree of ecological integrity of a specific occurrence of a native plant community. Condition Ranks are assigned by considering species composition, vegetation structure, ecological processes and functions, level of human disturbance, presence of exotic species, and other factors. Condition Ranks are assigned on a scale of A to D.

A-rank occurrences have excellent ecological integrity. They have species composition, structure, and ecological processes typical of the natural or historic range of the community and have been little disturbed by recent human activity or invasive species.

B-rank occurrences have good ecological integrity. They include lightly disturbed plant communities and communities that were disturbed in the past but have recovered and now have relatively natural composition and structure. B-rank occurrences normally will return to A-rank condition with protection or appropriate management.

C-rank occurrences have fair ecological integrity. They show strong evidence of human disturbance, but retain some characteristic species and have some potential for recovery with protection and management.

D-rank occurrences have poor ecological integrity. The original composition and structure of the community have been severely altered by human disturbances or invasion by exotic species. They have little chance of recovery to their natural or historic condition.

Native Plant Community Size

For a site to be ranked "OUTSTANDING" or "HIGH" based on a plant community occurrence, the community must be of sufficient quality and size that its long-term survival is likely. This means that the community is large enough to allow for continuation of the ecological processes that shaped the community or for their maintenance through management. Exemplary are fire-dependent communities that occur in landscapes still influenced by wildfires or in settings where it is possible to use fire as a management tool. Specific criteria for what constitutes large versus small for any given community type are not incorporated into these guidelines because community types occur in different sizes depending on the community and location in Minnesota. For example, a 20-acre mesic prairie in southeastern Minnesota is considered to be highly significant because of the near absence of that prairie type in the region and may be the largest and best example of the community in a given ECS subsection. A 20-acre prairie is less significant in parts of northwestern Minnesota where larger examples remain.

Landscape Context

The viability of a given plant community or rare species population is highly dependent on landscape context (i.e., the condition of the surrounding landscape). Sites ranked "OUTSTANDING" or "HIGH" based on landscape context must have sufficient areas of native habitat surrounding the rare species or plant community occurrences that the long-term survival of these features is likely. These sites occur in intact, functional landscapes composed predominantly of native plant communities, including matrix and large-patch communities that cover large areas of the landscape as well as communities that develop in small patches on cliffs, in small wetlands, or in other localized habitats. Intact landscapes are characterized by ecological processes that have not been disrupted by modern human activity. For example, Minnesota's prairies historically were maintained by frequent wildfires but with land-clearing and habitat fragmentation, wildfires in prairie landscapes have greatly diminished in frequency. Prairies surrounded by cleared or developed land must be deliberately managed with fire to persist and are more vulnerable to being overrun by invasive species than prairies in intact landscapes.

Conservation Status Ranks for Native Plant Community Types and Subtypes

The native plant community (NPC) types and subtypes recognized in Minnesota have been assigned conservation status ranks (S-ranks) that reflect the risk of elimination of the community from Minnesota. There are five ranks:

- S1 = critically imperiled
- S2 = imperiled
- S3 = vulnerable to extirpation
- S4 = apparently secure; uncommon but not rare
- S5 = secure, common, widespread, and abundant

These ranks are determined using methodology developed by the conservation organization NatureServe and its member natural heritage programs in North America. S-ranks were assigned to Minnesota's NPC types and subtypes based on information compiled by DNR plant ecologists on: 1) geographic range or extent; 2) area of range occupied; 3) number of occurrences; 4) number of good occurrences, or percent area of occurrences with good viability and ecological integrity; 5) environmental specificity; 6) long-term trend; 7) short-term trend; 8) scope and severity of major threats; and 9) intrinsic vulnerability.

A range in rank (for example, S1S2) indicates there is uncertainty in conservation status but it falls within a given range. For NPC types that are divided into subtypes, the S-rank of the NPC type is listed as the possible S-ranks for the subtypes (for example, S1 or S2).

Class Code	Class Name	S-Rank
Type Code	Type Name	
Subtype Code	Subtype Name	

Upland Forests and Woodlands

Fire-Dependent Forest/Woodland System

FDn12	Northern Dry-Sand Pine Woodland	
FDn12a	Jack Pine Woodland (Sand)	S2
FDn12b	Red Pine Woodland (Sand)	S2
FDn22	Northern Dry-Bedrock Pine (Oak) Woodland	
FDn22a	Jack Pine Woodland (Bedrock)	S3
FDn22b	Red Pine - White Pine Woodland (Northeastern Bedrock)	S3
FDn22c	Pin Oak Woodland (Bedrock)	S3
FDn22d	Red Pine - White Pine Woodland (Eastcentral Bedrock)	S2
FDn32	Northern Poor Dry-Mesic Mixed Woodland	
FDn32a	Red Pine - White Pine Woodland (Canadian Shield)	S3
FDn32b	Red Pine - White Pine Woodland (Minnesota Point)	S1
FDn32c	Black Spruce - Jack Pine Woodland	S2 or S3
FDn32c1	Jack Pine - Balsam Fir Subtype	S2
FDn32c2	Black Spruce - Feathermoss Subtype	S3
FDn32c3	Jack Pine - Black Spruce - Aspen Subtype	S3
FDn32d	Jack Pine - Black Spruce Woodland (Sand)	S2
FDn32e	Spruce - Fir Woodland (North Shore)	S1
FDn33	Northern Dry-Mesic Mixed Woodland	
FDn33a	Red Pine - White Pine Woodland	S3
FDn33a1	Balsam Fir Subtype	S3
FDn33a2	Mountain Maple Subtype	S3
FDn33b	Aspen - Birch Woodland	S5
FDn33c	Black Spruce Woodland	S2
FDn43	Northern Mesic Mixed Forest	
FDn43a	White Pine - Red Pine Forest	S2
FDn43b	Aspen - Birch Forest	S5
FDn43b1	Balsam Fir Subtype	S5
FDn43b2	Hardwood Subtype	S5
FDn43c	Upland White Cedar Forest	S3
FDc12	Central Poor Dry Pine Woodland	
FDc12a	Jack Pine - (Bearberry) Woodland	S2
FDc23	Central Dry Pine Woodland	
FDc23a	Jack Pine - (Yarrow) Woodland	S1S2

FDc23a1	<i>Ericaceous Shrub Subtype</i>	S1S2
FDc23a2	<i>Bur Oak - Aspen Subtype</i>	S1S2
FDc24	Central Rich Dry Pine Woodland	
FDc24a	Jack Pine - (Bush Honeysuckle) Woodland	S1 or S3
FDc24a1	<i>Bracken Subtype</i>	S1
FDc24a2	<i>Bur Oak - Carrion-Flower Subtype</i>	S3
FDc25	Central Dry Oak-Aspen (Pine) Woodland	
FDc25a	Jack Pine - Oak Woodland	S2
FDc25b	Oak - Aspen Woodland	S2
FDc34	Central Dry-Mesic Pine-Hardwood Forest	
FDc34a	Red Pine - White Pine Forest	S2
FDc34b	Oak - Aspen Forest	S3
FDs27	Southern Dry-Mesic Pine-Oak Woodland	
FDs27a	Jack Pine - Oak Woodland (Sand)	S1
FDs27b	White Pine - Oak Woodland (Sand)	S1
FDs27c	Black Oak - White Oak Woodland (Sand)	S2
FDs36	Southern Dry-Mesic Oak-Aspen Forest	
FDs36a	Bur Oak - Aspen Forest	S3S4
FDs37	Southern Dry-Mesic Oak (Maple) Woodland	
FDs37a	Oak - (Red Maple) Woodland	S4
FDs37b	Pin Oak - Bur Oak Woodland	S3
FDs38	Southern Dry-Mesic Oak-Hickory Woodland	
FDs38a	Oak - Shagbark Hickory Woodland	S3
FDw24	Northwestern Dry-Mesic Oak Woodland	
FDw24a	Bur Oak - (Prairie Herb) Woodland	S2
FDw24b	Bur Oak - (Forest Herb) Woodland	S3
FDw34	Northwestern Mesic Aspen-Oak Woodland	
FDw34a	Aspen - (Prairie Herb) Woodland	S3
FDw34b	Aspen - (Beaked Hazel) Woodland	S4
FDw44	Northwestern Wet-Mesic Aspen Woodland	
FDw44a	Aspen - (Cordgrass) Woodland	S3
FDw44b	Aspen - (Chokecherry) Woodland	S4

Mesic Hardwood Forest System

MHn35	Northern Mesic Hardwood Forest	
MHn35a	Aspen - Birch - Basswood Forest	S4
MHn35b	Red Oak - Sugar Maple - Basswood - (Bluebead Lily) Forest	S4
MHn44	Northern Wet-Mesic Boreal Hardwood-Conifer Forest	
MHn44a	Aspen - Birch - Red Maple Forest	S4
MHn44b	White Pine - White Spruce - Paper Birch Forest	S2
MHn44c	Aspen - Fir Forest	S3S4
MHn44d	Aspen - Birch - Fir Forest	S3
MHn45	Northern Mesic Hardwood (Cedar) Forest	
MHn45a	Paper Birch - Sugar Maple Forest (North Shore)	S4
MHn45b	White Cedar - Yellow Birch Forest	S2
MHn45c	Sugar Maple Forest (North Shore)	S3
MHn46	Northern Wet-Mesic Hardwood Forest	
MHn46a	Aspen - Ash Forest	S4
MHn46b	Black Ash - Basswood Forest	S4
MHn47	Northern Rich Mesic Hardwood Forest	
MHn47a	Sugar Maple - Basswood - (Bluebead Lily) Forest	S3
MHn47b	Sugar Maple - Basswood - (Horsetail) Forest	S3
MHc26	Central Dry-Mesic Oak-Aspen Forest	
MHc26a	Oak - Aspen - Red Maple Forest	S4
MHc26b	Red Oak - Sugar Maple - Basswood - (Large-Flowered Trillium) Forest	S4
MHc36	Central Mesic Hardwood Forest (Eastern)	

MHc36a	Red Oak - Basswood Forest (Noncalcareous Till)	S4
MHc36b	Red Oak - Basswood Forest (Calcareous Till)	S4
MHc37	Central Mesic Hardwood Forest (Western)	
MHc37a	Aspen - (Sugar Maple - Basswood) Forest	S4
MHc37b	Sugar Maple - Basswood - (Aspen) Forest	S4
MHc38	Central Mesic Cold-Slope Hardwood-Conifer Forest	
MHc38a	White Pine - Sugar Maple - Basswood Forest (Cold Slope)	S1
MHc47	Central Wet-Mesic Hardwood Forest	
MHc47a	Basswood - Black Ash Forest	S3
MHs37	Southern Dry-Mesic Oak Forest	
MHs37a	Red Oak - White Oak Forest	S3
MHs37b	Red Oak - White Oak - (Sugar Maple) Forest	S4
MHs38	Southern Mesic Oak-Basswood Forest	
MHs38a	White Pine - Oak - Sugar Maple Forest	S3
MHs38b	Basswood - Bur Oak - (Green Ash) Forest	S3
MHs38c	Red Oak - Sugar Maple - Basswood - (Bitternut Hickory) Forest	S3
MHs39	Southern Mesic Maple-Basswood Forest	
MHs39a	Sugar Maple - Basswood - (Bitternut Hickory) Forest	S2
MHs39b	Sugar Maple - Basswood - Red Oak - (Blue Beech) Forest	S3
MHs39c	Sugar Maple Forest (Big Woods)	S2
MHs49	Southern Wet-Mesic Hardwood Forest	
MHs49a	Elm - Basswood - Black Ash - (Hackberry) Forest	S3
MHs49b	Elm - Basswood - Black Ash - (Blue Beech) Forest	S2
MHw36	Northwestern Wet-Mesic Hardwood Forest	
MHw36a	Green Ash - Bur Oak - Elm Forest	S2

Wetland Forests

Floodplain Forest System

FFn57	Northern Terrace Forest	
FFn57a	Black Ash - Silver Maple Terrace Forest	S3
FFn67	Northern Floodplain Forest	
FFn67a	Silver Maple - (Sensitive Fern) Floodplain Forest	S3
FFs59	Southern Terrace Forest	
FFs59a	Silver Maple - Green Ash - Cottonwood Terrace Forest	S3
FFs59b	Swamp White Oak Terrace Forest	S1
FFs59c	Elm - Ash - Basswood Terrace Forest	S2
FFs68	Southern Floodplain Forest	
FFs68a	Silver Maple - (Virginia Creeper) Floodplain Forest	S3

Wet Forest System

WFn53	Northern Wet Cedar Forest	
WFn53a	Lowland White Cedar Forest (North Shore)	S4
WFn53b	Lowland White Cedar Forest (Northern)	S3
WFn55	Northern Wet Ash Swamp	
WFn55a	Black Ash - Aspen - Balsam Poplar Swamp (Northeastern)	S4
WFn55b	Black Ash - Yellow Birch - Red Maple - Basswood Swamp (Eastcentral)	S3
WFn55c	Black Ash - Mountain Maple Swamp (Northern)	S4
WFn64	Northern Very Wet Ash Swamp	
WFn64a	Black Ash - Conifer Swamp (Northeastern)	S4
WFn64b	Black Ash - Yellow Birch - Red Maple - Alder Swamp (Eastcentral)	S4
WFn64c	Black Ash - Alder Swamp (Northern)	S4
WFs55	Southern Wet Aspen Forest	
WFs55a	Lowland Aspen Forest	S4
WFs57	Southern Wet Ash Swamp	
WFs57a	Black Ash - (Red Maple) Seepage Swamp	S1S2
WFs57b	Black Ash - Sugar Maple - Basswood - (Blue Beech) Seepage Swamp	S1

WFw54	Northwestern Wet Aspen Forest	
WFw54a	Lowland Black Ash - Aspen - Balsam Poplar Forest	S4

Forested Rich Peatland System

FPn62	Northern Rich Spruce Swamp (Basin)	
FPn62a	Rich Black Spruce Swamp (Basin)	S3
FPn63	Northern Cedar Swamp	
FPn63a	White Cedar Swamp (Northeastern)	S4
FPn63b	White Cedar Swamp (Northcentral)	S3
FPn63c	White Cedar Swamp (Northwestern)	S3
FPn71	Northern Rich Spruce Swamp (Water Track)	
FPn71a	Rich Black Spruce Swamp (Water Track)	S3
FPn72	Northern Rich Tamarack Swamp (Eastern Basin)	
FPn72a	Rich Tamarack Swamp (Eastcentral)	S3
FPn81	Northern Rich Tamarack Swamp (Water Track)	
FPn81a	Rich Tamarack (Sundew - Pitcher Plant) Swamp	S4
FPn82	Northern Rich Tamarack Swamp (Western Basin)	
FPn82a	Rich Tamarack - (Alder) Swamp	S5
FPn82b	Extremely Rich Tamarack Swamp	S4
FPs63	Southern Rich Conifer Swamp	
FPs63a	Tamarack Swamp (Southern)	S2S3
FPw63	Northwestern Rich Conifer Swamp	
FPw63a	Tamarack - Black Spruce Swamp (Aspen Parkland)	S3
FPw63b	Tamarack Seepage Swamp (Aspen Parkland)	S3

Acid Peatland System

APn80	Northern Spruce Bog	
APn80a	Black Spruce Bog	S4
APn80a1	<i>Treed Subtype</i>	S4
APn80a2	<i>Semi-Treed Subtype</i>	S4
APn81	Northern Poor Conifer Swamp	
APn81a	Poor Black Spruce Swamp	S5
APn81b	Poor Tamarack - Black Spruce Swamp	S4
APn81b1	<i>Black Spruce Subtype</i>	S4
APn81b2	<i>Tamarack Subtype</i>	S4

Upland Grasslands, Shrublands, and Sparse Vegetation

Cliff/Talus System

CTn11	Northern Dry Cliff	
CTn11a	Dry Mafic Cliff (Northern)	S4
CTn11b	Dry Rove Cliff (Northern)	S2
CTn11c	Dry Thomson Cliff (Northern)	S1
CTn11d	Dry Felsic Cliff (Northern)	S3
CTn11e	Dry Sandstone Cliff (Northern)	S1
CTn12	Northern Open Talus	
CTn12a	Dry Open Talus (Northern)	S3
CTn12b	Mesic Open Talus (Northern)	S2
CTn24	Northern Scrub Talus	
CTn24a	Dry Scrub Talus (Northern)	S3
CTn24b	Mesic Scrub Talus (Northern)	S3
CTn32	Northern Mesic Cliff	
CTn32a	Mesic Mafic Cliff (Northern)	S3
CTn32b	Mesic Rove Cliff (Northern)	S3
CTn32c	Mesic Thomson Cliff (Northern)	S1
CTn32d	Mesic Felsic Cliff (Northern)	S2
CTn32e	Mesic Sandstone Cliff (Northern)	S1

CTn42	Northern Wet Cliff	
CTn42a	Wet Mafic Cliff (Northern)	S2
CTn42b	Wet Rove Cliff (Northern)	S1
CTn42c	Wet Felsic Cliff (Northern)	S1
CTn42d	Wet Sandstone Cliff (Northern)	S1
CTu22	Lake Superior Cliff	
CTu22a	Exposed Mafic Cliff (Lake Superior)	S3
CTu22b	Exposed Felsic Cliff (Lake Superior)	S2
CTu22c	Sheltered Mafic Cliff (Lake Superior)	S1
CTs12	Southern Dry Cliff	
CTs12a	Dry Sandstone Cliff (Southern)	S2
CTs12b	Dry Limestone - Dolomite Cliff (Southern)	S4
CTs12c	Dry Sioux Quartzite Cliff (Southern)	S1
CTs23	Southern Open Talus	
CTs23a	Dry Limestone - Dolomite Talus (Southern)	S3
CTs23b	Mesic Limestone - Dolomite Talus (Southern)	S3
CTs33	Southern Mesic Cliff	
CTs33a	Mesic Sandstone Cliff (Southern)	S2
CTs33b	Mesic Limestone - Dolomite Cliff (Southern)	S3
CTs43	Southern Maderate Cliff	
CTs43a	Maderate Cliff	S1
CTs43a1	<i>Limestone Subtype</i>	S1
CTs43a2	<i>Dolomite Subtype</i>	S1
CTs46	Southern Algific Talus	
CTs46a	Algific Talus	S1
CTs46a1	<i>Limestone Subtype</i>	S1
CTs46a2	<i>Dolomite Subtype</i>	S1
CTs53	Southern Wet Cliff	
CTs53a	Wet Sandstone Cliff (Southern)	S1
CTs53b	Wet Limestone - Dolomite Cliff (Southern)	S2

Rock Outcrop System

ROn12	Northern Bedrock Outcrop	
ROn12a	Sandstone Outcrop (Northern)	S2
ROn12b	Crystalline Bedrock Outcrop (Northern)	S4
ROn23	Northern Bedrock Shrubland	
ROn23a	Bedrock Shrubland (Inland)	S3
ROn23b	Bedrock Shrubland (Lake Superior)	S1
ROs12	Southern Bedrock Outcrop	
ROs12a	Crystalline Bedrock Outcrop (Prairie)	S2
ROs12a1	<i>Minnesota River Subtype</i>	S2
ROs12a2	<i>Sioux Quartzite Subtype</i>	S2
ROs12b	Crystalline Bedrock Outcrop (Transition)	S2
ROs12c	Sedimentary Bedrock Outcrop (Southeast)	S2 or S3
ROs12c1	<i>Sandstone Subtype</i>	S2
ROs12c2	<i>Limestone-Dolomite Subtype</i>	S3

Lakeshore System

LKi32	Inland Lake Sand/Gravel/Cobble Shore	
LKi32a	Sand Beach (Inland Lake)	S1
LKi32b	Gravel/Cobble Beach (Inland Lake)	S2
LKi43	Inland Lake Rocky Shore	
LKi43a	Boulder Shore (Inland Lake)	S4
LKi43b	Bedrock Shore (Inland Lake)	S4
LKi54	Inland Lake Clay/Mud Shore	
LKi54a	Clay/Mud Shore (Inland Lake)	S4

LKi54b	Mud Flat (Inland Lake)	S3
LKi54b1	Saline Subtype	S1
LKi54b2	Non-Saline Subtype	S3
LKu32	Lake Superior Sand/Gravel/Cobble Shore	
LKu32a	Beachgrass Dune (Lake Superior)	S1
LKu32b	Juniper Dune Shrubland (Lake Superior)	S1
LKu32c	Sand Beach (Lake Superior)	S1
LKu32d	Beach Ridge Shrubland (Lake Superior)	S2
LKu32e	Gravel/Cobble Beach (Lake Superior)	S4
LKu43	Lake Superior Rocky Shore	
LKu43a	Dry Bedrock Shore (Lake Superior)	S4
LKu43b	Wet Rocky Shore (Lake Superior)	S2
LKu43b1	Cobble Subtype	S2
LKu43b2	Bedrock Subtype	S2

River Shore System

RVx32	Sand/Gravel/Cobble River Shore	
RVx32a	Willow Sandbar Shrubland (River)	S4
RVx32b	Sand Beach/Sandbar (River)	S3
RVx32b1	Intermittent Streambed Subtype	S3
RVx32b2	Permanent Stream Subtype	S3
RVx32c	Gravel/Cobble Beach (River)	S3
RVx32c1	Intermittent Streambed Subtype	S3
RVx32c2	Permanent Stream Subtype	S3
RVx43	Rocky River Shore	
RVx43a	Bedrock/Boulder Shore (River)	S3
RVx43a1	Intermittent Streambed Subtype	S3
RVx43a2	Permanent Stream Subtype	S3
RVx54	Clay/Mud River Shore	
RVx54a	Slumping Clay/Mud Slope (River)	S2
RVx54b	Clay/Mud Shore (River)	S3
RVx54b1	Intermittent Streambed Subtype	S3
RVx54b2	Permanent Stream Subtype	S3

Upland Prairie System

UPn12	Northern Dry Prairie	
UPn12a	Dry Barrens Prairie (Northern)	S1
UPn12b	Dry Sand - Gravel Prairie (Northern)	S2
UPn12c	Dry Sand - Gravel Brush-Prairie (Northern)	S1
UPn12d	Dry Hill Prairie (Northern)	S1
UPn13	Northern Dry Savanna	
UPn13a	Dry Barrens Jack Pine Savanna (Northern)	S1
UPn13b	Dry Barrens Oak Savanna (Northern)	S1S2
UPn13c	Dry Sand - Gravel Oak Savanna (Northern)	S1
UPn13d	Dry Hill Oak Savanna (Northern)	S1
UPn23	Northern Mesic Prairie	
UPn23a	Mesic Brush-Prairie (Northern)	S2
UPn23b	Mesic Prairie (Northern)	S2
UPn24	Northern Mesic Savanna	
UPn24a	Mesic Oak Savanna (Northern)	S1
UPn24b	Aspen Openings (Northern)	S2
UPs13	Southern Dry Prairie	
UPs13a	Dry Barrens Prairie (Southern)	S1S2
UPs13b	Dry Sand - Gravel Prairie (Southern)	S2
UPs13c	Dry Bedrock Bluff Prairie (Southern)	S3
UPs13d	Dry Hill Prairie (Southern)	S2

UPs14	Southern Dry Savanna	
UPs14a	Dry Barrens Oak Savanna (Southern)	S1 or S1S2
UPs14a1	<i>Jack Pine Subtype</i>	S1
UPs14a2	<i>Oak Subtype</i>	S1S2
UPs14b	Dry Sand - Gravel Oak Savanna (Southern)	S1S2
UPs14c	Dry Hill Oak Savanna (Southern)	S1
UPs23	Southern Mesic Prairie	
UPs23a	Mesic Prairie (Southern)	S2
UPs24	Southern Mesic Savanna	
UPs24a	Mesic Oak Savanna (Southern)	S1

Wetland Grasslands, Shrublands, and Marshes

Acid Peatland System

APn90	Northern Open Bog	
APn90a	Low Shrub Bog	S4S5
APn90b	Graminoid Bog	S2 or S4
APn90b1	<i>Typic Subtype</i>	S4
APn90b2	<i>Schlenke Subtype</i>	S2
APn91	Northern Poor Fen	
APn91a	Low Shrub Poor Fen	S5
APn91b	Graminoid Poor Fen (Basin)	S3
APn91c	Graminoid Poor Fen (Water Track)	S3 or S4
APn91c1	<i>Featureless Water Track Subtype</i>	S4
APn91c2	<i>Flark Subtype</i>	S3

Open Rich Peatland System

OPn81	Northern Shrub Shore Fen	
OPn81a	Bog birch - Alder Shore Fen	S5
OPn81b	Leatherleaf - Sweet Gale Shore Fen	S5
OPn91	Northern Rich Fen (Water Track)	
OPn91a	Shrub Rich Fen (Water Track)	S4
OPn91b	Graminoid Rich Fen (Water Track)	S2 or S3
OPn91b1	<i>Featureless Water Track Subtype</i>	S3
OPn91b2	<i>Flark Subtype</i>	S2
OPn92	Northern Rich Fen (Basin)	
OPn92a	Graminoid Rich Fen (Basin)	S4
OPn92b	Graminoid - Sphagnum Rich Fen (Basin)	S4
OPn93	Northern Extremely Rich Fen	
OPn93a	Spring Fen	S2
OPp91	Prairie Rich Fen	
OPp91a	Rich Fen (Mineral Soil)	S3
OPp91b	Rich Fen (Peatland)	S3
OPp91c	Rich Fen (Prairie Seepage)	S3
OPp93	Prairie Extremely Rich Fen	
OPp93a	Calcareous Fen (Northwestern)	S2
OPp93b	Calcareous Fen (Southwestern)	S2
OPp93c	Calcareous Fen (Southeastern)	S1

Wet Forest System

WFn74	Northern Wet Alder Swamp	
WFn74a	Alder - (Red Currant - Meadow-Rue) Swamp	S3

Forested Rich Peatland System

FPn73	Northern Rich Alder Swamp	
FPn73a	Alder - (Maple - Loosestrife) Swamp	S5

Wet Meadow/Carr System

WMn82	Northern Wet Meadow/Carr	
WMn82a	Willow - Dogwood Shrub Swamp	S5
WMn82b	Sedge Meadow	S4 or S5
WMn82b1	<i>Bluejoint Subtype</i>	S5
WMn82b2	<i>Tussock Sedge Subtype</i>	S4
WMn82b3	<i>Beaked Sedge Subtype</i>	S4
WMn82b4	<i>Lake Sedge Subtype</i>	S5
WMs83	Southern Seepage Meadow/Carr	
WMs83a	Seepage Meadow/Carr	S3
WMs83a1	<i>Tussock Sedge Subtype</i>	S3
WMs83a2	<i>Aquatic Sedge Subtype</i>	S3
WMs83a3	<i>Impatiens Subtype</i>	S2
WMs92	Southern Basin Wet Meadow/Carr	
WMs92a	Basin Meadow/Carr	S2
WMp73	Prairie Wet Meadow/Carr	
WMp73a	Prairie Meadow/Carr	S3

Marsh System

MRn83	Northern Mixed Cattail Marsh	
MRn83a	Cattail - Sedge Marsh (Northern)	S2
MRn83b	Cattail Marsh (Northern)	S2
MRn93	Northern Bulrush-Spikerush Marsh	
MRn93a	Bulrush Marsh (Northern)	S3
MRn93b	Spikerush - Bur Reed Marsh (Northern)	S2
MRu94	Lake Superior Coastal Marsh	
MRu94a	Estuary Marsh (Lake Superior)	S1
MRp83	Prairie Mixed Cattail Marsh	
MRp83a	Cattail - Sedge Marsh (Prairie)	S1
MRp83b	Cattail Marsh (Prairie)	S1
MRp93	Prairie Bulrush-Arrowhead Marsh	
MRp93a	Bulrush Marsh (Prairie)	S1
MRp93b	Spikerush - Bur Reed Marsh (Prairie)	S1
MRp93c	Arrowhead Marsh (Prairie)	S1

Wetland Prairie System

WPn53	Northern Wet Prairie	
WPn53a	Wet Seepage Prairie (Northern)	S2
WPn53b	Wet Brush-Prairie (Northern)	S3
WPn53c	Wet Prairie (Northern)	S3
WPn53d	Wet Saline Prairie (Northern)	S2
WPs54	Southern Wet Prairie	
WPs54a	Wet Seepage Prairie (Southern)	S1
WPs54b	Wet Prairie (Southern)	S2
WPs54c	Wet Saline Prairie (Southern)	S1

Endangered, Threatened, and Special Concern Species of Minnesota

Blanding's Turtle
(Emydoidea blandingii)

Minnesota Status: Threatened
Federal Status: none

State Rank¹: S2
Global Rank¹: G4

HABITAT USE

Blanding's turtles need both wetland and upland habitats to complete their life cycle. The types of wetlands used include ponds, marshes, shrub swamps, bogs, and ditches and streams with slow-moving water. In Minnesota, Blanding's turtles are primarily marsh and pond inhabitants. Calm, shallow water bodies (Type 1-3 wetlands) with mud bottoms and abundant aquatic vegetation (e.g., cattails, water lilies) are preferred, and extensive marshes bordering rivers provide excellent habitat. Small temporary wetlands (those that dry up in the late summer or fall) are frequently used in spring and summer -- these fishless pools are amphibian and invertebrate breeding habitat, which provides an important food source for Blanding's turtles. Also, the warmer water of these shallower areas probably aids in the development of eggs within the female turtle. Nesting occurs in open (grassy or brushy) sandy uplands, often some distance from water bodies. Frequently, nesting occurs in traditional nesting grounds on undeveloped land. Blanding's turtles have also been known to nest successfully on residential property (especially in low density housing situations), and to utilize disturbed areas such as farm fields, gardens, under power lines, and road shoulders (especially of dirt roads). Although Blanding's turtles may travel through woodlots during their seasonal movements, shady areas (including forests and lawns with shade trees) are not used for nesting. Wetlands with deeper water are needed in times of drought, and during the winter. Blanding's turtles overwinter in the muddy bottoms of deeper marshes and ponds, or other water bodies where they are protected from freezing.

LIFE HISTORY

Individuals emerge from overwintering and begin basking in late March or early April on warm, sunny days. The increase in body temperature which occurs during basking is necessary for egg development within the female turtle. Nesting in Minnesota typically occurs during June, and females are most active in late afternoon and at dusk. Nesting can occur as much as a mile from wetlands. The nest is dug by the female in an open sandy area and 6-15 eggs are laid. The female turtle returns to the marsh within 24 hours of laying eggs. After a development period of approximately two months, hatchlings leave the nest from mid-August through early-October. Nesting females and hatchlings are often at risk of being killed while crossing roads between wetlands and nesting areas. In addition to movements associated with nesting, all ages and both sexes move between wetlands from April through November. These movements peak in June and July and again in September and October as turtles move to and from overwintering sites. In late autumn (typically November), Blanding's turtles bury themselves in the substrate (the mud at the bottom) of deeper wetlands to overwinter.

IMPACTS / THREATS / CAUSES OF DECLINE

- loss of wetland habitat through drainage or flooding (converting wetlands into ponds or lakes)
- loss of upland habitat through development or conversion to agriculture
- human disturbance, including collection for the pet trade* and road kills during seasonal movements
- increase in predator populations (skunks, raccoons, etc.) which prey on nests and young

*It is illegal to possess this threatened species.

RECOMMENDATIONS FOR AVOIDING AND MINIMIZING IMPACTS

These recommendations apply to typical construction projects and general land use within Blanding's turtle habitat, and are provided to help local governments, developers, contractors, and homeowners minimize or avoid detrimental impacts to Blanding's turtle populations. **List 1** describes minimum measures which we recommend to prevent harm to Blanding's turtles during construction or other work within Blanding's turtle habitat. **List 2** contains recommendations which offer even greater protection for Blanding's turtles populations; this list should be used *in addition to the first list* in areas which are known to be of state-wide importance to Blanding's turtles (contact the DNR's Natural Heritage and Nongame Research Program if you wish to determine if your project or home is in one of these areas), or in any other area where greater protection for Blanding's turtles is desired.

List 1. Recommendations for all areas inhabited by Blanding's turtles.	List 2. Additional recommendations for areas known to be of state-wide importance to Blanding's turtles.
GENERAL	
A flyer with an illustration of a Blanding's turtle should be given to all contractors working in the area. Homeowners should also be informed of the presence of Blanding's turtles in the area.	Turtle crossing signs can be installed adjacent to road-crossing areas used by Blanding's turtles to increase public awareness and reduce road kills.
Turtles which are in imminent danger should be moved, by hand, out of harms way. Turtles which are not in imminent danger should be left undisturbed.	Workers in the area should be aware that Blanding's turtles nest in June, generally after 4pm, and should be advised to minimize disturbance if turtles are seen.
If a Blanding's turtle nests in your yard, do not disturb the nest.	If you would like to provide more protection for a Blanding's turtle nest on your property, see "Protecting Blanding's Turtle Nests" on page 3 of this fact sheet.
Silt fencing should be set up to keep turtles out of construction areas. It is <u>critical</u> that silt fencing be removed after the area has been revegetated.	Construction in potential nesting areas should be limited to the period between September 15 and June 1 (this is the time when activity of adults and hatchlings in upland areas is at a minimum).
WETLANDS	
Small, vegetated temporary wetlands (Types 2 & 3) should not be dredged, deepened, filled, or converted to storm water retention basins (these wetlands provide important habitat during spring and summer).	Shallow portions of wetlands should not be disturbed during prime basking time (mid morning to mid-afternoon in May and June). A wide buffer should be left along the shore to minimize human activity near wetlands (basking Blanding's turtles are more easily disturbed than other turtle species).
Wetlands should be protected from pollution; use of fertilizers and pesticides should be avoided, and run-off from lawns and streets should be controlled. Erosion should be prevented to keep sediment from reaching wetlands and lakes.	Wetlands should be protected from road, lawn, and other chemical run-off by a vegetated buffer strip at least 50' wide. This area should be left unmowed and in a natural condition.
ROADS	
Roads should be kept to minimum standards on widths and lanes (this reduces road kills by slowing traffic and reducing the distance turtles need to cross).	Tunnels should be considered in areas with concentrations of turtle crossings (more than 10 turtles per year per 100 meters of road), and in areas of lower density if the level of road use would make a safe crossing impossible for turtles. Contact your DNR Regional Nongame Specialist for further information on wildlife tunnels.
Roads should be ditched, not curbed or below grade. If curbs must be used, 4 inch high curbs at a 3:1 slope are preferred (Blanding's turtles have great difficulty climbing traditional curbs; curbs and below grade roads trap turtles on the road and can cause road kills).	Roads should be ditched, not curbed or below grade.

ROADS cont.	
Culverts between wetland areas, or between wetland areas and nesting areas, should be 36 inches or greater in diameter, and elliptical or flat-bottomed.	Road placement should avoid separating wetlands from adjacent upland nesting sites, or these roads should be fenced to prevent turtles from attempting to cross them (contact your DNR Nongame Specialist for details).
Wetland crossings should be bridged, or include raised roadways with culverts which are 36 in or greater in diameter and flat-bottomed or elliptical (raised roadways discourage turtles from leaving the wetland to bask on roads).	Road placement should avoid bisecting wetlands, or these roads should be fenced to prevent turtles from attempting to cross them (contact your DNR Nongame Specialist for details). This is especially important for roads with more than 2 lanes.
Culverts under roads crossing streams should be oversized (at least twice as wide as the normal width of open water) and flat-bottomed or elliptical.	Roads crossing streams should be bridged.
UTILITIES	
Utility access and maintenance roads should be kept to a minimum (this reduces road-kill potential).	
Because trenches can trap turtles, trenches should be checked for turtles prior to being backfilled and the sites should be returned to original grade.	
LANDSCAPING AND VEGETATION MANAGEMENT	
Terrain should be left with as much natural contour as possible.	As much natural landscape as possible should be preserved (installation of sod or wood chips, paving, and planting of trees within nesting habitat can make that habitat unusable to nesting Blanding's turtles).
Graded areas should be revegetated with native grasses and forbs (some non-natives form dense patches through which it is difficult for turtles to travel).	Open space should include some areas at higher elevations for nesting. These areas should be retained in native vegetation, and should be connected to wetlands by a wide corridor of native vegetation.
Vegetation management in infrequently mowed areas -- such as in ditches, along utility access roads, and under power lines -- should be done mechanically (chemicals should not be used). Work should occur fall through spring (after October 1 st and before June 1 st).	Ditches and utility access roads should not be mowed or managed through use of chemicals. If vegetation management is required, it should be done mechanically, as infrequently as possible, and fall through spring (mowing can kill turtles present during mowing, and makes it easier for predators to locate turtles crossing roads).

Protecting Blanding's Turtle Nests: Most predation on turtle nests occurs within 48 hours after the eggs are laid. After this time, the scent is gone from the nest and it is more difficult for predators to locate the nest. Nests more than a week old probably do not need additional protection, unless they are in a particularly vulnerable spot, such as a yard where pets may disturb the nest. Turtle nests can be protected from predators and other disturbance by covering them with a piece of wire fencing (such as chicken wire), secured to the ground with stakes or rocks. The piece of fencing should measure at least 2 ft. x 2 ft., and should be of medium sized mesh (openings should be about 2 in. x 2 in.). It is *very important* that the fencing be **removed before August 1st** so the young turtles can escape from the nest when they hatch!

REFERENCES

- ¹Association for Biodiversity Information. "Heritage Status: Global, National, and Subnational Conservation Status Ranks." NatureServe. Version 1.3 (9 April 2001). <http://www.natureserve.org/ranking.htm> (15 April 2001).
- Coffin, B., and L. Pfannmuller. 1988. Minnesota's Endangered Flora and Fauna. University of Minnesota Press, Minneapolis, 473 pp.

REFERENCES (cont.)

- Moriarty, J. J., and M. Linck. 1994. Suggested guidelines for projects occurring in Blanding's turtle habitat. Unpublished report to the Minnesota DNR. 8 pp.
- Oldfield, B., and J. J. Moriarty. 1994. Amphibians and Reptiles Native to Minnesota. University of Minnesota Press, Minneapolis, 237 pp.
- Sajwaj, T. D., and J. W. Lang. 2000. Thermal ecology of Blanding's turtle in central Minnesota. *Chelonian Conservation and Biology* 3(4):626-636.

CAUTION



BLANDING'S TURTLES MAY BE ENCOUNTERED IN THIS AREA

The unique and rare Blanding's turtle has been found in this area. Blanding's turtles are state-listed as Threatened and are protected under Minnesota Statute 84.095, Protection of Threatened and Endangered Species. Please be careful of turtles on roads and in construction sites. For additional information on turtles, or to report a Blanding's turtle sighting, contact the DNR Nongame Specialist nearest you: Bemidji (218-308-2641); Grand Rapids (218-327-4518); New Ulm (507-359-6033); Rochester (507-280-5070); or St. Paul (651-259-5764).

DESCRIPTION: The Blanding's turtle is a medium to large turtle (5 to 10 inches) with a black or dark blue, dome-shaped shell with muted yellow spots and bars. The bottom of the shell is hinged across the front third, enabling the turtle to pull the front edge of the lower shell firmly against the top shell to provide additional protection when threatened. The head, legs, and tail are dark brown or blue-gray with small dots of light brown or yellow. A distinctive field mark is the bright yellow chin and neck.

**BLANDING'S TURTLES DO NOT MAKE GOOD PETS
IT IS ILLEGAL TO KEEP THIS THREATENED SPECIES IN CAPTIVITY**

SUMMARY OF RECOMMENDATIONS FOR AVOIDING AND MINIMIZING IMPACTS TO BLANDING'S TURTLE POPULATIONS

(see Blanding's Turtle Fact Sheet for full recommendations)

- This flyer should be given to all contractors working in the area. Homeowners should also be informed of the presence of Blanding's turtles in the area.
- Turtles that are in imminent danger should be moved, by hand, out of harms way. Turtles that are not in imminent danger should be left undisturbed to continue their travel among wetlands and/or nest sites.
- If a Blanding's turtle nests in your yard, do not disturb the nest and do not allow pets near the nest.
- Silt fencing should be set up to keep turtles out of construction areas. It is critical that silt fencing be removed after the area has been revegetated.
- Small, vegetated temporary wetlands should not be dredged, deepened, or filled.
- All wetlands should be protected from pollution; use of fertilizers and pesticides should be avoided, and run-off from lawns and streets should be controlled. Erosion should be prevented to keep sediment from reaching wetlands and lakes.
- Roads should be kept to minimum standards on widths and lanes.
- Roads should be ditched, not curbed or below grade. If curbs must be used, 4" high curbs at a 3:1 slope are preferred.
- Culverts under roads crossing wetland areas, between wetland areas, or between wetland and nesting areas should be at least 36 in. diameter and flat-bottomed or elliptical.
- Culverts under roads crossing streams should be oversized (at least twice as wide as the normal width of open water) and flat-bottomed or elliptical.
- Utility access and maintenance roads should be kept to a minimum.
- Because trenches can trap turtles, trenches should be checked for turtles prior to being backfilled and the sites should be returned to original grade.
- Terrain should be left with as much natural contour as possible.
- Graded areas should be revegetated with native grasses and forbs.
- Vegetation management in infrequently mowed areas -- such as in ditches, along utility access roads, and under power lines -- should be done mechanically (chemicals should not be used). Work should occur fall through spring (after October 1st and before June 1st).

*Compiled by the Minnesota Department of Natural Resources Division of Ecological Resources, Updated March 2008
Endangered Species Environmental Review Coordinator, 500 Lafayette Rd., Box 25, St. Paul, MN 55155 / 651-259-5109*

Appendix C.2
List of LGUs Sent a 90-Day Project Notice Letter

Appendix C.2: Local Government Units and Other Interested Parties and Agencies Contacted

Table C.2 identifies the local government units, also referred to as LGUs, contacted between June 29 and July 1, 2010 regarding the proposed Project. The letter included in the proceeding pages is representative of the letter that was sent to each person listed below.

Local Government Units Contacted							
Agency	Contact Name	Title	Address 1	City	State	Zip	Date Initial Letter Sent
Benton County Board	Jim McMahon	District 3 Commissioner	1701 Sixth Ave North	Sauk Rapids	MN	56379	6/29/2010
Benton County Board	Earl "Butch" Bukowski	District 5 Commissioner	1150 Meadowbrook Lane NE	Sauk Rapids	MN	56379	6/29/2010
Benton County Board	Spencer Buerkle	District 4 Commissioner	611 7th Street N.	Sauk Rapids	MN	56379	6/29/2010
Benton County Department of Development	Chelle Benson	Director	531 Dewey St., P.O. Box 129	Foley	MN	56329	6/29/2010
Benton County Department of Development	Mark McNamara	Wetlands/Solid Waste Lead	531 Dewey St., P.O. Box 129	Foley	MN	56329	6/29/2010
Benton County Department of Public Works	Robert Kozel, P.E.	Director	531 Dewey St., P.O. Box 247	Foley	MN	56329	6/29/2010
Benton County Economic Development	Nancy Hoffman	Development Director	P.O. Box 129	Foley	MN	56329	6/29/2010
Benton County Government Center	Montgomery Headley	County Administrator	531 Dewey St., P.O. Box 129	Foley	MN	56329	6/29/2010
Benton County Soil and Water Conservation District	Gerry Maciej	District Manager	14 2nd Ave. W.	Foley	MN	56329	6/29/2010
Benton County Soil and Water Conservation District	Wade Bastian	Chair, District I	14 2nd Ave. W.	Foley	MN	56329	6/29/2010
City of Sauk Rapids	Mark Campbell	Mayor	914 Arbor Way	Sauk Rapids	MN	56379	6/29/2010
City of Sauk Rapids	Ross Olson	Administrator	115 2nd Ave. N.	Sauk Rapids	MN	56379	6/29/2010
City of Sauk Rapids	Terrence S. Wotzka	City Engineer	115 2nd Ave. N.	Sauk Rapids	MN	56379	6/29/2010
City of Sauk Rapids	Todd Schultz	Community Development Director	115 2nd Ave. N.	Sauk Rapids	MN	56379	6/29/2010
City of Sauk Rapids	Roger Schotl	Public Works Director	115 2nd Ave. N.	Sauk Rapids	MN	56379	6/29/2010
City of Sauk Rapids	Marney Curfman	City Planner	115 2nd Ave. N.	Sauk Rapids	MN	56379	6/29/2010
City of St. Cloud	Dave Kleis	Mayor	400 2nd St. S.	St. Cloud	MN	56301	6/29/2010
City of St. Cloud	Mike Williams	Administrator	400 2nd St. S.	St. Cloud	MN	56301	6/29/2010
City of St. Cloud	Steven Foss	City Engineer	400 2nd St. S.	St. Cloud	MN	56301	6/29/2010
City of St. Cloud	Patrick Shea	Public Service Director	400 2nd St. S.	St. Cloud	MN	56301	6/29/2010
City of St. Cloud	Matt Glaesman	Community Development Director	400 2nd St. S.	St. Cloud	MN	56301	6/29/2010

TABLE C.2**Local Government Units Contacted**

Agency	Contact Name	Title	Address 1	City	State	Zip	Date Initial Letter Sent
City of St. Cloud	Gerald Kaeter	Public Works Director	400 2nd St. S.	St. Cloud	MN	56301	6/29/2010
City of St. Cloud	Matt Glaesman	City Planner	400 2nd St. S.	St. Cloud	MN	56301	6/29/2010
City of St. Cloud	Gregg Engdahl	City Clerk	400 2nd St. S.	St. Cloud	MN	56301	6/29/2010
City of St. Cloud Heritage Preservation Commission	Tammy Campion		400 Second St. South	St. Cloud	MN	56301-3699	7/1/2010
Minden Township	Glenice Mehrwerth	Minden Township Clerk	3391 35th Ave. NE	Sauk Rapids	MN	56379	6/29/2010
Minden Township	Mike Ebnet	Minden Township Chair	1800 35th Ave. NE	Sauk Rapids	MN	56379	6/29/2010
Minden Township	Stephen T. Simones	Minden Township Supervisor	7415 30th St. NE	Sauk Rapids	MN	56379	6/29/2010
Minnesota Board of Water and Soil Resources	John Jaschke	Executive Director	520 Lafayette Road	St. Paul	MN	55155	6/29/2010
Sauk Rapids Township	Lonny Wild	Sauk Rapids Township Chairman	4300 Mayflower Rd. NW	Sauk Rapids	MN	56379	6/29/2010
Sauk Rapids Township	Tina Douvier	Sauk Rapids Township Clerk	3465 Quarry Rd. NE	Sauk Rapids	MN	56379	6/29/2010
Sauk Rapids-Rice Public Schools	Greg Vandal	Superintendent of Schools	1833 Osauka Road NE	Sauk Rapids	MN	56379	6/29/2010
Sauk Rapids-Rice Public Schools	Erich Martens	Principal, High School Office	1833 Osauka Road NE	Sauk Rapids	MN	56379	6/29/2010
TRI-County Solid Waste Management Commission	Jerry Johnson	Director	601 N. 20th Ave.	St. Cloud	MN	56303	6/29/2010

The following is an example letter that is representative of the documentation that was sent to each person listed in Table C.2.

June 29, 2010

Wade Bastian
Chair, District I
Benton County Soil and Water Conservation District
14 2nd Ave. W.
Foley, MN 56329

**Re: Notice of Proposed Transmission Line Project
St. Cloud Loop BEN-MHW Project
Xcel Energy, Inc. / Northern States Power Company**

Dear Wade Bastian:

Xcel Energy, Inc. (“Xcel Energy”) proposes to construct an approximate 5-mile-long, 115 kilovolt (“kV”) transmission line in Sauk Rapids located east of Highway 10 in Sauk Rapids and Minden Townships, Benton County, Minnesota. This project is referred to as the St. Cloud Loop BEN-MHW Project (“Project”). The Project is needed to provide a second source of power to the Mayhew Lake Substation (“MHW”) and associated loads, and to ensure reliable and stable electric service in the Sauk Rapids - St. Cloud area.

The purpose of this letter is to provide you notice of Xcel Energy’s plan to obtain a Route Permit from the Minnesota Public Utilities Commission (“MPUC”) for the proposed Project and request comments for the Project. This notice is also required under Minn. Stat. § 216E.03, subd. 3a and 3b to allow each local unit of government within the proposed route area the opportunity to meet with Xcel Energy to discuss the Project prior to filing a Route Permit Application (“RPA”).

Description of the Project

A Project map is attached for your reference (see **Figure 1**). The Project location is further described in the following table.

Township	Range	Sections	Township Name	County
36N	31W	11, 12, 13, 14, 23, 24, 25, 36	Sauk Rapids	Benton
36N	30W	19, 30, 31	Minden	Benton

The Project generally consists of adding a new 115kV transmission line between the Mayhew Lake Substation and transmission Structure 39 and modifying existing transmission lines and substations as indicated in the attached **Figure 1**. Please note that Xcel Energy is in the process of evaluating siting/routing information and collecting comments and input, and that the proposed route location shown on the exhibit is preliminary and subject to change through this process.

The Project will require modifying Xcel Energy’s existing transmission lines 0887, 0899, and 0877 between the Benton County, St. Cloud and Granite City Substations, and adding a new

115kV line from Mayhew Lake Substation to transmission Structure 39, which will provide a second 115kV source to the Mayhew Lake Substation. The proposed new 115kV transmission line will extend approximately 5 miles south from Mayhew Lake Substation to transmission Structure 39, depending upon the final selected route.

More specifically, Xcel Energy proposes the following for the Project:

1. removing line 0887 jumper at transmission Structure 39 and possibly add a fiber optic ground wire to line 0887 from the St. Cloud Substation to the Granite City Substation;
2. disconnecting the existing line 0899 at transmission Structure 39;
3. installing a jumper to connect the above-described line 0899 segment from the Granite City Substation to transmission Structure 39, to line 0887 segment connecting to the Benton County Substation;
4. installing a new double-circuit structure near transmission Structure 39 and connect existing line 0899 segment to the new proposed 115kV line;
5. constructing approximately 5 miles of one new 115kV transmission line, structures and related facilities from the above-described new double-circuit structure to the Mayhew Lake Substation, that will connect the Mayhew Lake Substation and Benton County Substation;
6. installing fiber optic ground wire with the new 115kV line and the remaining segment of line 0899;
7. increasing the use of the Mayhew Lake Substation property to accommodate a new line termination and related equipment;
8. modifying associated substations to accommodate the above changes, which may include changing and/or adding new line termination equipment and/or a ring bus, adding transfer trip and pilot relaying, installing fiber optic lines for relaying and transfer trip, breakers, reconfiguring line protection, replacing shield wire with fiber optic shield wire, and related modifications; and,
9. changing line designations, terminals, breakers, relays, and line protection as a result of the above changes.

The Project area is located in primarily commercial/industrial, open, and agricultural land, and is anticipated to include a number of road and utility corridors. Some residential development is also located within the Project area.

Depending upon the final selected route, the Project may cross over several small waterbodies and wetlands and several roads. A portion of the proposed Project may be located within existing easements maintained by Xcel Energy, particularly in the southern portion of the Project area near transmission Structure 39 and along U.S. Highway 10. However, some new easement acquisition is anticipated. For new construction of structures and transmission line, Xcel Energy proposes a 400-foot-wide route corridor, 200 feet on either side of the proposed new line location.

Permitting Requirements

The proposed new 115 kV transmission line meets the definition of a High Voltage Transmission Line ("HVTL") under Minn. Rules Chapter 7850.1000, subp. 9. A Route Permit is required for the Project, for which Xcel Energy will apply. The Project qualifies for the Alternative

Permitting Process under Minn. Stat. § 216E.04, subd. 2(3) and pursuant to Minn. Rules Chapter 7850.2800 to 7850.3900 (see Minn. Rules Chapter 7850.2800, subp. 1(C)), which Xcel Energy may elect to use.

A Certificate of Need (“CON”) is not required for the Project because it is not classified as a large energy facility (“LEF”) under Minn. Stat. §§ 216B.243 and 216B.2421, subd. 2(3). While the Project is a HVTL with a capacity of 100 kV or more, it is not more than 10 miles long in Minnesota and it does not cross a state line. Therefore, Xcel Energy will not need to apply for a CON for the Project.

The Route Permit proceeding will determine where the proposed facilities will be located. As part of the permitting process, the MPUC considers input from the applicant utility, interested stakeholders, local government units, state and federal agencies, and landowners who may be affected by the Project. Xcel Energy plans to submit an application for a Route Permit for the Project to the MPUC within the next several months. Additional environmental review will occur during the routing process. The routing process will consider environmental, land use, and other potential routing impacts, and provide the opportunity for the public to comment.

Pursuant to Minn. Stat. § 216E.03, subd. 3b, you may request a pre-application consultation meeting regarding the proposed Project within 30 days of receiving this notice. Please review this information and provide comments, questions, or concerns you may have regarding the proposed Project, or if you would like to request a pre-application consultation meeting. I can be reached as follows:

Joseph Sedarski
Senior Permitting Analyst
Xcel Energy, Inc.
414 Nicollet Mall, MP8
Minneapolis, MN 55401
P: 612.330.6435 C: 612.816.5073 F: 612.573-1834
Email: joseph.g.sedarski@xcelenergy.com

Please contact me if you have any questions or comments regarding the Project or this notice.

Sincerely,

XCEL ENERGY, INC.



Joseph G. Sedarski
Senior Permitting Analyst

Enc. Figure 1

cc: Brian Mielke, Xcel Energy

Appendix C.3
City of St. Cloud Response

Xcel response

-----Original Message-----

From: Sedarski, Joseph G
Sent: Tuesday, July 06, 2010 10:26 AM
To: 'Matt Glaesman'
Cc: STEVEN FOSS; Mi el ke, Bri an D; Young, Karen E; Dunham, Mi chael P
Subject: RE: St. Cl oud Loop/Sauk Rapi ds Transmi ssi on Project

Matt,

Thanks for your comments and information regarding this project. We appreciate the review comments and will make sure to consider them in the PUC Site Permit Application and PUC/OES permit process.

Should you have any questions later on, please feel free to contact me.

Best Regards,
Joe

Joe Sedarski
Xcel Energy | Responsible By Nature
Senior Permitting Analyst
414 Nicollet Mall, MP8, Minneapolis, MN 55401
P: 612.330.6435 C: 612.816.5073 F: 612.573-1834
E: joseph.g.sedarski@xcelenergy.com

XCELENERGY.COM

Please consider the environment before printing this email

-----Original Message-----

From: Matt Glaesman [mailto:Matt.Glaesman@ci.stcloud.mn.us]
Sent: Tuesday, July 06, 2010 9:03 AM
To: Sedarski, Joseph G
Cc: STEVEN FOSS; Mi el ke, Bri an D; Young, Karen E; Dunham, Mi chael P
Subject: Re: St. Cl oud Loop/Sauk Rapi ds Transmi ssi on Project

Joe,

I appreciate the opportunity to review the proposed route in advance of the upcoming process. I have copied this information to Steve Foss, City Engineer, for his information and comment as well.

I have attached two maps for your information.

First, I have attached an image of Xcel's general route overlaid upon the City of St. Cloud's Future Land Use Map for the existing municipal boundaries, as well as the Minden Township Orderly Annexation Area. The proposed route extends through St. Cloud's planning area for a limited stretch south and north of TH23. The section south of TH23 is guided for open space given the amount of wetlands and natural features along the existing transmission alignment. The section north of TH23 in St. Cloud's growth area abuts Xcel's substation and is consequently guided for industrial uses. The City of St. Cloud Planning & Zoning Department serves as staff to the Minden Orderly Annexation Area Planning Board.

Second, I have attached a map depicting the NWI, Minnesota County Biological Survey, and St. Cloud's environmentally sensitive areas (ESA) inventory. Neither the MCBS or St. Cloud's ESA are impacted by the proposed route through St. Cloud's growth area. There may be wetland issues, as I suspect there may have been with the original installation of the existing lines through the area. Benton County Department of Development is the wetland LGU for the Minden Orderly Annexation Area and those portions of the City of St. Cloud in

Page 1

Xcel response

Benton County.

Thanks again for the opportunity to review the maps.

Matt

Matt Glaesman, AICP
Community Development/Planning Director
City of St. Cloud
400 2nd Street South
St. Cloud, Minnesota 56301
Direct 320-650-3110
Fax 320-255-7258

>>> "Sedarski, Joseph G" <Joseph.G.Sedarski@xcel energy.com> 7/1/2010 3:59 PM
>>>
Hi Matt,

I am writing to follow up a discussion you had with Karen Young regarding the above project. Also, if you would like to meet to further discuss the project, we would be happy to do that.

Xcel is planning to install a new 115 kV transmission line extending from the Mayhew Lake Substation (on CSAH 29) to transmission Structure 39 located southeast of the Granite City Substation. The preliminary route is indicated on the attached Figure 1 and essentially follows road and utility corridors. Last Monday we met with Benton County and Sauk Rapids representatives in Sauk Rapids to discuss the project. We also handed the materials attached to this email.

Please let us know if you have any questions regarding the project, if the preliminary route would impact any planned or future development in the area and any other issues regarding this matter. Xcel will file a Route Permit Application with the Minnesota Public Utilities Commission (PUC) late summer/early fall. Under Minnesota Statutes 216E.10, no other local approvals are required for the project. However, we would like your comments and questions regarding the project, and there will be various opportunities for the City of St. Cloud to be involved in this permit process. I am also attaching a copy of PUC alternative permitting process for your use. We hope to obtain the Route Permit from the PUC in April or May of next year.

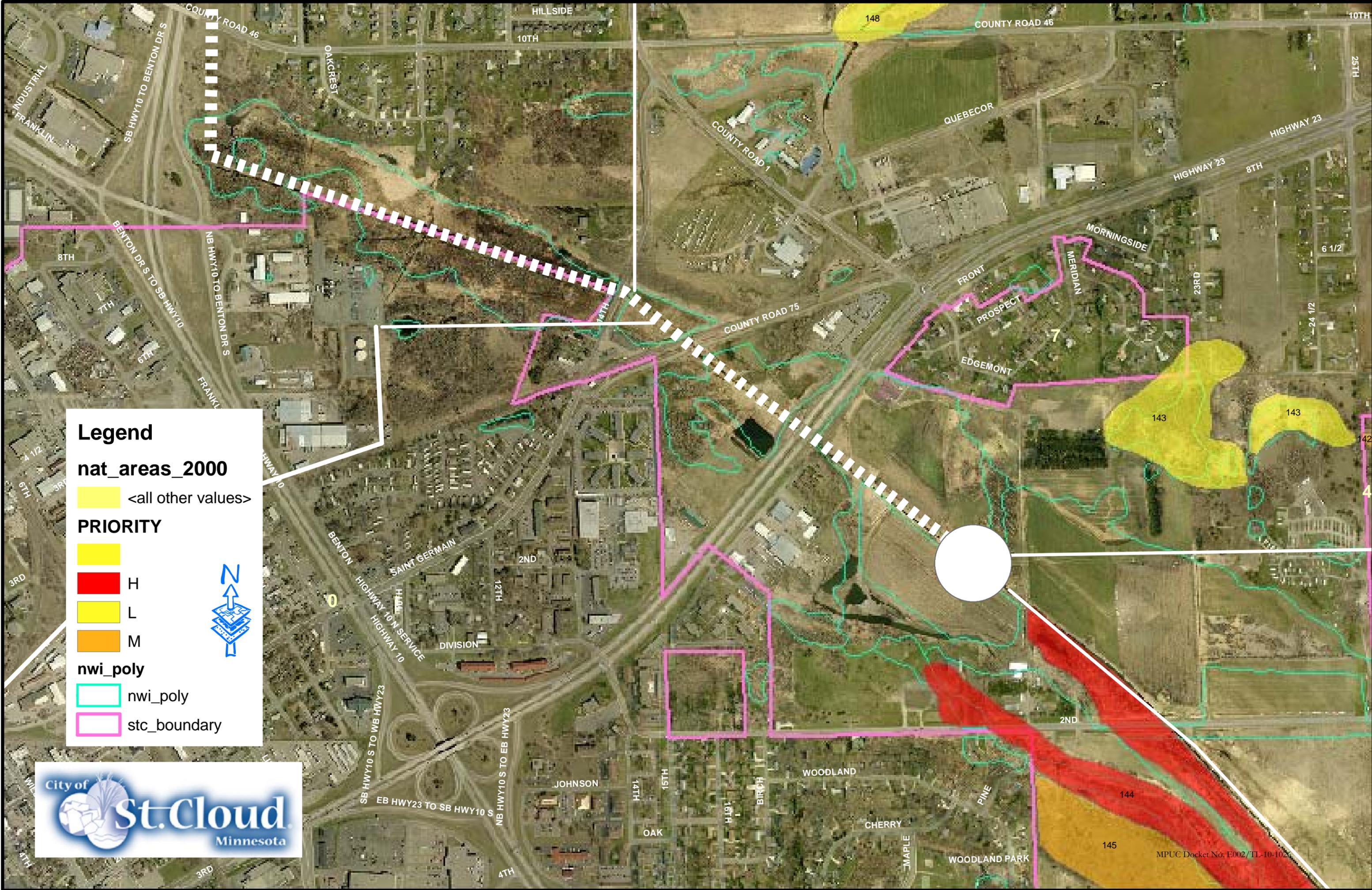
In late July we are planning to hold a public information meeting in the project area. We will let you know when that gets set up, the time and place. If you have any questions in the meantime, please feel free to contact either Karen Young, Brian Mielke, Xcel Land Agent at 612-330-7946 or me at the number below.

Best Regards,
Joe

Joe Sedarski
Xcel Energy | Responsible By Nature
Senior Permitting Analyst
414 Nicollet Mall, MP8, Minneapolis, MN 55401
P: 612.330.6435 C: 612.816.5073 F: 612.573-1834
E: joseph.g.sedarski@xcel energy.com<mailto:joseph.g.sedarski@xcel energy.com>

<blocked: : blocked: : http://www.xcel energy.com/>XCELENERGY.COM<http://www.xcel energy.com/>

Please consider the environment before printing this email



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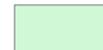
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 PUB

 Water



Appendix C.4
Benton County Response

FW Proposed Transmission Line St. Cloud Loop

-----Original Message-----

From: Sedarski, Joseph G
Sent: Thursday, July 15, 2010 4:18 PM
To: 'Mark McNamara'
Cc: Mielke, Brian D; Dunham, Michael P
Subject: RE: Proposed Transmission Line St. Cloud Loop

Hi Mark,

Thanks for your response. We are pretty early on in the design process, but here are some answers:

1. We are proposing new overhead lines, and very similar to the existing. Wood poles are proposed on the single circuit sections, steel poles may possibly be used at any double circuit sections.
2. We may need to expand the Mayhew Lake Substation, which will depend on how the new line enters/leaves this substation. No expansion is planned for the others.
3. We may be crossing/impacting wetlands and small streams. No other permanent impacts are anticipated, except for structure locations (there will be temporary impacts as we access and get things put in). To the extent possible, we will work to minimize any temporary or permanent impacts.

Note that Xcel will be holding a public information meeting on August 3, 2010 from 4-7 pm at the Sauk Rapids Municipal Park Pavilion located at 1001 River Avenue North, Sauk Rapids, MN 56379, which you are welcome to attend. We could meet with you before that meeting on August 3, say around 2 pm or so since we will be up there then. Otherwise, if you want to meet with the TEP, I could attend the 10 am meeting on Monday July 26th.

Thanks again for your comments and look forward to meeting you soon.

Best Regards,
Joe

Joe Sedarski
Xcel Energy | Responsible By Nature
Senior Permitting Analyst
414 Nicolet Mall, MP8, Minneapolis, MN 55401
P: 612.330.6435 C: 612.816.5073 F: 612.573-1834
E: joseph.g.sedarski@xcelenergy.com

XCELENERGY.COM

Please consider the environment before printing this email

-----Original Message-----

From: Mark McNamara [mailto:mark.mcnamara@co.benton.mn.us]
Sent: Thursday, July 15, 2010 3:14 PM
To: Sedarski, Joseph G
Subject: Proposed Transmission Line St. Cloud Loop

Joseph hi, I am in receipt of your notice for the above-mentioned project and I do have a couple of questions and am seeking clarification.

1. Is the proposed new line overhead, similar to existing line?
2. Is any expansion of the footprint of the substations proposed?
3. In reviewing the proposed route it does appear that some wetland and small

FW Proposed Transmission Line St. Cloud Loop
stream areas will be impacted/crossed; do you anticipate any accesses or other permanent wetland impacts? I would if possible like to meet with you to discuss this project. The week of July 19th is poor for me I am at meetings and trainings all week, however the following week of the 26th can work, or typically Benton County has a Technical Evaluation Panel meeting the first Mondays of the Month at the courthouse in Benton County usually starting around 10:00 a.m. We could arrange to meet with the TEP that day. Look forward to hearing from you

Sincerely,
Mark McNamara
Program Lead/Wetlands Solid Waste
320-968-5074

Appendix C.5
Benton County Board of Commissioners Resolution

BENTON COUNTY BOARD OF COMMISSIONERS
RESOLUTION # 2011-#1

“A Resolution Supporting an Alternate Route as Proposed by the City of Sauk Rapids for a New Xcel Energy Power Transmission Line Known as “St. Cloud Loop BEN-MHW Project”

WHEREAS, Xcel Energy has proposed a new power transmission line known as the “St. Cloud Loop BEN-MHW Project” that will run through parts of the City of Sauk Rapids and the Townships of Minden and Sauk Rapids; and

WHEREAS, the proposed route will generally follow Benton County State-Aid Highway 29 and Trunk Highway 10; and

WHEREAS, the City of Sauk Rapids has proposed an alternate route in the vicinity of the interchange of Benton County Highway 29 and Trunk Highway 10; and

WHEREAS, the City of Sauk Rapids has proposed this alternative route so that the development potential of land near this highway interchange can be preserved and not negatively affected by new power transmission lines and poles; and

WHEREAS, the City of Sauk Rapids owns land on which the proposed alternate route may travel and has indicated by Resolution its willingness to sell land to Xcel Energy to make this alternate route more economically attractive to Xcel Energy; and

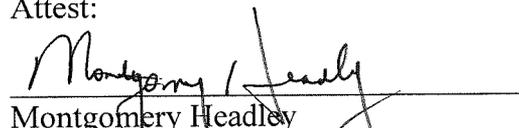
WHEREAS, the Benton County Board of Commissioners supports the City’s proposed alternative route and agrees that all reasonable steps should be taken to preserve the highest development potential of land in Benton County.

NOW THEREFORE, BE IT RESOLVED that the Benton County Board of Commissioners does hereby endorse the alternative route for the St. Cloud Loop BEN-MHW Project as proposed by the City of Sauk Rapids and urges Xcel Energy to incorporate this alternative into its final plan for this project.

Approved this 15th day of February, 2011


Spencer Buerkle
Board Chair

Attest:


Montgomery Headley
County Administrator

Appendix C.6
City of Sauk Rapids Resolution

RESOLUTION NO. 2010-103

**A RESOLUTION REGARDING A PROPOSED TRANSMISSION LINE IN
AND AROUND THE CITY OF SAUK RAPIDS**

WHEREAS, Xcel energy proposes to construct a 5-7 mile long transmission line in Sauk Rapids and Minden and Sauk Rapids Townships; and

WHEREAS, the proposed transmission line is located near Highway 10 and Benton County State Aid Highways 3 and 29; and

WHEREAS, the proposed transmission line is needed to improve the reliability of service to customers in and around the City of Sauk Rapids according to Xcel energy; and

WHEREAS, after City review of Xcel's proposed and alternate routes, the City is concerned about the long term impact of the proposed route on the economic viability of property along the route; and

WHEREAS, after City review of Xcel's proposed and alternate routes, the City believes that there is a better alternative than the routes that have been proposed by Xcel energy, in the area of Benton County State Aid Highway 29 that will not place additional economic burden on Xcel energy; and

WHEREAS, the City owns land along the City proposed route currently operating as the City compost facility that the City believes would be a better location for the transmission lines than the prime commercial property on the corner of Highway 10 and Benton County State Aid 29; and

WHEREAS, the City is a willing seller of potential right of way along the compost site; and

WHEREAS, the value of the City land on the City route should be significantly less expensive than the route currently proposed by Xcel due to its lack of Highway access; and

WHEREAS, because the City proposed route is no longer than the Xcel preferred route, the City proposed route should be less expensive than the Xcel preferred route, and

WHEREAS, the City has partnered with Benton County and Independent School District 47 on the future reconstruction of Benton County Stated Aid Highway 3 that will result in the movement of right of way lines for both Benton County Stated Aid Highway 3 and Trunk Highway 10, and

WHEREAS, because this roadway is currently being designed, the proposed Xcel route could result in unnecessary public expense if the new poles need to be relocated due to the future reconstruction of Benton County Stated Aid Highway 3, and

WHEREAS, the City Planning Commission at its regular meeting on September 6, 2010, considered the proposed project and recommended an alternative route to the City Council; and

WHEREAS, the City Council at its regular meeting on October 12, 2010 considered the Planning Commission recommendation and after careful review directed staff to notify Xcel energy and the Minnesota Public Facility Authority of the City's concerns and the City's proposed route:

NOW THEREFORE BE IT RESOLVED BY THE CITY OF SAUK RAPIDS:

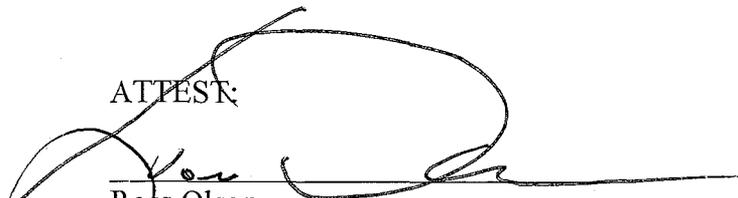
1. The City of Sauk Rapids requests that the proposed Xcel Energy transmission line route be modified to be consistent with the attached map due to the City's belief that its proposed route will place less burden on private property owners while maintaining the future economic potential of the Highway 10 and County State Aid 29 corridor while reducing the overall cost of the transmission line project.
2. The City also requests that Xcel Energy work with the Benton County Engineer on the placement of the proposed lines near the East ramp of Highway 10 on County State Aid 3 so that poles will not need to be relocated when the County, City, and School District reconstruct County State Aid 3 in the near future.

Adopted this 12th day of October, 2010.

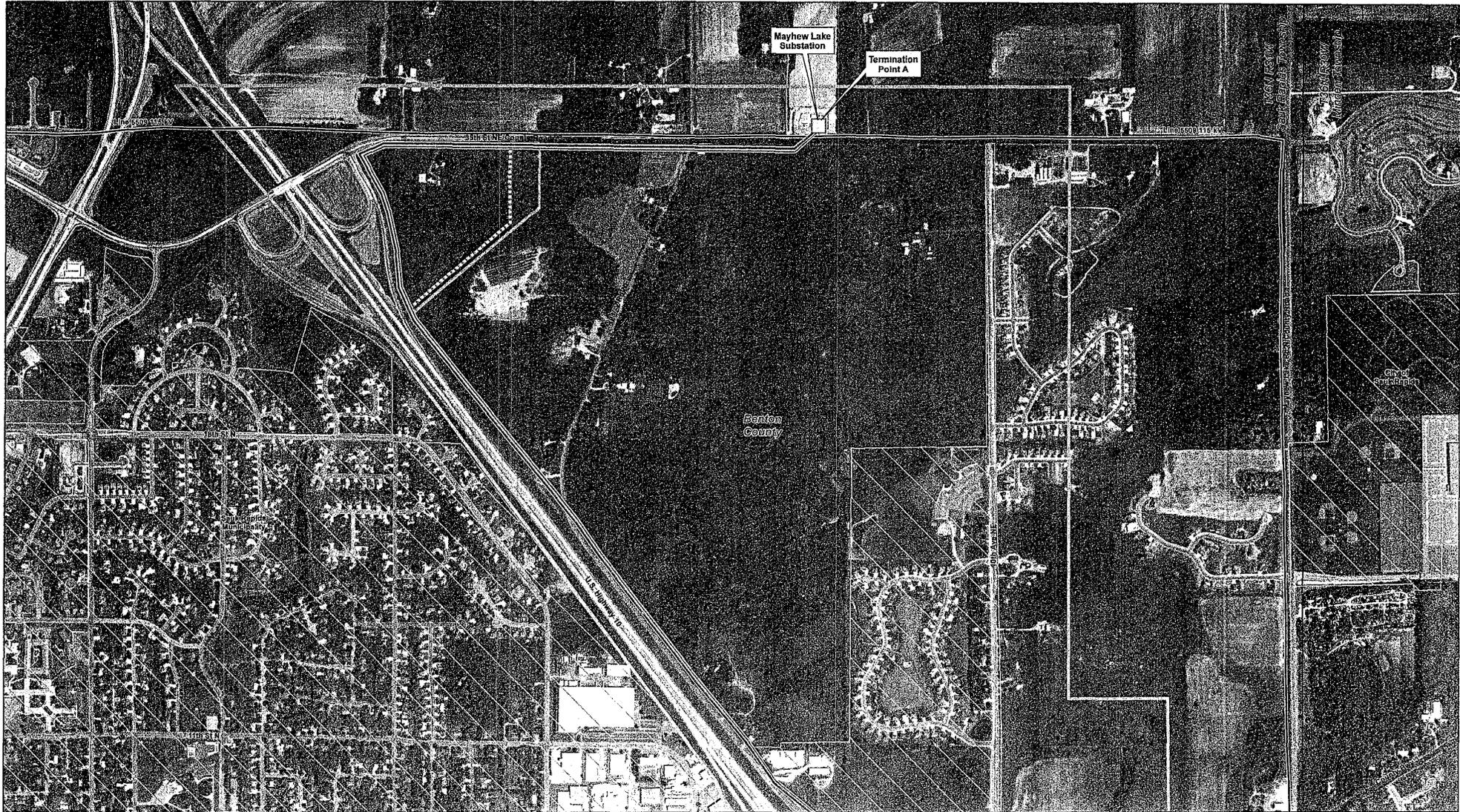


Mark Campbell, Mayor

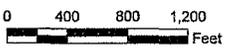
ATTEST:



Ross Olson
City Administrator-Clerk



- | | | |
|--------------------------|--|-----------------------------|
| Foreign Owned Substation | Preferred Route | Project Area |
| Xcel Energy Substation | Alternative Route | Saint Cloud Municipality |
| Structure 39 | Segment A Alternative | Sauk Rapids Municipality |
| | Existing Xcel Energy Transmission Line | County |
| | | Township and Range Boundary |



Saint Cloud Loop BEN-MHW Project
Mayhew Lake Substation to Structure 39
 Benton County, Minnesota

City's preferred route



Appendix C.7
List of Agencies Concerning Requests for Comments on Project

Table C.7 identifies other interested parties and agencies contacted on June 29, 2010 regarding the proposed Project. The letter included in the proceeding pages is representative of the letter that was sent to each person listed below.

TABLE C.7							
Other Interested Parties and Agencies Contacted							
Agency	Contact Name	Title	Address 1	City	State	Zip	Date Initial Letter Sent
Benton County Historical Society	Mary Ostby	Executive Director	218 1st St. N., P.O. Box 426	Sauk Rapids	MN	56379	6/29/2010
Minnesota Department of Agriculture	Gene Hugoson	Commissioner	625 Robert Street North	St. Paul	MN	55155-2538	6/29/2010
Minnesota Department of Natural Resources - District 12	Dave Schottenbauer c/o: Central Region 3	Benton County, District 12 Manager, c/o: Central Region 3	1200 Warner Rd.	St. Paul	MN	55106	6/29/2010
Minnesota Department of Natural Resources - Division of Waters	Dan Lais	Region 3 Manager	940 Industrial Dr. So. #103	Sauk Rapids	MN	56379	6/29/2010
Minnesota Department of Natural Resources - Sauk Rapids Area Office	Fred Bengtson	Area Wildlife Manager	940 Industrial Drive S.	Sauk Rapids	MN	56379	6/29/2010
Minnesota Department of Transportation - District 3	Bob Busch	District Engineer	7694 Industrial Park Rd.	Baxter	MN	56425-8096	6/29/2010
Minnesota Pollution Control Agency	Susan Heffron	Environmental Review Coordinator	520 Lafayette Road	St. Paul	MN	55155-4194	6/29/2010
Minnesota Public Utilities Commission	Dr. Burl Haar	Executive Secretary	127 7th Place East, Suite 350	St. Paul	MN	55101-2147	6/29/2010
St. Cloud Regional Airport	William Towle	Airport Director	1550 45th Ave. SE, Suite One	St. Cloud	MN	56304	6/29/2010
U.S. Army Corps of Engineers - St. Paul District - Benton County	Tom Hingsberger	County Project Manager	190 5th Street E., Suite 401	St. Paul	MN	55101-1638	6/29/2010
U.S. Fish and Wildlife Service - Minnesota	Tony Sullins	Field Supervisor	4101 Amercian Boulevard E.	Bloomington	MN	55425	6/29/2010

The following is an example letter that is representative of the documentation that was sent to each person listed in Table C.7.

June 29, 2010

Mary Ostby
Executive Director
Benton County Historical Society
218 1st St. N., P.O. Box 426
Sauk Rapids, MN 56379

**Re: Request for Comments on Transmission Project
St. Cloud Loop BEN-MHW Project
Xcel Energy, Inc. / Northern States Power Company**

Dear Mary Ostby:

Xcel Energy, Inc. (“Xcel Energy”) proposes to construct an approximate 5-mile-long, 115 kilovolt (“kV”) transmission line in Sauk Rapids located east of Highway 10 in Sauk Rapids and Minden Townships, Benton County, Minnesota. This project is referred to as the St. Cloud Loop BEN-MHW Project (“Project”). The Project is needed to provide a second source of power to the Mayhew Lake Substation (“MHW”) and associated loads, and to ensure reliable and stable electric service in the Sauk Rapids - St. Cloud area.

The purpose of this letter is to provide you notice of Xcel Energy’s plan to obtain a Route Permit from the Minnesota Public Utilities Commission (“MPUC”) for the proposed Project. We request your questions or comments regarding the Project prior to filing a Route Permit Application (“RPA”) with the MPUC.

Description of the Project

A Project map is attached for your reference (see **Figure 1**). The Project location is further described in the following table.

Township	Range	Sections	Township Name	County
36N	31W	11, 12, 13, 14, 23, 24, 25, 36	Sauk Rapids	Benton
36N	30W	19, 30, 31	Minden	Benton

The Project generally consists of adding a new 115kV transmission line between the Mayhew Lake Substation and transmission Structure 39 and modifying existing transmission lines and substations as indicated in the attached **Figure 1**. Please note that Xcel Energy is in the process of evaluating siting/routing information and collecting comments and input, and that the proposed route location shown on the exhibit is preliminary and subject to change through this process.

The Project will require modifying Xcel Energy’s existing transmission lines 0887, 0899, and 0877 between the Benton County, St. Cloud and Granite City Substations, and adding a new 115kV line from Mayhew Lake Substation to transmission Structure 39, which will provide a second 115kV source to the Mayhew Lake Substation. The proposed new 115kV transmission

line will extend approximately 5 miles south from Mayhew Lake Substation to transmission Structure 39, depending upon the final selected route.

More specifically, Xcel Energy proposes the following for the Project:

1. removing line 0887 jumper at transmission Structure 39 and possibly add a fiber optic ground wire to line 0887 from the St. Cloud Substation to the Granite City Substation;
2. disconnecting the existing line 0899 at transmission Structure 39;
3. installing a jumper to connect the above-described line 0899 segment from the Granite City Substation to transmission Structure 39, to line 0887 segment connecting to the Benton County Substation;
4. installing a new double-circuit structure near transmission Structure 39 and connect existing line 0899 segment to the new proposed 115kV line;
5. constructing approximately 5 miles of one new 115kV transmission line, structures and related facilities from the above-described new double-circuit structure to the Mayhew Lake Substation, that will connect the Mayhew Lake Substation and Benton County Substation;
6. installing fiber optic ground wire with the new 115kV line and the remaining segment of line 0899;
7. increasing the use of the Mayhew Lake Substation property to accommodate a new line termination and related equipment;
8. modifying associated substations to accommodate the above changes, which may include changing and/or adding new line termination equipment and/or a ring bus, adding transfer trip and pilot relaying, installing fiber optic lines for relaying and transfer trip, breakers, reconfiguring line protection, replacing shield wire with fiber optic shield wire, and related modifications; and,
9. changing line designations, terminals, breakers, relays, and line protection as a result of the above changes.

The Project area is located in primarily commercial/industrial, open, and agricultural land, and is anticipated to include a number of road and utility corridors. Some residential development is also located within the Project area.

Depending upon the final selected route, the Project may cross over several small waterbodies and wetlands and several roads. A portion of the proposed Project may be located within existing easements maintained by Xcel Energy, particularly in the southern portion of the Project area near transmission Structure 39 and along U.S. Highway 10. However, some new easement acquisition is anticipated. For new construction of structures and transmission line, Xcel Energy proposes a 400-foot-wide route corridor, 200 feet on either side of the proposed new line location.

Permitting Requirements

The proposed new 115kV transmission line meets the definition of a High Voltage Transmission Line (“HVTL”) under Minn. Rules Chapter 7850.1000, subp. 9. A Route Permit is required for the Project, for which Xcel Energy will apply. The Project qualifies for the Alternative Permitting Process under Minn. Stat. § 216E.04, subd. 2(3) and pursuant to Minn. Rules Chapter

7850.2800 to 7850.3900 (see Minn. Rules Chapter 7850.2800, subp. 1(C)), which Xcel Energy may elect to use.

A Certificate of Need (“CON”) is not required for the Project because it is not classified as a large energy facility (“LEF”) under Minn. Stat. §§ 216B.243 and 216B.2421, subd. 2(3). While the Project is a HVTL with a capacity of 100 kV or more, it is not more than 10 miles long in Minnesota and it does not cross a state line. Therefore, Xcel Energy will not need to apply for a CON for the Project.

The Route Permit proceeding will determine where the proposed facilities will be located. As part of the permitting process, the MPUC considers input from the applicant utility, interested stakeholders, local government units, state and federal agencies, and landowners who may be affected by the Project. Xcel Energy plans to file a Route Permit Application for the Project with the MPUC within the next several months. Additional environmental review will occur during the routing and permitting processes. The routing and permitting processes will consider environmental, land use, and other potential routing impacts, and provide the opportunity for the public to comment.

Please review this information and provide comments, questions, or concerns you may have regarding the proposed Project within 30 days of receipt of this letter. I can be reached as follows:

Joseph Sedarski
Senior Permitting Analyst
Xcel Energy, Inc.
414 Nicollet Mall, MP8
Minneapolis, MN 55401
P: 612.330.6435 C: 612.816.5073 F: 612.573.1834
Email: joseph.g.sedarski@xcelenergy.com

We appreciate your assistance with this matter. Please contact me if you have any other questions regarding the Project.

Sincerely,

XCEL ENERGY, INC.

Joseph G. Sedarski
Senior Permitting Analyst

Enc. Figure 1

cc: Brian Mielke, Xcel Energy

Appendix C.8
MnDOT Response



Minnesota Department of Transportation

District 3
3725 12th Street North
Saint Cloud, MN 56303

Tel: 320-223-6500
Fax: 320-223-6580
Toll Free: 1-800-657-3961

2010-07-14/2010

Date: July 13, 2010

Joseph Sedarski
Senior Permitting Analyst
Xcel Energy, Inc.
414 Nicollet Mall, MP8
Minneapolis, MN 55401

RE: Trunk Highway 10. C.S. 0502
St. Cloud Loop BEN-MHW Project

Dear Mr. Sedarski:

Bob Busch has asked me to reply to your letter dated June 29, 2010. In that letter, you requested comments on a proposed 115 kV transmission line that would roughly parallel Trunk Highway (TH) 10 from Benton County State Aid Highway (CSAH) 29 to Benton Drive.

Mn/DOT District 3 has two comments on the proposed route. The first has to do with a proposed interchange upgrade at the Benton CSAH 3 (Golden Spike Road) interchange. The City of Sauk Rapids and Benton County are considering revising the interchange on the east side of TH 10 to include a loop ramp. Such a design would require the transmission line to be relocated further to the east at the interchange. Please contact Benton County and the City of Sauk Rapids for information on the proposed changes.

The second issue has to do with the interchange at Benton Drive. Mn/DOT's long range plan for TH 10 calls for a loop ramp at this location also. This could affect the location of line at the south end where it would bend to go east. Please contact me if you would need additional information on the proposed Benton Drive interchange.

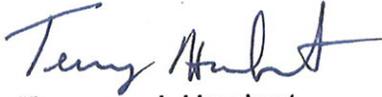
Please consider the future interchange design at these locations to prevent relocation of the transmission lines in the future.

An Equal Opportunity Employer



If you have any questions, please feel free to contact me.

Sincerely,



Terrence J. Humbert
Project Development Engineer

cc: Robert Busch

An Equal Opportunity Employer



Appendix C.9
MnDNR Response

Minnesota Department of Natural Resources

Division of Ecological Resources
940 Industrial Drive South, Suite 103
Sauk Rapids, Minnesota 56379



July 28, 2010

Mr. Joseph G. Sedarski
Xcel Energy Inc.
414 Nicollet Mall
Minneapolis, Minnesota 55401-1993

Dear Mr. Sedarski:

The Minnesota Department of Natural Resources has reviewed your letter of June 29, 2010, requesting comments on a proposed new 5-mile 115-kV transmission line between the Mayhew Lake substation and the Granite City substation that would generally parallel U.S. Highway 10 on the east side, in Sauk Rapids. We offer the following comments for your consideration.

The identified route is acceptable from our perspective. The route traverses generally open areas, with the exception of a wetland area and wooded swale in the northeast quadrant of the Highway 10/Benton Drive interchange. Existing lines there occur in a narrow corridor cleared of trees; the new line could result in substantive tree clearing, or depending on its placement, generally avoid trees if routed over a Type 2 (lowland grass) wetland. The plant communities have not been mapped as MCBS natural communities or areas of biological diversity, but they have been identified as important green space in Sauk Rapids' natural resource plan (in preparation) and it appears it will rank high as a diverse wetland community in their wetland resource identification plan (also pending). This wooded swale is also known to be periodically used by a pair of red-tailed hawks. Therefore we recommend that the route selected through this area avoid as much vegetation clearing as possible, and that potential alignments are presented to us for review and comment. Vegetation clearing should occur outside of the migratory bird nesting season, which generally runs from April through July.

Wooded wet swales occur north and south of Golden Spike Road at the Highway 10 interchange. These swales are part of an important wetland corridor and provide the only contiguous tree cover in the immediate area. We recommend the powerline be sited to avoid requiring tree and shrub removal in these wetland swales.

American kestrels occur along Highway 10, particularly between Benton Drive and Golden Spike Road. Kestrel populations have declined at an average rate of 1.28% per year in Minnesota from 1966-2006 according to the federal Breeding Bird Survey. Kestrels nest in natural cavities in trees and in boxes erected by humans. If the company

is amenable to it, we recommend that kestrel nest boxes be attached to power poles at a rate of 1 every ½ mile.

The project is close to the Mississippi River which is a major migratory bird corridor. Three species of particular concern for us are trumpeter swans, Canada geese, and sandhill cranes. Trumpeter swans are a state-listed threatened species that overwinters on the Mississippi in large numbers in Monticello, in small numbers in the St. Cloud-Sauk Rapids area, and in large numbers in the Ottertail River/Fergus Falls area. Wintering trumpeter swans move between these areas, and often fly out to surrounding fields to feed. Large numbers of Canada geese also winter in the St. Cloud area and regularly fly out to surrounding fields to feed. Many of the Canada goose flights occur near sunrise and sunset when visibility is reduced. Numerous sandhill cranes nest in Watab, Sauk Rapids, and Minden townships. Newly fledged young are not as agile or maneuverable as are adults, and even adult cranes are prone to collisions with powerlines. Therefore, we recommend that swan diverts be incorporated approximately every 25 feet along the route, and staggered between lines (assuming there will be multiple lines).

Thank you for the opportunity to comment on the proposed project. If you have additional questions, I may be reached at 320-255-4279 ext. 235.

Sincerely,



Michael R. North
Regional Environmental Assessment Ecologist

Enclosure
ERDB 20110026

Cc: Eric Altena, Tim Bremicker, Beau Liddell, Jan Wolff (DNR)