

Appendix A
Agency Correspondence

Strohfus, Mark GRE/ER

From: Schmidt, Carole GRE/ER
Sent: Tuesday, December 14, 2004 2:17 PM
To: 'sarah.hoffmann@dnr.state.mn.us'
Cc: 'jlee@barr.com'; 'jefflee@barr.com'; 'jmason@barr.com'
Subject: Heritage Database request

Dear Ms. Hoffmann:

Great River Energy (GRE) is proposing to construct a 170-megawatt natural gas-fired combustion turbine at our existing Cambridge Station located at 2438 349th Avenue NE, Cambridge Township, Isanti County, Minnesota. In addition to construction of the combustion turbine, the project will require rebuilding sections of three existing transmission lines to accommodate the output from the new turbine.

Please find attached the following documents:

- a completed Minnesota Natural Heritage Information System Data Request form (GRE Cambridge MHIS Request.pdf),
- a comma-delimited list of the Township, Range and Section numbers for areas involved in the project (Natural Heritage Request Sections.doc), and
- a map showing the site and existing transmission lines that will require upgrades (transmissionjtl2.PDF)

This project will require federal environmental review (for the Rural Utilities Service, GRE's funding agency) and a Site Permit from the Minnesota Environmental Quality Board. Both the federal and state processes require that we compile information on known natural heritage resources that may be affected by the project.

GRE has retained Barr Engineering to assist with preparation of the Environmental Assessment and permit applications. If any of the data generated by this request are sent electronically, we ask that you copy those who are copied on this e-mail.

Thank you for your assistance on this project. If you have any questions about the data request or the project in general, please feel free to contact me.

Sincerely,

GREAT RIVER ENERGY

Carole Schmidt
Environmental Scientist
Great River Energy
17845 East Hwy 10
PO Box 800
Elk River, MN 55330-0800
Office: 763-241-2272
Fax: 763-241-6072
cschmidt@GREnergy.com



Natural
age Request se



transmission
jtl2.PDF (70 KB)



GRE Cambridge
HIS Request.pdf

SEE EMAIL ARCHIVES

SCCT (Env Review)

Schmidt, Carole GRE/ER

From: Cinadr, Thomas [thomas.cinadr@mnhs.org]
Sent: Friday, December 17, 2004 12:08 PM
To: Schmidt, Carole GRE/ER
Subject: RE Database Search

Carole,

I had to split your search into two parts because of its length. The reports with the results are attached.

Archaeological sites and historic properties were identified in a search of the Minnesota Archaeological Inventory and Historic Structures Inventory for the search area requested. Reports containing the results of the search are attached.

The result of this database search provides a listing of recorded archaeological sites and historic architectural properties that are included in the current SHPO databases. Because the majority of archaeological sites in the state and many historic architectural properties have not been recorded, important sites or structures may exist within the search area and may be affected by development projects within that area. Additional research, including field survey, may be necessary to adequately assess the area's potential to contain historic properties.

With regard to Environmental Assessment Worksheets (EAW), a negative known site/structure response from the SHPO databases is not necessarily appropriate information on which to base a "No" response to EAW Question 25a. It is the Responsible Governmental Unit's (RGU) obligation to verify the accuracy of the information contained within the EAW. A "No" response to Question 25a without written justification should be carefully considered.

If you require a comprehensive assessment of a project's potential to impact archaeological sites or historic architectural properties, you may need to hire a qualified archaeologist and/or historian. Please contact the SHPO by phone at 651-296-5462 or by email at mnshpo@mnhs.org for current lists of professional consultants in these fields.

Tom Cinadr
Survey and Information Management Coordinator
Minnesota State Historic Preservation Office
Minnesota Historical Society
345 Kellogg Blvd. West
St Paul, MN 55102

651-205-4197 (voice)
651-282-2374 (fax)

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

From: Schmidt, Carole GRE/ER [mailto:cschmidt@GREnergy.com]
Sent: Tuesday, December 14, 2004 2:23 PM
To: Cinadr, Thomas

Cc: jlee@barr.com; jefflee@barr.com; jmason@barr.com
Subject: Database Search

Dear Mr. Cinadr:

Great River Energy (GRE) is proposing to construct a 170-megawatt natural gas-fired combustion turbine at our existing Cambridge Station located at 2438 349th Avenue NE, Cambridge Township, Isanti County, Minnesota. In addition to construction of the combustion turbine, the project will require rebuilding sections of three existing transmission lines to accommodate the output from the new turbine.

This project will require federal environmental review (for the Rural Utilities Service, GRE's funding agency) and a Site Permit from the Minnesota Environmental Quality Board. Both the federal and state processes require that we compile information on known historic resources that may be affected by the project.

GRE would like to request a Historic and Architectural Inventory database search for the project site and transmission lines. Township, range and section numbers for the plant site, the adjoining buffer area of approximately one mile in all directions, and the transmission line corridors are listed below.

Cambridge Peaking Plant - Isanti County

Township (N)	Range (W)	Sections
33	23	4-6
34	23	3-5, 8-10,16,17,20,21,28,29,31-33
35	23	3,4,9,10,15,16,21,22,27,28,33,34
36	23	1-4,9-17,21-23,27,28,33,34
36	22	1,4-9,17,18
37	22	25-29,32-36
37	21	15-22,29-32
37	23	1-3,10,11,14,15,22,23,26-28,33-35
38	23	1,11-14,23-26,34-36
38	22	5-7,18,19,30

GRE has retained Barr Engineering to assist with preparation of the Environmental Assessment and permit applications. If any of the data generated by this request are sent electronically, we ask that you copy those who are copied on this e-mail.

Thank you for your assistance on this project. If you have any questions about the data request or the project in general, please feel free to contact me.

Sincerely,

GREAT RIVER ENERGY

Carole Schmidt
Environmental Scientist
Great River Energy
17845 East Hwy 10
PO Box 800
Elk River, MN 55330-0800
Office: 763-241-2272
Fax: 763-241-6072
cschmidt@GREnergy.com

Archaeological Site Locations

Site Number	Site Name	Twp.	Range	Sec.	Quarter Sections	Acres	Phase	Site Description	Traditio	Context	Reports	NR	CEF	DOE
County: Chisago														
21CH0018	Rush Lake I (contains 21CH22)	37	22	25	NE-NW-SW,NW-N E-SW,W-SE-NW,E- SW-NW	20	1	EW, AS	W-1					
	Rush Lake I (contains 21CH22)	37	22	25	NE-NW-SW,NW-N E-SW,W-SE-NW,E- SW-NW	20	1	EW, AS	W-1					
21CH0022	Mell (withm 21CH18)	37	22	25	NE-SE-SW-NW	1	1	EW, AS	W-1					
21CH0038	Christenson	36	22	5	N-SE	30	5	AS	PL-2, A-1, MW-1					
21CH0039	Rush Creek	37	21	20	SW-NE-SE	1	1	LS						
21CH0040	Rumpel	37	21	20	NE-NE-SE	1	1	LS						
21CH0075		37	21	20	SE-SE-NE	0.1	1	SA						
21CH0086	Myrbacken	37	22	26	N-NE	10	5	AS	A-2,					
County: Isanti														
21IA0004		35	23	5	E-NE-SE-SE	0.5	1	EW	W-2					
21IA0047		34	23	21	S-NW-NE-NE	0.1	1	SA						
21IA0057	Lindberg	36	23	33	SW-NW-SW-NE	0.5	1	AS	W-2		THY-72-01			
	Lindberg	36	23	33	SW-NW-SW-NE	0.5	1	AS	W-2		THY-73-01			
	Lindberg	36	23	33	SW-NW-SW-NE	0.5	1	AS	W-2		THY-76-01			
21IA0070		35	23	4	SW-SW-NW	0.1	1	SA						
21IAe	Swede Mill	37	23	35	C-W	80	0	HD						

Archaeological Site Locations

Site Number	Site Name	Twp.	Range	Sec.	Quarter Sections	Acres	Phase	Site Description	Traditio	Context	Reports	NR	CEF	DOE
County: Kanabec														
21KA0060	Kelling	38	23	14	SE-NW-NW-NE	1	1	LS			THY-90-01			
County: Pine														
21PN0029	D. & F. Folkstad	38	22	18	E-SE-NE	3	1	AS						
21PNa	D. & G. LaTourrelle	38	22	5		0	0	AS						

History/Architecture

PROPERTY NAME	ADDRESS	Twp	Range	Sec	Quarters	USGS	Report	NRHP	CEF	DOE	Inventory Number
COUNTY Chisago CITY/TOWNSHIP: Fish Lake Twp.											
farmstead	off Co. Rd. 4	36	22	8	SE-NW-NE	Rush Lake	CH-80-1H				CH-FLK-001
Fish Lake Baptist Church	off Co. Hwy. 63	36	22	17	NE-SE-SW	Stark	CH-80-1H				CH-FLK-002
CITY/TOWNSHIP: Nessel Twp.											
rural school	off Co. Hwy. 6	37	22	27	SE-SE-SE	Rush Lake	CH-80-1H				CH-NES-006
Calvary Lutheran Church	off Co. Hwy. 7	37	22	28	SW-SE-SW	Rush Lake	CH-80-1H				CH-NES-007
Rush Point Store	off Co. Hwy. 8	37	22	28	SW-SW-SW	Rush Lake	CH-80-1H				CH-NES-008
house	off Co. Hwy. 4	37	22	29	SE-SE-SE	Rush Lake	CH-80-1H				CH-NES-009
Rush Lake Baptist Church	off Co. Hwy. 7	37	22	32	NE-NE-NE	Rush Lake	CH-80-1H				CH-NES-010
Nessel Township Hall		37	22	33	NE-NW-NW	Rush Lake	CH-80-1H				CH-NES-011

PROPERTY NAME CITY/TOWNSHIP: Rush City	ADDRESS	Twp	Range	Sec	Quarters	USGS	Report	NRHP	CEF	DOE	Inventory Number
Grant House	4th St. & Bremer	37	21	21	SE-NE-NE	Rush City	CH-80-1H	Y			CH-RCC-001
masonic building	xxx 4th St.	37	21	21	SE-NE-NE	Rush City	CH-80-1H				CH-RCC-002
Eagles Club	off 4th St.	37	21	21	NW-SE-NE	Rush City	CH-80-1H				CH-RCC-003
Rush City Depot		37	21	21	SW-NE-NE	Rush City	CH-80-1H				CH-RCC-004
Johnson Block (razed)	4th St. & Avenue D	37	21	21	SW-NE-NE	Rush City	CH-80-1H	Y			CH-RCC-005
commercial building	xxx Dana Ave.	37	21	21	NW-SE-NE	Rush City	CH-80-1H				CH-RCC-006
Rush City Co-op Creamery	xxx Eliot Ave.	37	21	21	NE-SW-NE	Rush City	CH-80-1H				CH-RCC-007
Hardware Hank	5th St. & Eliot	37	21	21	NE-SW-NE	Rush City	CH-80-1H				CH-RCC-008
commercial building	xxx 4th St.	37	21	21	SW-NE-NE	Rush City	CH-80-1H				CH-RCC-009
Amber Mill	off U.S. Hwy. 61	37	21	21	NE-NE-NE	Rush City	CH-80-1H				CH-RCC-010
railroad buildings	5th St. & Railroad	37	21	21	NW-SE-NE	Rush City	CH-80-1H				CH-RCC-011
Rush City Water Tower	xxx 2nd St.	37	21	21	NW-NE-NE	Rush City	CH-80-1H				CH-RCC-012
First Evangelical Lutheran Church	5th St. & Harte Ave.	37	21	21	NW-SW-NE	Rush City	CH-80-1H				CH-RCC-013
St. John's Evangelical Lutheran Church	3rd St. & Field Ave.	37	21	21	NE-NW-NE	Rush City	CH-80-1H				CH-RCC-014
Catholic Church of the Sacred Heart	4th St. & Field Ave.	37	21	21	SE-NW-NE	Rush City	CH-80-1H				CH-RCC-015
Evangelical Covenant Church	xxx 3rd St.	37	21	21	SW-NE-NE	Rush City	CH-80-1H				CH-RCC-016
Rush City High School		37	21	21	E-NW-NE	Rush City	CH-80-1H				CH-RCC-017
fairgrounds	off 4th St.	37	21	21	S-NW-NW	Rush City	CH-80-1H				CH-RCC-018
J.C. Carlson House	Bremer Ave. & 6th St.	37	21	21	NE-SE-NE	Rush City	CH-80-1H	Y			CH-RCC-019
McKeon House	8th St. & Field Ave.	37	21	21	SE-SW-NE	Rush City	CH-80-1H				CH-RCC-020
house (razed)	330 Eliot Ave.	37	21	21	SE-NW-NE	Rush City	CH-80-1H				CH-RCC-021
house (razed)	4th St. & Grey Ave.	37	21	21	SW-NW-NE	Rush City	CH-80-1H				CH-RCC-022
house	xxx Dana Ave.	37	21	21	SW-NE-NE	Rush City	CH-80-1H				CH-RCC-023

PROPERTY NAME	ADDRESS	Twp	Range	Sec	Quarters	USGS	Report	NRHP	CEF	DOE	Inventory Number
COUNTY Isanti											
CITY/TOWNSHIP: Athens Twp.											
Historical Marker Treaty Site	off Mn. Hwy. 65	34	23	5	NW-NW-NE	Isanti					IA-ATH-001
farmstead	off Co. Hwy. 9	34	23	5	S-SE	Isanti	IA-80-1H				IA-ATH-002
farmhouse		34	23	9	NE-NW-NW	Isanti	IA-80-1H				IA-ATH-003
Edward Erickson Farmstead	Mn. Hwy. 65 & Co. Rd. 56	34	23	17	N-NE-NW	Isanti	IA-80-1H	Y			IA-ATH-004
CITY/TOWNSHIP: Braham											
feedmill	off Mn. Hwy. 107	37	23	2	NE-SW-NE	Braham	IA-80-1H				IA-BRC-001
bank		37	23	2	SW-SW-NE	Braham	IA-80-1H				IA-BRC-002
park pavilion		37	23	2	NW-NW-SE	Braham	IA-80-1H				IA-BRC-003
railroad buildings		37	23	2	NW-NW-SE	Braham	IA-80-1H				IA-BRC-004
house	111 Beechwood Ave.	37	23	2	SE-SW-NE	Braham	IA-80-1H				IA-BRC-005
Olson, Oscar, House	309 Beechwood Ave. N	37	23	2	NE-SW-NE	Braham	IA-80-1H	Y			IA-BRC-006
gas station	SE corner Broadway Ave. & Central	37	23	2	SW-SW-NE	Braham	IA-80-1H				IA-BRC-007
Church of God	xxx Central	37	23	2	SW-SW-NE	Braham	IA-80-1H				IA-BRC-008
Isanti County Historical Society	SW corner Central & Cherry Ave.	37	23	2	SE-SE-NW	Braham	IA-80-1H				IA-BRC-009
house	xxx Central	37	23	2	NE-SE-NW	Braham	IA-80-1H				IA-BRC-010
Braham Evangelical Lutheran Church (razed)	NE corner Central & Douglas Ave.	37	23	2	NE-SE-NW	Braham	IA-80-1H				IA-BRC-011
Braham Lumber	xxx 2nd St. SW	37	23	2	SE-SE-NW	Braham	IA-80-1H				IA-BRC-012
school (razed)	NE corner 3rd St. SW & Elmhurst Ave.	37	23	2	S-SE-NW	Braham	IA-80-1H				IA-BRC-013
Braham Water Tower	NE corner Broadway Ave. & 2nd St.	37	23	2	SW-SW-NE	Braham	IA-80-1H				IA-BRC-014

PROPERTY NAME	ADDRESS	Twp	Range	Sec	Quarters	USGS	Report	NRHP	CEF	DOE	Inventory Number
CITY/TOWNSHIP: Cambridge											
Arlington Hotel	1st Ave. E & Main St.	36	23	33	NW-NW-N	Cambridge	IA-80-1H				IA-CBC-001
City Hall	2nd Ave. SE & Adams St.	36	23	33	NW-NW-N	Cambridge	IA-80-1H				IA-CBC-002
First Baptist Church	3rd Ave. SE & Main St.	36	23	33	SW-NW-NW	Cambridge	IA-80-1H				IA-CBC-003
Matthias Smith House	120 3rd Ave. SE	36	23	33	SW-NW-NW	Cambridge	IA-80-1H				IA-CBC-004
Lamperts Lumber Yard	300 Adams St. S.	36	23	33	SW-NW-NW	Cambridge	IA-80-1H				IA-CBC-005
Cambridge Depot	5500 Pickett Ave.	36	23	33	SW-NW-NW	Cambridge	IA-80-1H				IA-CBC-006
potato warehouse	off 5th Ave. SW	36	23	33	NW-SW-NW	Cambridge	IA-80-1H				IA-CBC-007
Cambridge Lutheran Church	621 Main St. N.	36	23	28	NW-NW-SW	Cambridge	IA-80-1H				IA-CBC-008
Cambridge Lutheran Church Parsonage	645 Main St. N.	36	23	28	NW-NW-SW	Cambridge	IA-80-1H				IA-CBC-009
CITY/TOWNSHIP: Cambridge Twp.											
District School No. 58 (Grandy School)	off Mn. Hwy. 65	36	23	3	SW-NE-SW	Braham	IA-80-1H				IA-CBT-001
Grandy Union Church		36	23	3	NE-NE-SW	Braham	IA-80-1H				IA-CBT-002
storage bldgs.		36	23	3	NE-NE-SW	Braham	IA-80-1H				IA-CBT-003
farmhouse	off Co. Hwy. 2	36	23	27	SE-SE-SE	Cambridge	IA-80-1H				IA-CBT-007
Old Moody School (razed?)		36	23	27	SE-SE-SE	Cambridge	IA-80-1H				IA-CBT-008
CITY/TOWNSHIP: Isanti Twp.											
North Isanti Baptist Church	off Co. Hwy. 43	35	23	9	NW-NW-SE	Cambridge	IA-80-1H				IA-IST-002
Bodum Store	off Co. Hwy. 19	35	23	16	NE-NE-SE	Cambridge	IA-80-1H				IA-IST-005
South Isanti Church	off Co. Hwy. 5	35	23	22	SE-SE-SE	Cambridge	IA-80-1H				IA-IST-007
rural school		35	23	27	NW-SW-NE	Isanti	IA-80-1H				IA-IST-009

PROPERTY NAME	ADDRESS	Twp	Range	Sec	Quarters	USGS	Report	NRHP	CEF	DOE	Inventory Number
CITY/TOWNSHIP: Stanchfield Twp.											
commercial building	Co. Hwy. 3 & Co. Hwy. 36	37	23	22	SE-SE-SE	Braham	IA-80-1H				IA-STH-001
railroad warehouse		37	23	22	SE-SE-SE	Braham	IA-80-1H				IA-STH-002
school	off Co. Hwy. 3	37	23	23	SW-SW-SW	Braham	IA-80-1H				IA-STH-003
Bridge No. L-2542	Twp. Rd. 47 under railroad bridge	37	23	34	SW-NE-NE	Braham	IA-80-1H				IA-STH-004
Stagecoach Road to Duluth	off Co. Hwy. 3 & Co. Hwy. 36	37	23	33	SW-SW	Braham	IA-80-1H				IA-STH-005

History/Architecture

PROPERTY NAME	ADDRESS	Twp	Range	Sec Quarters	USGS	Report	NRHP	CEF	DOE	Inventory Number
COUNTY Kanabec										
CITY/TOWNSHIP: Grass Lake Twp.										
Swedish Mission Church	off Co. Rd. 42	38	23	14 SW-NW-SE	Grasston	KA-80-1H				KA-GLK-001
CITY/TOWNSHIP: Grasston										
Grasston Consolidated School	off Mn. Hwy. 70	38	23	12 NE-NW-SE	Grasston	KA-80-1H				KA-GSC-001
Grasston Co-op Creamery	xxx Pine St.	38	23	12 NE-NW-SE	Grasston	KA-80-1H				KA-GSC-002
blacksmith shop	xxx Oak St.	38	23	12 NE-NW-SE	Grasston	KA-80-1H				KA-GSC-003
Hope Evangelical Lutheran Church	NW corner Oak St. & Pine St.	38	23	12 NE-NW-SE	Grasston	KA-80-1H				KA-GSC-004
COUNTY Pine										
CITY/TOWNSHIP: Royalton Twp.										
Charles Swanson Farmstead	off Co. Hwy. 7	38	22	7 SE-NW-SW	Grasston	PN-80-1H				PN-ROY-005



Minnesota Department of Natural Resources

Natural Heritage and Nongame Research Program, Box 25

500 Lafayette Road

St. Paul, Minnesota 55155-40

Phone: (651) 296-7863 Fax: (651) 296-1811 E-mail: sarah.hoffmann@dnr.state.mn.us

January 5, 2005

RECEIVED JAN 07 2004

Carole Schmidt
Great River Energy
17845 E. Hwy. 10
Elk River, MN 55330-0800

Re: Request for Natural Heritage information for vicinity of proposed GRE Cambridge Peaking Plant & Transmission Line Rebuilds, Anoka, Chisago, Isanti, and Kanabec Counties
NHNRP Contact #: ERDB 20050464

Dear Ms. Schmidt,

The Minnesota Natural Heritage database has been reviewed to determine if any rare plant or animal species or other significant natural features are known to occur within an approximate one-mile radius of the area indicated on the map enclosed with your information request. Based on this review, there are 94 known occurrences of rare species or natural communities in the area searched (for details, see enclosed database printout and explanation of selected fields). Following are specific comments for **only those elements that may be impacted** by the proposed project. Rare feature occurrences not listed below are not anticipated to be affected by the proposed project.

Cambridge to East Bethel Transmission Line

- An area identified by the Minnesota County Biological Survey as a "Site of Outstanding Biodiversity Significance" is located just east of the transmission line in T34N R23W Sections 16 and 21 (see the enclosed map for details). "Sites of Biodiversity Significance" are areas with varying levels of native biodiversity that may contain high quality native plant communities, rare plants, rare animals, and/or animal aggregations. This particular site, which is also known as the Cedar Creek Natural History Area, contains wet meadow, alder swamp, white cedar swamp, oak forest, white pine forest, tamarack swamp, mixed hardwood swamp, rich fen, and cattail marsh native plant communities, and provides habitat for several rare plant and animal species. If this section of the transmission line will be rebuilt, we request that disturbance on the east side of the line be avoided as much as possible. This may include, but is not limited to, the following: (1) As much as possible, operate within already-disturbed areas; (2) Minimize vehicular disturbance in the area (allow only vehicles necessary for reconstruction activities); (3) Do not park equipment or stockpile supplies in the area; (4) If possible, do work in autumn or winter, to avoid damaging plants during the growing season; (5) Reduce runoff by completing the work as rapidly as possible and using erosion control measures such as straw bales or silt fencing; and (6) Revegetate disturbed soil with native species suitable to the local habitat as soon after construction as possible, to decrease the opportunity for exotic species to invade the area.

Cambridge to Rush City Transmission Line

- Several "Sites of Biodiversity Significance" are located adjacent to the transmission line in T37N R22W Sections 26 & 36 and T37N R21W Section 30 (see the enclosed map for details). To help protect these ecologically significant sites, please consider the recommendations listed above.
- DNR Information: 651-296-6157 • 1-888-646-6367 • TTY: 651-296-5484 • 1-800-657-3929

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Cambridge to Grasston Transmission Line

- The transmission line crosses the Snake River in T38N R23W Section 13. Several rare freshwater mussel species including Mucket, Purple Wartyback, and Round Pigtoe Mussels, all threatened species, and Spike, Black Sandshell, Fluted-Shell, Creek Heelsplitter, and Hickorynut Mussels, all special concern species, have been documented in the Snake River in the vicinity of this crossing site. Freshwater mussels are declining nation-wide and have been described as one of North America's most imperiled groups of animals. In Minnesota, 25 of our 48 native mussel species are listed as either endangered, threatened, or of special concern. The primary reason behind the decline is the degradation of our lakes and rivers as a result of runoff and physical changes such as damming, channelization, and dredging. Mussels are particularly vulnerable to deterioration in water quality, especially increased siltation. As such, it is imperative that sound erosion and sediment control practices be implemented and maintained during any line rebuilding in this area.
- The transmission line passes through a "Site of Moderate Biodiversity Significance" in T37N R23W Section 2. This site contains Tamarack Swamp and Poor Fen native plant communities (see the enclosed map for details). If this section of the transmission line will be rebuilt, we request that reconstruction activities be restricted to when the ground is frozen. Please see the recommendations listed above for additional ways of minimizing disturbance.

All Transmission Lines

- Blanding's Turtles (*Emydoidea blandingii*), a state-listed threatened species, have been reported from the vicinity of all three transmission lines. Blanding's Turtles spend much of their time in shallow wetlands (1-3 feet deep), but they nest in open, sandy uplands up to 1 mile from wetlands. Nesting is in June and eggs hatch in September, at which time young turtles enter deep wetlands where they over-winter in soft sediments. Factors believed to contribute to the decline of this species include wetland drainage and degradation, development on upland nesting areas, and possibly collection for the pet trade. In addition, because of the tendency for Blanding's Turtles to travel long distances over land, they are often forced to cross roads in developed areas. Many of the records we have of Blanding's Turtles are from turtles killed crossing roads.

For your information, I have attached a fact sheet and a flyer about the Blanding's Turtle. The fact sheet is intended to provide you with background information regarding habitat use, life history, and reasons for the species' decline, as well as recommendations for avoiding and minimizing impacts to this rare turtle. As you will note, there are two lists of recommendations. The first list contains recommendations to prevent harm to turtles during construction work, and is relative to all areas inhabited by Blanding's Turtles. Please refer to this first list of recommendations for your project. The second column expands on the first column, and contains greater protective measures to be considered for areas known to be of state-wide importance to Blanding's Turtles, or any area where greater protection for turtles is desired. Your project area is not within one of these priority areas. The flyer, which should be given to all contractors working in the area, contains an illustration and description of the Blanding's Turtle, as well as a summary of the recommendations provided in the fact sheet.

The Natural Heritage database is maintained by the Natural Heritage and Nongame Research Program, a unit within the Division of Ecological Services, Department of Natural Resources. It is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, natural communities, and other natural features. Its purpose is to foster better understanding and protection of these features.

Because our information is not based on a comprehensive inventory, there may be rare or otherwise significant natural features in the state that are not represented in the database. A county-by-county survey of rare natural features is now underway, and has been completed for Anoka, Chisago, Isanti, and Kanabec Counties. Our information about native plant communities is, therefore, quite thorough for these Counties. However, because survey work for rare plants and animals is less exhaustive, and because there has not been an on-site survey of all areas of the county, ecologically significant features for which we have no records may exist on the project area.

The enclosed results of the database search are provided in two formats: index and full record. To control the release of locational information which might result in the damage or destruction of a rare element, both printout formats are copyrighted.

The index provides rare feature locations only to the nearest section, and may be reprinted, unaltered, in an Environmental Assessment Worksheet, municipal natural resource plan, or report compiled by your company for the project listed above. If you wish to reproduce the index for any other purpose, please contact me to request written permission. **The full-record printout includes more detailed locational information, and is for your personal use only. If you wish to reprint the full-record printouts for any purpose, please contact me to request written permission.**

Please be aware that review by the Natural Heritage and Nongame Research Program focuses only on *rare natural features*. It does not constitute review or approval by the Department of Natural Resources as a whole. If you require further information on the environmental review process for other natural resource-related issues, you may contact your Regional Environmental Assessment Ecologist, Mike North, at (218) 828-2433.

An invoice for the work completed will be mailed to you under separate cover within two weeks of the date of this letter. You are being billed for map and database search and staff scientist review. Thank you for consulting us on this matter, and for your interest in preserving Minnesota's rare natural resources.

Sincerely,



Sarah D. Hoffmann
Endangered Species Environmental Review Coordinator

encl: Database search results
Rare Feature Database Print-Outs: An Explanation of Fields
Fact Sheets: Blanding's Turtle
Maps

cc: Mike North

Minnesota Natural Heritage Database
Element Occurrence Records

GRE CAMBRIDGE PEAKING PLANT & TRANSMISSION LINE REBUILD
ANOKEA, CHISAGO, ISANTI, & KANABEC COUNTIES
MnDNR, Natural Heritage and Nongame Research Program

15:36 Wednesday, JANUARY 05, 2005
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TWP	RNG	PRIMARY SECTION	FED STATUS	MN STATUS	S RANK	ELEMENT AND OCCURRENCE NUMBER	MANAGED AREA
T033N	R23W	03	THR	THR		EMYDOIDEA BLANDINGII (BLANDING'S TURTLE) #14	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	05	THR	THR		EMYDOIDEA BLANDINGII (BLANDING'S TURTLE) #218	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	08	THR	THR		EMYDOIDEA BLANDINGII (BLANDING'S TURTLE) #759	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	17	THR	THR		EMYDOIDEA BLANDINGII (BLANDING'S TURTLE) #411	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	19	THR	THR		EMYDOIDEA BLANDINGII (BLANDING'S TURTLE) #388	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	21	SPC			HESPERIA LEONARDUS LEONARDUS (LEONARD'S SKIPPER) #17	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	22	THR	THR	S4	EMYDOIDEA BLANDINGII (BLANDING'S TURTLE) #18	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	22			S2	TAMARACK SWAMP SPHAGNUM SUBTYPE #21	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	22			S3	WHITE PINE FOREST (CENTRAL) #2	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	22	END			WHITE PINE-HARDWOOD FOREST (NORTH CENTRAL) #14	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	27	END			BARTONIA VIRGINICA (VIRGINIA BARTONIA) #3	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	27	SPC			BARTONIA VIRGINICA (VIRGINIA BARTONIA) #4	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	27	THR	THR		BUTEO LINEATUS (RED-SHOULDERED HAWK) #14	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	27	THR	THR		CYPRIPEDIUM ARLETINUM (RAM'S-HEAD LADY'S-SLIPPER) #3	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	27	THR	THR		CYPRIPEDIUM ARLETINUM (RAM'S-HEAD LADY'S-SLIPPER) #20	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	27	SPC			DECODON VERTICILLATUS (WATERWILLOW) #3	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	27	SPC			METAPHIDIPPUS ARIZONENSIS (A SPECIES OF JUMPING SPIDER) #7	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	27			S4	MIXED HARDWOOD SWAMP #20	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	27			S2	OAK FOREST (CENTRAL) MESIC SUBTYPE #63	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	27	SPC			OSNOTHERA RHOMBIPETALA (RHOMBIC-PETALED EVENING PRIMROSE) #14	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	27	SPC			PARADAMOETAS FONTANA (A SPECIES OF JUMPING SPIDER) #6	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	27	END			POLYGALA CRUCIATA (CROSS-LEAVED MILKWORT) #6	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	27			S3	RED PINE FOREST #5	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	27	SPC			SCIRPUS CLINTONII (CLINTON'S BULRUSH) #4	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	27			S4	WHITE CEDAR SWAMP #15	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	27	SPC			WILSONIA CITRINA (HOODED WARBLER) #11	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	28			S3	RICH FEN (TRANSITION) SEDGE SUBTYPE #49	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	30	THR	THR		ROTALA RAMOSIOR (TOOTH-CUP) #13	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	31	THR	THR		ROTALA RAMOSIOR (TOOTH-CUP) #14	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	32	THR	THR		EMYDOIDEA BLANDINGII (BLANDING'S TURTLE) #17	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	32	THR	THR		ROTALA RAMOSIOR (TOOTH-CUP) #3	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	33	THR	THR		EMYDOIDEA BLANDINGII (BLANDING'S TURTLE) #15	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	34	SPC			BAPTISIA ALBA (WHITE WILD INDIGO) #10	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	34	SPC			BOTRYCHIUM SIMPLEX (LEAST MOONWORT) #21	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	34			S2	DRY OAK SAVANNA (CENTRAL) BARRENS SUBTYPE #24	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	34				EMYDOIDEA BLANDINGII (BLANDING'S TURTLE) #16	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	34	THR	THR		EMYDOIDEA BLANDINGII (BLANDING'S TURTLE) #51	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	34	THR	THR		EMYDOIDEA BLANDINGII (BLANDING'S TURTLE) #243	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	34	SPC			HESPERIA LEONARDUS LEONARDUS (LEONARD'S SKIPPER) #2	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	34			S3	OAK FOREST (CENTRAL) DRY SUBTYPE #56	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	34	END			SCLERIA TRIGLOMERATA (TALL NUT-RUSH) #2	CEDAR CREEK NATURAL HISTORY AREA
T034N	R23W	34	SPC			TUTELINA FORMICARIA (A SPECIES OF JUMPING SPIDER) #2	CEDAR CREEK NATURAL HISTORY AREA
T035N	R23W	08	THR	THR		EMYDOIDEA BLANDINGII (BLANDING'S TURTLE) #361	CEDAR CREEK NATURAL HISTORY AREA
T035N	R23W	08	THR	THR		EMYDOIDEA BLANDINGII (BLANDING'S TURTLE) #592	CEDAR CREEK NATURAL HISTORY AREA
T035N	R23W	08	THR	THR		EMYDOIDEA BLANDINGII (BLANDING'S TURTLE) #940	CEDAR CREEK NATURAL HISTORY AREA
T035N	R23W	09	SPC			FIMBRISTYLIS AUTUMNALIS (AUTUMN FIMBRISTYLIS) #7	CEDAR CREEK NATURAL HISTORY AREA
T035N	R23W	10	THR	THR		EMYDOIDEA BLANDINGII (BLANDING'S TURTLE) #501	CEDAR CREEK NATURAL HISTORY AREA
T035N	R23W	15			S4	TAMARACK SWAMP MINEROTROPHIC SUBTYPE #28	CEDAR CREEK NATURAL HISTORY AREA

MANAGED AREA

TWP	RNG	PRIMARY SECTION	FED STATUS	MV STATUS	S RANK	ELEMENT and OCCURRENCE NUMBER
T035N	R23W	17		THR		EMYDOIDEA BLANDINGII (BLANDING'S TURTLE) #380
T035N	R23W	17		THR	S4	POOR FEN #32
T035N	R23W	29		THR	S4	EMYDOIDEA BLANDINGII (BLANDING'S TURTLE) #468
T035N	R23W	35			S4	BLACK ASH SWAMP #6
T035N	R23W	35			S3	MAPLE-BASSWOOD FOREST (EAST CENTRAL) #14
T035N	R23W	35		SPC	S2	PANAX QUINQUEFOLIUS (AMERICAN GINSENG) #62
T036N	R21W	06			S2	OAK FOREST (CENTRAL) MESIC SUBTYPE #1
T036N	R22W	01		THR	S2	DRY PRAIRIE (CENTRAL) SAND-GRAVEL SUBTYPE #77
T036N	R23W	16		THR		CYPRIPEDIUM ARIETINUM (RAM'S-HEAD LADY'S-SLIPPER) #8
T036N	R23W	16		THR		EMYDOIDEA BLANDINGII (BLANDING'S TURTLE) #743
T036N	R23W	16		THR		HYDROCYTYLE AMERICANA (AMERICAN WATER-PENNYWORT) #8
T036N	R23W	16		THR		POA PALUDIGENA (BOG BLUEGRASS) #15
T036N	R23W	16		THR	S4	TAMARACK SWAMP MINEROTROPHIC SUBTYPE #10
T036N	R23W	32		THR	S4	EMYDOIDEA BLANDINGII (BLANDING'S TURTLE) #251
T037N	R21W	25			S4	WILLOW SWAMP #2
T037N	R21W	30			S4	TAMARACK SWAMP MINEROTROPHIC SUBTYPE #18
T037N	R22W	21			S4	COLONIAL WATERBIRD NESTING SITE #101
T037N	R22W	26	LT	SPC		HALIAETUS LEUCOCEPHALUS (BALD EAGLE) #1359
T037N	R22W	26			S3	MAPLE-BASSWOOD FOREST (EAST CENTRAL) #23
T037N	R22W	27			S4	TAMARACK SWAMP SPHAGNUM SUBTYPE #20
T037N	R22W	29		THR		EMYDOIDEA BLANDINGII (BLANDING'S TURTLE) #620
T037N	R22W	36			S4	BLACK SPRUCE SWAMP #35
T037N	R22W	36			S4	MIXED HARDWOOD SWAMP #19
T037N	R22W	36			S2	OAK FOREST (CENTRAL) MESIC SUBTYPE #60
T037N	R22W	36			S4	SHRUB SWAMP UNKNOWN/UNRESOLVED SUBTYPE #13
T037N	R22W	36			S4	TAMARACK SWAMP MINEROTROPHIC SUBTYPE #47
T037N	R22W	36			S3	POOR FEN SEDGE SUBTYPE #4
T037N	R23W	03			S3	MAPLE-BASSWOOD FOREST (EAST CENTRAL) #43
T037N	R23W	16			S5	ALDER SWAMP #10
T037N	R23W	24			S2	OAK FOREST (CENTRAL) MESIC SUBTYPE #7
T037N	R23W	24			S4	TAMARACK SWAMP #10
T037N	R23W	24			S3	OAK FOREST (CENTRAL) DRY SUBTYPE #52
T037N	R23W	26			S3	POOR FEN SEDGE SUBTYPE #5
T037N	R23W	26			S3	RICH FEN (TRANSITION) SEDGE SUBTYPE #2
T037N	R23W	26			S3	WET MEADOW #3
T037N	R23W	33	LT	SPC		HALIAETUS LEUCOCEPHALUS (BALD EAGLE) #1913
T037N	R23W	33			S3	WET MEADOW #4
T037N	R23W	33			S2	WHITE PINE FOREST (CENTRAL) #4
T037N	R23W	34		THR		EMYDOIDEA BLANDINGII (BLANDING'S TURTLE) #548
T037N	R23W	35			S3	WHITE PINE-HARDWOOD FOREST (NORTH CENTRAL) #9
T038N	R23W	13		SPC		MAPLE-BASSWOOD FOREST (EAST CENTRAL) #44
T038N	R23W	13		SPC		NAJAS GRACILLIMA (SLENDER NAIAD) #92
T038N	R23W	13		END		NAJAS GRACILLIMA (SLENDER NAIAD) #93
T038N	R23W	13		SPC		POTAMOGETON BICUPULATUS (SNAILSEED PONDWEED) #10
T038N	R23W	13		SPC		POTAMOGETON VASEYI (VASEY'S PONDWEED) #50
T038N	R23W	14		SPC		PERCINA EVIDES (GILT DARTER) #55

RUSH LAKE ISLAND SNA

Environmental Review Fact Sheet Series

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 (cattails, water lilies, etc.) 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, racoons, 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. <i>Additional</i> 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).	
Below-ground utility construction sites should be returned to original grade (trenches can trap turtles).	
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!

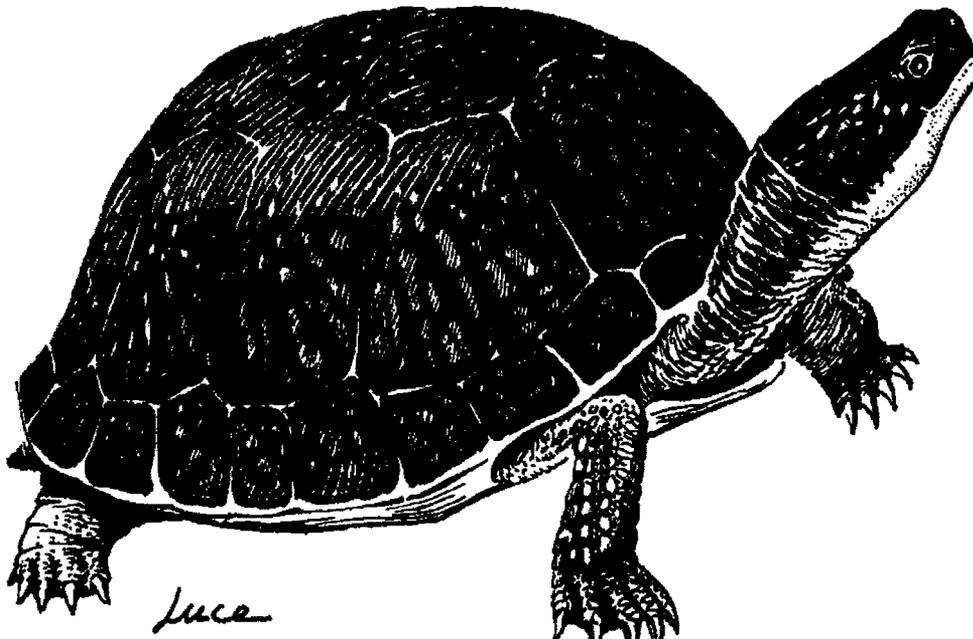
REFERENCES

- 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.

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- 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 a State Threatened species 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 (218-755-2976); Brainerd (218-828-2228); New Ulm (507-359-6033); Rochester (507-280-5070); or St. Paul (651-297-2277).

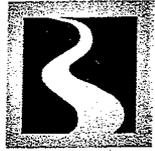
DESCRIPTION: The Blanding's turtle is a medium to large turtle (5 to 10 inches) with a black or dark blue, dome-shaped shell with muted yellow spots and bars. The bottom of the shell is hinged across the front third, enabling the turtle to pull the front edge of the lower shell firmly against the top 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.

Illustration by Don Luce, from Turtles in Minnesota, Natural History Leaflet No. 9, June 1989, James Ford Bell Museum of Natural History

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

(see Environmental Review Fact Sheet Series for full recommendations)

- A flyer with an illustration of an adult 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.
- 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 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.
- Blanding's turtles do not make good pets. It is illegal to keep this threatened species in captivity.
- 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.
- Below-ground utility construction 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).



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3 February 2005

Ms. Britta L. Bloomberg
Deputy State Historic Preservation Officer
Minnesota Historical Society
345 Kellogg Blvd West
St Paul, MN 55102-1906

RE Proposed Cambridge Station and 69-kV Transmission Line Rebuilds
Isanti, Chisago and Kanabec counties, Minnesota

Dear Ms. Bloomberg:

Great River Energy (GRE) is in the process of preparing a site application for the Minnesota Environmental Quality Board and an environmental assessment for the Rural Utilities Service to assess the environmental impacts of a new 170-megawatt natural gas-fired combustion turbine in Cambridge Township, Isanti County. The project will also include upgrading approximately 47 miles of 69-kV transmission line in Isanti, Chisago and Kanabec counties to improve the overall operation and reliability of the Cambridge area transmission system. Demand for electric energy is continuously increasing in GRE's service area and the additional electric generating capacity provided by this project will help to meet that demand. A project fact sheet and maps are enclosed for your information.

GRE requested a database search of recorded archaeological sites and historic architectural properties for the project area in December 2004. Results of that search are attached. GRE is now requesting an assessment of the project's potential to impact these sites or properties.

The proposed generating station will be located in Sections 16 and 21, T36N, R23W in Cambridge Township, on a site already owned by GRE and adjacent to an existing, smaller GRE generating unit.

The transmission line rebuilds will involve changing to taller poles (from approximately 40-55 feet to 60-65 feet above ground), upgrading wire size, and adding lightning protection. The voltage will remain the same and the current transmission line corridor will be used.

We would appreciate receiving any written comments from your office by Friday, March 4, 2005. If you have any questions about this proposed project, please contact me at (763) 241-2272. If you wish to respond by e-mail, my address is cschmidt@greenergy.com.

Thank you for your cooperation and assistance.

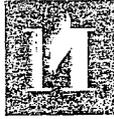
Sincerely,

GREAT RIVER ENERGY

Carole L. Schmidt
Environmental Scientist

Enclosures

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MINNESOTA HISTORICAL SOCIETY
STATE HISTORIC PRESERVATION OFFICE

March 4, 2005

RECEIVED MAR - 7 2005

Ms. Carole Schmidt
Great River Energy
PO Box 800
Elk River, MN 55330-0800

RE: Proposed Cambridge Station and transmission line rebuilds
Isanti, Chisago, and Kanabec Counties
SHPO Number: 2005-1101

Dear Ms. Schmidt:

Thank you for the opportunity to review and comment on the above project. It has been reviewed pursuant to the responsibilities given the State Historic Preservation Officer by the National Historic Preservation Act of 1966 and the Procedures of the Advisory Council on Historic Preservation (36CFR800).

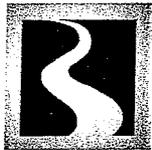
Based on available information, we conclude that **no properties** eligible for or listed on the National Register of Historic Places are within the project's area of effect.

Please contact Dennis Gimmetstad at (651) 296-5462 if you have any questions regarding our review of this project.

Sincerely,

A handwritten signature in cursive script that reads "Britta L. Bloomberg".

Britta L. Bloomberg
Deputy State Historic Preservation Officer



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3 February 2005

Mr. Larry Nelson, Project Coordinator
Natural Resources Conservation Service
Onanegozie RC & D Office
119 Lake Street South
Mora, MN 55051-1526

RE: Proposed Cambridge Station and 69-kV Transmission Line Rebuilds
Isanti, Chisago and Kanabec counties, Minnesota

Dear Mr. Nelson:

Great River Energy (GRE) is in the process of preparing a site application for the Minnesota Environmental Quality Board and an environmental assessment for the Rural Utilities Service to assess the environmental impacts of a new 170-megawatt natural gas-fired combustion turbine in Cambridge Township, Isanti County. The project will also include upgrading approximately 47 miles of 69-kV transmission line in Isanti, Chisago and Kanabec counties to improve the overall operation and reliability of the Cambridge area transmission system. Demand for electric energy is continuously increasing in GRE's service area and the additional electric generating capacity provided by this project will help to meet that demand.

The proposed generating station will be located in Sections 16 and 21, T36N, R23W in Cambridge Township, on a site already owned by GRE and adjacent to an existing, smaller GRE generating unit. GRE is requesting information on the possible effects of the proposed project on important or prime farmlands in the project area. A project fact sheet and site maps are enclosed for your information. Impacts to soil resources from the transmission line rebuilds (changing to taller poles, upgrading wire size, adding lightning protection) should be minimal and limited to the immediate area of the pole. The voltage will remain the same and the current transmission line corridor will be used.

We would appreciate receiving any written comments from your office by Friday, March 4, 2005. If you have any questions about this proposed project, please contact me at (763) 241-2272. If you wish to respond by e-mail, my address is cschmidt@greenergy.com.

Thank you for your cooperation and assistance.

Sincerely,

GREAT RIVER ENERGY

Carole L. Schmidt
Environmental Scientist

Enclosures



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3 February 2005

Mr. Harris Baker
Office of Aeronautics
Minnesota Department of Transportation
222 E. Plato Blvd.
St. Paul, MN 55107-1618

RE: Proposed Cambridge Station and 69-kV Transmission Line Rebuilds
Isanti, Chisago and Kanabec counties, Minnesota

Dear Mr. Baker:

Great River Energy (GRE) is in the process of preparing a site application for the Minnesota Environmental Quality Board and an environmental assessment for the Rural Utilities Service to assess the environmental impacts of a new 170-megawatt natural gas-fired combustion turbine in Cambridge Township, Isanti County. The project will also include upgrading approximately 47 miles of 69-kV transmission line in Isanti, Chisago and Kanabec counties to improve the overall operation and reliability of the Cambridge area transmission system. Demand for electric energy is continuously increasing in GRE's service area and the additional electric generating capacity provided by this project will help to meet that demand.

GRE is requesting information on the possible effects of the proposed project on airports or airstrips in the project area. The proposed generating station will be located in Sections 16 and 21, T36N, R23W in Cambridge Township, on a site already owned by GRE and adjacent to an existing, smaller GRE generating unit. The tallest structure at the station will be the stack at approximately 90 feet. The transmission line rebuilds will involve changing to taller poles (from approximately 40-55 feet to 60-65 feet above ground), upgrading wire size, and adding lightning protection. The voltage will remain the same and the current transmission line corridor will be used. A project fact sheet and maps are enclosed for your information.

We would appreciate receiving any written comments from your office by Friday, March 4, 2005. If you have any questions about this proposed project, please contact me at (763) 241-2272. If you wish to respond by e-mail, my address is cschmidt@grenergy.com.

Thank you for your cooperation and assistance.

Sincerely,

GREAT RIVER ENERGY

Carole L. Schmidt
Environmental Scientist

Enclosures

h:\cschmidt\Cambridge-CT\Cam-CTMnDOT

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Minnesota Department of Transportation

Office of Aeronautics
Mail Stop 410
222 East Plato Boulevard
St. Paul, MN 55107-1618

Phone: 651/296-8202
Phone: 651/297-1600
Fax: 651/297-5643
Fax: 651/296-1828

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February 24, 2005

651 296-2788

Ms. Carole L. Schmidt
Environmental Scientist
Great River Energy
17845 East Hwy 10
P.O. Box 800
Elk River, Minnesota 55330-0800

Subject: **Proposed Cambridge Station &
69kV Transmission Line Rebuilds
Isanti, Chisago and Kanabec Counties, Minnesota**

Dear Ms. Schmidt:

We have reviewed your proposal for the Cambridge Station and 69kV Transmission Line Rebuilds project. The project passes approximately 2 miles south of the Rush City Municipal Airport and 3 miles east of the Cambridge Municipal Airport. We do not anticipate any effect on public airports; therefore the Office of Aeronautics has no objection to the proposed project.

Sincerely,

Gene R. Scott, P.E.
Regional Airport Engineer



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3 February 2005

Mr. Nick Rowse, Habitat Conservation Biologist
United States Department of the Interior
Twin Cities Field Office
4101 East 80th Street
Bloomington, MN 55425-1665

RE: Proposed Cambridge Station and 69-kV Transmission Line Rebuilds
Isanti, Chisago and Kanabec counties, Minnesota

Dear Mr. Rowse:

Great River Energy (GRE) is in the process of preparing a site application for the Minnesota Environmental Quality Board and an environmental assessment for the Rural Utilities Service to assess the environmental impacts of a new 170-megawatt natural gas-fired combustion turbine in Cambridge Township, Isanti County. The project will also include upgrading approximately 47 miles of 69-kV transmission line in Isanti, Chisago and Kanabec counties to improve the overall operation and reliability of the Cambridge area transmission system. Demand for electric energy is continuously increasing in GRE's service area and the additional electric generating capacity provided by this project will help to meet that demand.

GRE is requesting information on the possible effects of the proposed project on any listed or proposed threatened or endangered species and designated or proposed critical habitat that may be present in the project area. A project fact sheet and maps are enclosed for your information. The proposed generating station will be located in Sections 16 and 21, T36N, R23W in Cambridge Township, on a site already owned by GRE and adjacent to an existing, smaller GRE generating unit. The transmission line rebuilds will involve changing to taller poles, upgrading wire size, and adding lightning protection. The voltage will remain the same and the current transmission line corridor will be used.

We would appreciate receiving any written comments from your office by Friday, March 4, 2005. If you have any questions about this proposed project, please contact me at (763) 241-2272. If you wish to respond by e-mail, my address is cschmidt@greenergy.com.

Thank you for your cooperation and assistance.

Sincerely,

GREAT RIVER ENERGY

Carole L. Schmidt
Environmental Scientist

Enclosures

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3 February 2005

Mr. Dan Seemon
US Army Corps of Engineers
St. Paul District, Attn: CO-R
190 Fifth Street East
St. Paul, MN 55101-1638

RE: Proposed Cambridge Station and 69-kV Transmission Line Rebuilds
Isanti, Chisago and Kanabec counties, Minnesota

Dear Mr. Seemon:

Great River Energy (GRE) is in the process of preparing a site application for the Minnesota Environmental Quality Board and an environmental assessment for the Rural Utilities Service to assess the environmental impacts of a new 170-megawatt natural gas-fired combustion turbine in Cambridge Township, Isanti County. The project will also include upgrading approximately 47 miles of 69-kV transmission line in Isanti, Chisago and Kanabec counties to improve the overall operation and reliability of the Cambridge area transmission system. Demand for electric energy is continuously increasing in GRE's service area and the additional electric generating capacity provided by this project will help to meet that demand.

GRE is requesting information on the possible effects of the proposed project on floodplains, wetlands, and other important natural resources that occur in the project area. The proposed generating station will be located in Sections 16 and 21, T36N, R23W in Cambridge Township, on a site already owned by GRE and adjacent to an existing, smaller GRE generating unit. The transmission line rebuilds will involve changing to taller poles (from approximately 40-55 feet to 60-65 feet above ground), upgrading wire size, and adding lightning protection. The voltage will remain the same and the current transmission line corridor will be used. The existing transmission lines cross some waters and wetlands, but most are spanned and in others disturbance for the rebuilds will be minimal and limited to pole placement. A project fact sheet and maps are enclosed for your information.

We would appreciate receiving any written comments from your office by Friday, March 4, 2005. If you have any questions about this proposed project, please contact me at (763) 241-2272. If you wish to respond by e-mail, my address is cschmidt@greenergy.com.

Thank you for your cooperation and assistance.

Sincerely,

GREAT RIVER ENERGY

Carole L. Schmidt
Environmental Scientist

Enclosures





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3 February 2005

Mr. Thomas W. Balcom, Supervisor
Division of Ecological Services
Minnesota Department of Natural Resources
500 Lafayette Road
St. Paul, MN 55155-4025

RE: Proposed Cambridge Station and 69-kV Transmission Line Rebuilds
Isanti, Chisago and Kanabec counties, Minnesota

Dear Mr. Balcom:

Great River Energy (GRE) is in the process of preparing a site application for the Minnesota Environmental Quality Board and an environmental assessment for the Rural Utilities Service to assess the environmental impacts of a new 170-megawatt natural gas-fired combustion turbine in Cambridge Township, Isanti County. The project will also include upgrading approximately 47 miles of 69-kV transmission line in Isanti, Chisago and Kanabec counties to improve the overall operation and reliability of the Cambridge area transmission system. Demand for electric energy is continuously increasing in GRE's service area and the additional electric generating capacity provided by this project will help to meet that demand.

GRE is requesting comments on the proposed project. A fact sheet and maps are enclosed for your information.

The proposed generating station will be located in Sections 16 and 21, T36N, R23W in Cambridge Township, on a site already owned by GRE and adjacent to an existing, smaller GRE generating unit. The new generating station will not affect any DNR Public Waters (see attached map).

The transmission line rebuilds will involve changing to taller poles (from approximately 40-55 feet to 60-65 feet above ground), upgrading wire size, and adding lightning protection. The voltage will remain the same and the current transmission line corridor will be used. The existing transmission lines cross a number of Public Waters, and GRE will apply to the DNR Division of Lands and Minerals for a license to cross those waters.

Mr. Tom Balcom
3 February 2005
Page 2

GRE requested a Minnesota Natural Heritage database review of the project in December 2004 and received the results in January 2005. The search identified several rare species or natural communities along the existing transmission lines and recommendations were made to minimize impacts to these areas. GRE will adhere to these recommendations during the transmission line rebuilds and will take precautions to minimize impacts to these areas.

We would appreciate receiving any written comments from your office by Friday, March 4, 2005. If you have any questions about this proposed project, please contact me at (763) 241-2272. If you wish to respond by e-mail, my address is cschmidt@greenergy.com.

Thank you for your cooperation and assistance.

Sincerely,

GREAT RIVER ENERGY



Carole L. Schmidt
Environmental Scientist

Enclosures

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17845 East Highway 10 • P.O. Box 800 • Elk River, Minnesota 55330-0800 • 763-441-3121 • Fax 763-241-2366

9 February 2005

Ms. Mary Monte, District Conservationist
Natural Resources Conservation Service
Cambridge Field Office
380 Garfield Street South
Cambridge, MN 55008-1371

RE: Proposed Cambridge Station and 69-kV Transmission Line Rebuilds
Isanti, Chisago and Kanabec counties, Minnesota

Dear Ms. Monte:

Great River Energy (GRE) is in the process of preparing a site application for the Minnesota Environmental Quality Board and an environmental assessment for the Rural Utilities Service to assess the environmental impacts of a new 170-megawatt natural gas-fired combustion turbine in Cambridge Township, Isanti County. The project will also include upgrading approximately 47 miles of 69-kV transmission line in Isanti, Chisago and Kanabec counties to improve the overall operation and reliability of the Cambridge area transmission system. Demand for electric energy is continuously increasing in GRE's service area and the additional electric generating capacity provided by this project will help to meet that demand.

The proposed generating station will be located in Sections 16 and 21, T36N, R23W in Cambridge Township, on a site already owned by GRE and adjacent to an existing, smaller GRE generating unit. GRE is requesting information on the possible effects of the proposed project on important or prime farmlands in the project area. A project fact sheet and site maps are enclosed for your information. Impacts to soil resources from the transmission line rebuilds (changing to taller poles, upgrading wire size, adding lightning protection) should be minimal and limited to the immediate area of the pole. The voltage will remain the same and the current transmission line corridor will be used.

We would appreciate receiving any written comments from your office by Friday, March 4, 2005. If you have any questions about this proposed project, please contact me at (763) 241-2272. If you wish to respond by e-mail, my address is cschmidt@grenergy.com.

Thank you for your cooperation and assistance.

Sincerely,

GREAT RIVER ENERGY

Carole L. Schmidt
Environmental Scientist

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