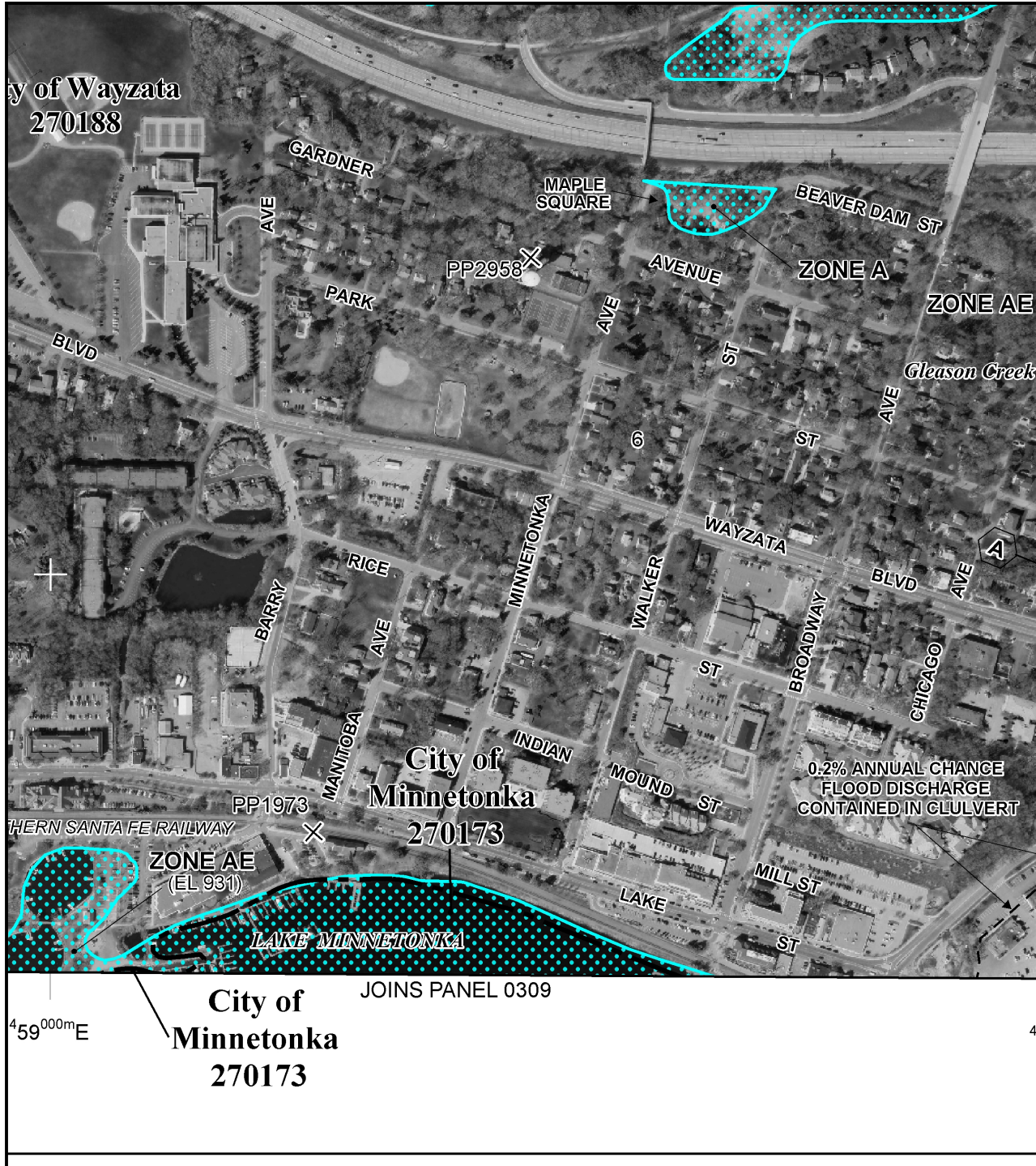
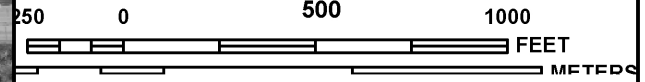


## **Appendix E**

### **FEMA Map**



MAP SCALE 1" = 500'



PANEL 0307F

**FIRM**  
**FLOOD INSURANCE RATE MAP**  
**HENNEPIN COUNTY,**  
**MINNESOTA**  
 (ALL JURISDICTIONS)

**PANEL 307 OF 500**  
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MEDINA, CITY OF	270171	0307	F
MINNETONKA, CITY OF	270173	0307	F
ORONO, CITY OF	270178	0307	F
PLYMOUTH, CITY OF	270179	0307	F
WAYZATA, CITY OF	270188	0307	F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.



**MAP NUMBER**  
**27053C0307F**  
**MAP REVISED**  
**NOVEMBER 4, 2016**

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)

## **Appendix F**

### **Well Logs**



**249098**

County Hennepin  
 Quad Hopkins  
 Quad ID 104B

MINNESOTA DEPARTMENT OF HEALTH  
**WELL AND BORING REPORT**  
 Minnesota Statutes Chapter 1031

Entry Date 10/26/2006  
 Update Date 07/29/2015  
 Received Date

<b>Well Name</b> LOCUST HILL	<b>Township</b> 117	<b>Range</b> 22	<b>Dir Section</b> W 8	<b>Subsection</b> BACDDC	<b>Well Depth</b> 486 ft.	<b>Depth Completed</b> 486 ft.	<b>Date Well Completed</b>
<b>Elevation</b> 955 ft.	<b>Elev. Method</b> 7.5 minute topographic map (+/- 5 feet)	<b>Drill Method</b> Cable Tool		<b>Drill Fluid</b>			
<b>Address</b>					<b>Use</b> domestic	<b>Status</b> Inactive	
C/W 500 BUSHAWAY RD WAYZATA MN 55391					<b>Well Hydrofractured?</b> Yes <input type="checkbox"/> No <input type="checkbox"/> <b>From</b> <b>To</b>		
<b>Stratigraphy Information</b>					<b>Casing Type</b> Single casing <b>Joint</b>		
<b>Geological Material</b>	<b>From</b>	<b>To (ft.)</b>	<b>Color</b>	<b>Hardness</b>	<b>Drive Shoe?</b> Yes <input type="checkbox"/> No <input type="checkbox"/> <b>Above/Below</b>		
GLACIAL DRIFT	0	110			<b>Casing Diameter</b> 8 in. <b>Weight</b> 245 ft. lbs./ft. <b>Hole Diameter</b> 8 in. To 486 ft.		
GLENWOOD SHALE	110	116					
ST. PETER	116	225					
ST. PETER	225	278					
PRAIRIE DU CHIEN	278	411					
JORDAN SANDSTONE	411	486					
					<b>Open Hole</b> From 245 ft. To 486 ft.		
					<b>Screen?</b> <input type="checkbox"/> <b>Type</b> <b>Make</b>		
					<b>Static Water Level</b> 115 ft. land surface Measure 10/26/2006		
					<b>Pumping Level (below land surface)</b>		
					<b>Wellhead Completion</b> Pitless adapter manufacturer Model <input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)		
					<b>Grouting Information</b> Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified		
					<b>Nearest Known Source of Contamination</b> feet Direction Type		
					Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No		
					<b>Pump</b> <input type="checkbox"/> Not Installed Date Installed		
					Manufacturer's name		
					Model Number HP Volt		
					Length of drop pipe ft Capacity g.p. Typ		
					<b>Abandoned</b> Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No		
					<b>Variance</b> Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No		
					<b>Miscellaneous</b> First Bedrock Glenwood Formation Aquifer St.Peter-Jordan		
					Last Strat Jordan Sandstone Depth to Bedrock 110 ft		
					Located by Minnesota Geological Survey		
					Locate Method Digitization (Screen) - Map (1:24,000)		
					System UTM - Mad83, Zone 15, Meters X 460966 Y 4978644		
					Unique Number Verification Information from Input Date		
					<b>Angled Drill Hole</b>		
					<b>Well Contractor</b> Minnesota Geological Survey MGS		
					Licensee Business Lic. or Reg. No. Name of Driller		

**Remarks**  
 CALIPER, MULTI TOOL, & GAMMA LOGGED 10-26-2006. LOGGED FOR MDH.



**793702**

County Hennepin  
 Quad Excelsior  
 Quad ID 105A

MINNESOTA DEPARTMENT OF HEALTH  
**WELL AND BORING REPORT**  
 Minnesota Statutes Chapter 1031

Entry Date 12/17/2012  
 Update Date 07/27/2015  
 Received Date 11/09/2012

<b>Well Name</b> SENIOR	<b>Township</b> 117	<b>Range</b> 22	<b>Dir Section</b> W 6	<b>Subsection</b> DBDABB	<b>Well Depth</b> 60 ft.	<b>Depth Completed</b> 60 ft.	<b>Date Well Completed</b> 08/28/2012
<b>Elevation</b> 935 ft.	<b>Elev. Method</b> 7.5 minute topographic map (+/- 5 feet)				<b>Drill Method</b> Auger (non-specified)	<b>Drill Fluid</b>	
<b>Address</b> Well 831 LAKE ST E WAYZATA MN 55391					<b>Use</b> elevator	<b>Status</b> Active	
<b>Stratigraphy Information</b>					<b>Well Hydrofractured?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>From</b>	<b>To</b>
Geological Material	From	To (ft.)	Color	Hardness	<b>Casing Type</b> Step down	<b>Joint</b> Welded	
SILTY CLAY	0	10	GRAY	SOFT	<b>Drive Shoe?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Above/Below</b>	
SAND & GRAVEL	10	30	BROWN	MEDIUM	<b>Casing Diameter</b>	<b>Weight</b>	<b>Hole Diameter</b>
HARDPAN	30	40	GRAY	MEDIUM	18 in. To 60 ft. 70.5 lbs./ft.		24 in. To 60 ft.
SAND & GRAVEL	40	60	BROWN	MEDIUM	24 in. To 57 ft. 63.4 lbs./ft.		
					<b>Open Hole</b>	From	ft. To
					<b>Screen?</b> <input type="checkbox"/>	<b>Type</b>	<b>Make</b>
					<b>Static Water Level</b>	2 ft.	land surface Measure 08/28/2012
					<b>Pumping Level (below land surface)</b>		
					<b>Wellhead Completion</b>		
					Pitless adapter manufacturer	Model	
					<input type="checkbox"/> Casing Protection	<input type="checkbox"/> 12 in. above grade	
					<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)		
					<b>Grouting Information</b>	Well Grouted?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified
					Material	Amount	From To
					neat cement	3 Cubic yards	ft. 60 ft.
					<b>Nearest Known Source of Contamination</b>		
					feet	Direction	Type
					Well disinfected upon completion?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
					<b>Pump</b> <input type="checkbox"/> Not Installed	Date Installed	
					Manufacturer's name		
					Model Number	HP	Volt
					Length of drop pipe	ft Capacity	g.p. Typ
					<b>Abandoned</b>		
					Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No		
					<b>Variance</b>		
					Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
					<b>Miscellaneous</b>		
					First Bedrock	Aquifer	
					Last Strat	sand +larger-brown	Depth to Bedrock ft
					Located by Minnesota Department of Health		
					Locate Method	GPS SA Off (averaged)	
					System	UTM - Mad83, Zone 15, Meters	X 459928 Y 4979632
					Unique Number Verification	Info/GPS from data	Input Date 02/12/2014
					<b>Angled Drill Hole</b>		
					<b>Well Contractor</b>		
					United Drilling, Inc.	1832	LANGSDORF, A.
					Licensee Business	Lic. or Reg. No.	Name of Driller
<b>Remarks</b> STATIC WATER LEVEL MEASURED FROM PIT FLOOR.							

**793731**

County Hennepin  
 Quad Excelsior  
 Quad ID 105A

MINNESOTA DEPARTMENT OF HEALTH  
**WELL AND BORING REPORT**  
 Minnesota Statutes Chapter 1031

Entry Date 03/31/2014  
 Update Date 07/27/2015  
 Received Date 02/24/2014

<b>Well Name</b> BORKLAND	<b>Township</b> 117	<b>Range</b> 22	<b>Dir Section</b> W 6	<b>Subsection</b> DACABB	<b>Well Depth</b> 70 ft.	<b>Depth Completed</b> 60 ft.	<b>Date Well Completed</b> 02/06/2014
<b>Elevation</b> 936 ft.	<b>Elev. Method</b> 7.5 minute topographic map (+/- 5 feet)				<b>Drill Method</b> Multiple methods used	<b>Drill Fluid</b>	
<b>Address</b>					<b>Use</b> elevator	<b>Status</b> Active	
Well 875 LAKE ST E WAYZATA MN 55391					<b>Well Hydrofractured?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <b>From</b> <b>To</b>		
<b>Stratigraphy Information</b>					<b>Casing Type</b> Step down <b>Joint</b> Welded		
Geological Material From To (ft.) Color Hardness					<b>Drive Shoe?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <b>Above/Below</b>		
SANDY LOAM 0 30 GRAY SOFT					<b>Casing Diameter</b> <b>Weight</b> <b>Hole Diameter</b>		
SAND & GRAVEL 30 35 RED MEDIUM					18 in. To 58 ft. lbs./ft. 18 in. To 60 ft.		
CLAY & ROCK 35 60 GRAY MEDIUM					24 in. To 60 ft. lbs./ft. 24 in. To 70 ft.		
SAND & GRAVEL 60 70 BROWN MEDIUM							
					<b>Open Hole</b> From ft. To ft.		
					<b>Screen?</b> <input type="checkbox"/> <b>Type</b> <b>Make</b>		
					<b>Static Water Level</b>		
					<b>Pumping Level (below land surface)</b>		
					ft. hrs. Pumping at g.p.m.		
					<b>Wellhead Completion</b>		
					Pitless adapter manufacturer Model		
					<input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade		
					<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)		
					<b>Grouting Information</b> Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified		
					Material Amount From To		
					neat cement 4.2 Cubic yards ft. 70 ft.		
					<b>Nearest Known Source of Contamination</b>		
					feet Direction Type		
					Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No		
					<b>Pump</b> <input type="checkbox"/> Not Installed Date Installed		
					Manufacturer's name		
					Model Number HP Volt		
					Length of drop pipe ft Capacity g.p. Typ		
					<b>Abandoned</b>		
					Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No		
					<b>Variance</b>		
					Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
					<b>Miscellaneous</b>		
					First Bedrock Aquifer		
					Last Strat sand +larger-brown Depth to Bedrock ft		
					Located by Minnesota Department of Health		
					Locate Method GPS SA Off (averaged)		
					System UTM - Mad83, Zone 15, Meters X 460120 Y 4979622		
					Unique Number Verification Info/GPS from data Inpute Date 02/03/2014		
					<b>Angled Drill Hole</b>		
					<b>Well Contractor</b>		
					United Drilling, Inc. 1832 LANGSDORFA		
					Licensee Business Lic. or Reg. No. Name of Driller		

## **Appendix G**

### **Aquatic Environment Characterization**

Appendix G. Wayzata Lake Effect Aquatic Environment Characterization

Distance from Shoreline (ft)	Transect Location																	
	Swimming Beach (west dock)			Depot Dock			Walker Ave. S			Broadway Ave. S			Ecopark (west side)			Ecopark (east side)		
	Depth (ft)	Cover	%	Depth (ft)	Cover	%	Depth (ft)	Cover	%	Depth (ft)	Cover	%	Depth (ft)	Cover	%	Depth (ft)	Cover	%
1	0.1	Sand	100	0.2	Boulder/sand Algae/detritus	95 <5	0.4	Boulder Algae/detritus	80 20	0.2	Boulder/sand Algae/detritus	95 <5	0.1	Sand/gravel Algae/detritus	95 5	0.2	Boulder Algae/detritus	95 <5
25	2.6	Sand EW WC Algae/detritus	90 <3 <3 <3	-	-	-	8.4	EW WC	60 <5	2.8	Sand/gravel Algae/detritus EW Boulder	83 15 <1 <1	-	-	-	-	-	-
50	3.3	Sand WC Algae/detritus	90 <5 <5	7.3	Sand WC EW P	70 15 <10 <5	-	-	-	4.4	Sand/gravel P WC EW Algae/detritus	55 35 10 <5 <1	3.5	Sand EW P WW Algae/detritus	50 40 <10 <1 <1	2.2	Sand	100
75	4.2	Sand WC Algae/detritus	80 <5 15	8.7	Sand EW P WC Algae/detritus	30 30 35 <5 1	-	-	-	6.0	EW P Sand/gravel WC Algae/detritus	35 30 30 5 <1	-	-	-	-	-	-
100	4.7	Sand WC Algae/detritus	60 20 20	10	EW WC	>95 1	-	-	-	7.5	EW Sand/gravel WC P Algae/detritus	60 30 5 <5 <3	4.8	EW Sand	70 30	3.4	Sand/silt	100
150	-	-	-	-	-	-	-	-	-	-	-	-	5.3	EW Sand P	90 10 <1	4.4	Sand	100
200	-	-	-	-	-	-	-	-	-	-	-	-	5.5	EW Sand WC C Algae/detritus	80 20 <1 <1 <1	4.8	Sand	100
250	-	-	-	-	-	-	-	-	-	-	-	-	5.5	EW Sand Algae/detritus	80 20 <1	5.3	Sand	100
300	-	-	-	-	-	-	-	-	-	-	-	-	6.0	EW Sand WC Algae/detritus	80 20 <1 <1	5.5	Sand	100

Note: Turbidity inhibited observations deep into water column.

- = not assessed

EW = Eurasian watermilfoil (*Myriophyllum spicatum*); invasive species

WC = wild celery (*Vallisneria spiralis*)

P = pondweeds (*Potamogeton* spp); multiple species observed, but not invasive *P. crispus*

C = coontail (*Ceratophyllum demersum*)

WW = white waterlily (*Nymphaea odorata*)

**Appendix H**  
**NHIS Response**



# Minnesota Department of Natural Resources

Division of Ecological and Water Resources, Box 25

500 Lafayette Road

St. Paul, Minnesota 55155-4025

Phone: (651) 259-5091 E-mail: [samantha.bump@state.mn.us](mailto:samantha.bump@state.mn.us)

December 7, 2016

**Correspondence # ERDB 20170194**

Ms. Jennifer Wolff  
Braun Intertec Corporation  
11001 Hampshire Avenue South  
Minneapolis, MN 55438

RE: Natural Heritage Review of the proposed Wayzata Lake Effect Park,  
T117N R22W Sections 6 & 8; Hennepin County

Dear Ms. Wolff,

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. Based on this query, rare features have been documented within the search area (for details, 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 adversely affected** by the proposed project:

- The pugnose shiner (*Notropis anogenus*), a state-listed threatened fish species, has been documented in Lake Minnetonka. Pugnose shiners prefer clear, glacial lakes and streams with an abundance of submerged vegetation such as eelgrass, elodea, pondweed, and muskgrass. This species is vulnerable to the removal of aquatic vegetation from lakes, increases in eutrophication from nutrient enrichment, and increases in water turbidity or siltation that can be caused from pollution, pesticides, and runoff. Actions to minimize impacts include, but are not limited to, the following recommendations:
  - minimize the use of pesticides and fertilizers,
  - maintain or restore lakeshore vegetation,
  - avoid removal of native aquatic vegetation,
  - require stringent erosion and sediment control practices during construction, and
  - incorporate erosion and sediment control practices into any stormwater management plan.
  - To protect spawning fish, work within the water should be avoided from March through May.
- Blanding's turtles (*Emydoidea blandingii*), a state-listed threatened species, have been reported in the vicinity of the proposed project and may be encountered on site. 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. In addition, if erosion control mesh will be used, the DNR recommends that the mesh be limited to wildlife-friendly materials (see enclosed fact sheet). 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. 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.

- The Environmental Assessment Worksheet should address whether the proposed project has the potential to adversely affect the above rare features and, if so, it should identify specific measures that will be taken to avoid or minimize disturbance. Sufficient information should be provided so the DNR can determine whether a takings permit will be needed for any of the above protected species.
- Please include a copy of this letter in any state or local license or permit application. **Please note that measures to avoid or minimize disturbance to the above rare features may be included as restrictions or conditions in any required permits or licenses.**

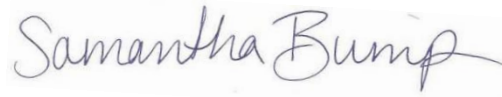
The Natural Heritage Information System (NHIS), a collection of databases that contains information about Minnesota's rare natural features, is maintained by the Division of Ecological and Water Resources, Department of Natural Resources. The NHIS is continually updated as new information becomes available, 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. **If additional information becomes available regarding rare features in the vicinity of the project, further review may be necessary.**

For environmental review purposes, the results of this Natural Heritage Review are valid for one year; the results are only valid for the project location (noted above) and the project description provided on the NHIS Data Request Form. Please contact me if project details change or for an updated review if construction has not occurred within one year.

The Natural Heritage Review 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. To determine whether there are other natural resource concerns associated with the proposed project, please contact your DNR Regional Environmental Assessment Ecologist (contact information available at [http://www.dnr.state.mn.us/eco/ereview/erp\\_regioncontacts.html](http://www.dnr.state.mn.us/eco/ereview/erp_regioncontacts.html)). Please be aware that additional site assessments or review may be required.

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,

A handwritten signature in black ink that reads "Samantha Bump". The signature is written in a cursive style and is placed on a light-colored rectangular background.

Samantha Bump  
Natural Heritage Review Specialist

Enc. Blanding's Turtle Fact Sheet & Flyer  
Wildlife Friendly Erosion Control

Cc: Becky Horton  
Leslie Parris

# Preventing Entanglement by Erosion Control Blanket

Plastic mesh netting is a common component in erosion control blanket. It is utilized to hold loose fibrous materials in place (EG straw) until vegetation is established. Erosion control blanket is being utilized extensively and is effective for reducing soil erosion, benefitting both soil health and water quality. Unfortunately there is a negative aspect of the plastic mesh component: It is increasingly being documented that its interaction with reptiles and amphibians can be fatal (Barton and Kinkead, 2005; Kapfer and Paloski, 2011). Mowing machinery is also susceptible to damage due to the long lasting plastic mesh.

## Potential Problems:

- Plastic netting remains a hazard long after other components have decomposed.
- Plastic mesh netting can result in entanglement and death of a variety of small animals. The most vulnerable group of animals are the reptiles and amphibians (snakes, frogs, toads, salamanders, turtles). Ducklings, small mammals, and fish have also been observed entangled in the netting.
- Road maintenance machinery can snag the plastic mesh and pull up long lengths into machinery, thus binding up machinery and causing damage and/or loss of time cleaning it out.

## Suggested Alternatives:

- Do not use in known locations of reptiles or amphibians that are listed as Threatened or Endangered species.
- Limit use of blanket containing welded plastic mesh to areas away from where reptiles or amphibians are likely (near wetlands, lakes, watercourses, or rock outcrops) or habitat transition zones (prairie – woodland edges, rocky outcrop – woodland edges, steep rocky slopes, etc.)
- Select products with biodegradable netting (preferably made from natural fibers, though varieties of biodegradable polyesters also exist on the market). Biodegradable products will degrade under a variety of moisture and light conditions.
- DO NOT use products that require UV-light to degrade (also called “photodegradable”) as they do not degrade properly when shaded by vegetation.

**Solution:** Most categories of erosion control blanket and sediment control logs are available in natural net options.

- Specify ‘Natural Netting’ for rolled erosion control products, per MnDOT Spec 3885. See Table 3885-1.
- Specify ‘Natural Netting’ for sediment control logs, per MnDOT Spec 3897



The plastic mesh component of erosion control blanket becomes a net for entrapment.

## Literature Referenced

Barton, C. and K. Kinkead. 2005. Do erosion control and snakes mesh? *Soil and Water Conservation Society* 60:33A-35A.  
Kapfer, J.M., and R.A. Paloski. 2011. On the threat to snakes of mesh deployed for erosion control and wildlife exclusion. *Herpetological Conservation and Biology* 6:1-9.

**Endangered, Threatened, and Special Concern Species of Minnesota**

**Blanding's Turtle**  
*(Emydoidea blandingii)*

Minnesota Status: Threatened  
Federal Status: none

State Rank<sup>1</sup>: S2  
Global Rank<sup>1</sup>: 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 <sup>st</sup> and before June 1 <sup>st</sup> ).	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 1<sup>st</sup>** so the young turtles can escape from the nest when they hatch!

## REFERENCES

- <sup>1</sup>Association 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. Pfanmuller. 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 (507-206-2820); or St. Paul (651-259-5772).

**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 harm's 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 1<sup>st</sup> and before June 1<sup>st</sup>).

## **Appendix I**

### **USFWS IPaC Trust Resources Report**



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Twin Cities Ecological Services Field Office

4101 AMERICAN BLVD E, -

BLOOMINGTON, MN 55425

PHONE: (952)252-0092 FAX: (612)725-3609

URL: [www.fws.gov/midwest/Endangered/section7/s7process/step1.html](http://www.fws.gov/midwest/Endangered/section7/s7process/step1.html)

Consultation Code: 03E19000-2017-SLI-0029

November 12, 2016

Event Code: 03E19000-2017-E-00028

Project Name: Wayzata Lake Effect

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

### To Whom It May Concern:

The attached species list identifies any federally threatened, endangered, proposed and candidate species that may occur within the action area the area that is likely to be affected by your proposed project. The list also includes designated and proposed critical habitat that overlaps with the action area. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

Section 7 of the Endangered Species Act of 1973 requires that actions authorized, funded, or carried out by Federal agencies not jeopardize federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-federal representatives) must consult with the Service if they determine their project may affect listed species or critical habitat.

Under 50 CFR 402.12(e) (the regulations that implement Section 7 of the Endangered Species Act) the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally. You may verify the list by visiting the ECOS-IPaC website <http://ecos.fws.gov/ipac/> at regular intervals during project planning and implementation and completing the same process you used to receive the attached list. As an alternative, you may contact this Ecological Services Field Office for updates.

Please use the species list provided and visit the U.S. Fish and Wildlife Service's Region 3 Section 7 Technical Assistance website at - <http://www.fws.gov/midwest/endangered/section7/s7process/index.html>. This website contains step-by-step instructions that will help you determine if your project will have an adverse effect on listed species and will help lead you through the Section 7 process.

For all **wind energy projects** and **projects that include installing towers that use guy wires or are over 200 feet in height**, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within the action area.

Although no longer protected under the Endangered Species Act, be aware that bald eagles (*Haliaeetus leucocephalus*) are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*) and Migratory Bird Treaty Act (16 U.S.C. 703 *et seq.*), as are golden eagles (*Aquila chrysaetos*). Projects affecting these species may require measures to avoid harming eagles or may require a permit. If your project is near a bald eagle nest or winter roost area, see our Eagle Permits website at <http://www.fws.gov/midwest/midwestbird/EaglePermits/index.html>. The information available at this website will help you determine if you can avoid impacting eagles or if a permit may be necessary.

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment



United States Department of Interior  
Fish and Wildlife Service

Project name: Wayzata Lake Effect

## Official Species List

### Provided by:

Twin Cities Ecological Services Field Office

4101 AMERICAN BLVD E

BLOOMINGTON, MN 55425

(952) 252-0092

<http://www.fws.gov/midwest/Endangered/section7/s7process/step1.html>

**Consultation Code:** 03E19000-2017-SLI-0029

**Event Code:** 03E19000-2017-E-00028

**Project Type:** \*\* OTHER \*\*

**Project Name:** Wayzata Lake Effect

**Project Description:** Upgrades to Lake Street, additional railroad crossing, create boardwalk along river, create ecopark

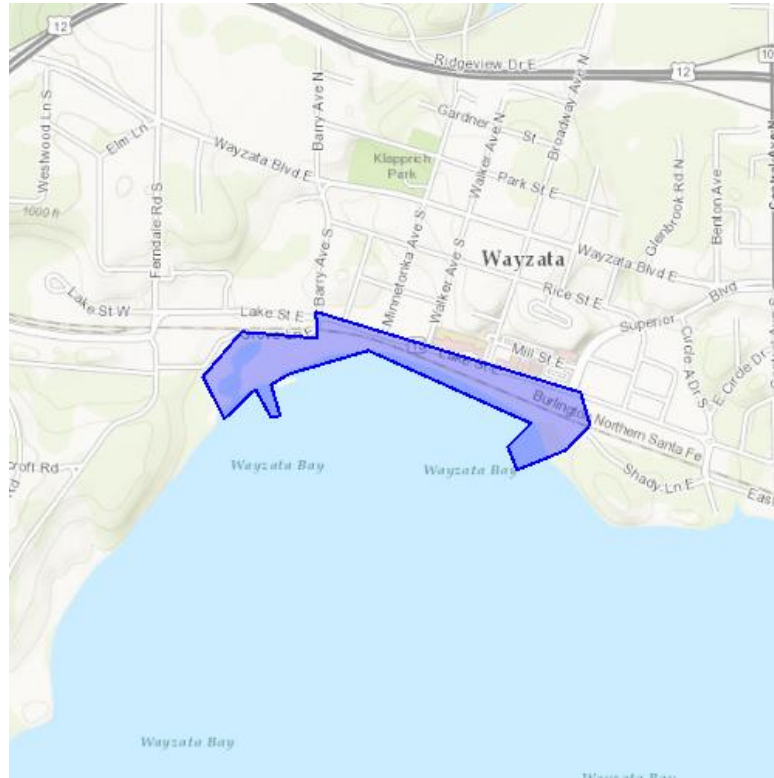
**Please Note:** The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



United States Department of Interior  
Fish and Wildlife Service

Project name: Wayzata Lake Effect

### Project Location Map:



**Project Coordinates:** MULTIPOLYGON (((-93.51726073495229 44.96986271714896, -93.51979769213358 44.97000167998613, -93.52108515246073 44.968950691309765, -93.52032588038128 44.96796975166434, -93.51933552708942 44.968670424286714, -93.51879743378957 44.96800361734016, -93.51847721889499 44.96804682584938, -93.5188007367833 44.96875800822598, -93.51818011316936 44.9690441136553, -93.51553916931152 44.96955793151949, -93.51012523256941 44.96787632756894, -93.51088450464886 44.967315781654236, -93.51058739761356 44.96677858745126, -93.50893680966692 44.96722235742029, -93.50817753758747 44.96780626009246, -93.50847464462277 44.968600357780275, -93.5173218062846 44.97049213453086, -93.51726073495229 44.96986271714896)))

**Project Counties:** Hennepin, MN



United States Department of Interior  
Fish and Wildlife Service

Project name: Wayzata Lake Effect

## Endangered Species Act Species List

There are a total of 4 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Clams	Status	Has Critical Habitat	Condition(s)
Higgins eye ( <i>Lampsilis higginsii</i> ) Population: Wherever found	Endangered		
Snuffbox mussel ( <i>Epioblasma triquetra</i> ) Population: Wherever found	Endangered		
<b>Insects</b>			
rusty patched bumble bee ( <i>Bombus affinis</i> ) Population: Wherever found	Proposed Endangered		
<b>Mammals</b>			
Northern long-eared Bat ( <i>Myotis septentrionalis</i> ) Population: Wherever found	Threatened		



United States Department of Interior  
Fish and Wildlife Service

Project name: Wayzata Lake Effect

## **Critical habitats that lie within your project area**

There are no critical habitats within your project area.



United States Department of Interior  
Fish and Wildlife Service

Project name: Wayzata Lake Effect

## Appendix A: FWS Migratory Birds

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). The MBTA has no otherwise lawful activities. For more information regarding these Acts see: <http://www.fws.gov/birds/policies-and-regulations/laws-legislations/migratory-bird-treaty-act.php>  
<http://www.fws.gov/birds/policies-and-regulations/laws-legislations/bald-and-golden-eagle-protection-act.php>

All project proponents are responsible for complying with the appropriate regulations protecting birds when planning and developing a project. To meet these conservation obligations, proponents should identify potential or existing project-related impacts to migratory birds and their habitat and develop and implement conservation measures that avoid, minimize, or compensate for these impacts. The Service's Birds of Conservation Concern (2008) report identifies species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become listed under the Endangered Species Act as amended (16 U.S.C 1531 et seq.).

For information about Birds of Conservation Concern, go to:

<http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>

For information about conservation measures that help avoid or minimize impacts to birds, please visit:

<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>

To search and view summaries of year-round bird occurrence data within your project area, go to the Avian Knowledge Network Histogram Tools at:

<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/akn-histogram-tools.php>



United States Department of Interior  
Fish and Wildlife Service

Project name: Wayzata Lake Effect

**Migratory birds that may be affected by your project:**

There are 21 birds on your migratory bird list. The list may include birds occurring outside this FWS office jurisdiction.

Species Name	Bird of Conservation Concern (BCC)	Seasonal Occurrence in Project Area
American bittern ( <i>Botaurus lentiginosus</i> )	Yes	Breeding
Bald eagle ( <i>Haliaeetus leucocephalus</i> )	Yes	Year-round
Black tern ( <i>Chlidonias niger</i> )	Yes	Breeding
Black-billed Cuckoo ( <i>Coccyzus erythrophthalmus</i> )	Yes	Breeding
Blue-winged Warbler ( <i>Vermivora pinus</i> )	Yes	Breeding
Bobolink ( <i>Dolichonyx oryzivorus</i> )	Yes	Breeding
Brown Thrasher ( <i>Toxostoma rufum</i> )	Yes	Breeding
cerulean warbler ( <i>Dendroica cerulea</i> )	Yes	Breeding
Dickcissel ( <i>Spiza americana</i> )	Yes	Breeding
Least bittern ( <i>Ixobrychus exilis hesperis</i> )	No	Breeding
Loggerhead Shrike ( <i>Lanius ludovicianus</i> )	Yes	Breeding
Marsh wren ( <i>Cistothorus palustris</i> )	Yes	Breeding
Peregrine Falcon ( <i>Falco peregrinus</i> )	Yes	Breeding
Pied-billed Grebe ( <i>Podilymbus podiceps</i> )	Yes	Breeding
Red-headed Woodpecker ( <i>Melanerpes erythrocephalus</i> )	Yes	Breeding
Short-eared Owl ( <i>Asio flammeus</i> )	Yes	Wintering



United States Department of Interior  
Fish and Wildlife Service

Project name: Wayzata Lake Effect

Swainson's hawk ( <i>Buteo swainsoni</i> )	Yes	Breeding
Upland Sandpiper ( <i>Bartramia longicauda</i> )	Yes	Breeding
Western grebe ( <i>aechmophorus occidentalis</i> )	Yes	Breeding
Willow Flycatcher ( <i>Empidonax traillii</i> )	Yes	Breeding
Wood Thrush ( <i>Hylocichla mustelina</i> )	Yes	Breeding

## **Appendix J**

### **MnDNR Best Practices for AIS**

# Best Practices for Preventing the Spread of Aquatic Invasive Species

*All equipment<sup>1</sup> being transported on roads or placed in Waters of the State shall be free of prohibited and regulated invasive species and unlisted non-native species (any other species not native to Minnesota)*

1. **Project plans or documents should identify Designated Infested Waters<sup>2</sup>** located in or near the project area.
2. **Prior to transportation along roads into or out of any worksite, or between water bodies within a project area, all equipment** must be free of any aquatic plants, water, and prohibited invasive species.
  - A. **Drain** all water from equipment where water may be trapped, such as tanks, pumps, hoses, silt curtains, and water-retaining components of boats/barges (see Figures 5 & 6) **AND**
  - B. **Remove** all visible aquatic remnants (plants, seeds and animals). Removal of mud & soil is not required at all sites, though is encouraged as a Best Practice. Removal of mud and soil may be required on sites designated as infested (see #4).
3. **Prior to placing equipment into any waters**, all equipment must be free of aquatic plants and non-native animals.

4. **Additional measures are required on Designated Infested Waters to remove and kill prohibited species such as zebra mussels, quagga mussels, New Zealand mudsnails, faucet snails, or spiny waterfleas.**

Note: The DNR is available to train site inspectors and/or assist in these inspections. Contact the appropriate Regional Invasive Species Specialist: [www.mndnr.gov/invasives/ais/contacts.html](http://www.mndnr.gov/invasives/ais/contacts.html)

- A. For day use equipment (in contact with the water for 24 hours or less); Perform #2 above or,
- B. For in-water exposure greater than 24 hours: Perform #2 above, and inspect all equipment for the prohibited invasive species present (see Figure 1).

Then choose one of the following three: **on-site treatment**, **off-site treatment**, or **customized alternative**.

## On-Site Treatment

**Remove** by handscraping or powerwashing (minimum 3000 psi) all accessible areas (Figures 1 and 2) **AND**

**Kill** Prohibited Aquatic Invasive Species in non-accessible areas using one or more of the following four techniques:

- **Hot Water (minimum 140°F) for ten seconds** (Figure 2) for zebra mussels, quagga mussels, New Zealand mudsnails, faucet snails **OR**
- **Air Dry** (Figures 3 & 4)
  - Spiny waterfleas – air dry for a minimum of 2 days
  - New Zealand mudsnails – air dry for a minimum of 7 days
  - zebra or quagga mussels, faucet snails – air dry for a minimum of 21 days **OR**
- **Freezing Temperatures**
  - zebra mussels - expose to continuous temperature below 32°F for 2 days **OR**
- **Crush**
  - Crush rock, concrete, or other debris by running it through a crushing plant to kill prohibited species

## Off-Site Treatment

Under certain conditions, the DNR will allow transportation of equipment off-site after partial removal of prohibited species (for example, after “removal” has been done and equipment will be taken to a facility to complete final treatment [i.e., “kill”]) This is a ‘one-way pass’ to allow transport to a storage area or disposal facility. This option can only be utilized if the receiving site is at least 300 feet from riparian areas, wetlands, ditches, stormwater inlets or treatment facilities, seasonally-flooded areas, or other waters of the state. To be allowed to use the off-site treatment option you must do the following:

- Read, complete, and comply with the appropriate authorization form for transportation of Prohibited Invasive Species at [www.mndnr.gov/invasives/ais\\_transport.html](http://www.mndnr.gov/invasives/ais_transport.html) (Note that a completed form is required to be in every vehicle that is transporting equipment containing infested species) **AND**
- Complete on-site treatment described in 4B above prior to re-use in or adjacent to water.



**Figure 1. Invasive species may not be readily visible on equipment. Some species are less than 1/4 inch in size.**

Photo credit: Brent Wilber, Lunda Construction



**Figure 2. Removal of aquatic remnants is required before transporting.**

Photo credit: Peter Leete, DNR

# Best Practices for Preventing the Spread of Aquatic Invasive Species

## Contact a DNR Invasive Species Specialist for authorization of a customized alternative

There may be situations due to time of year, length of exposure, type of equipment, or site conditions that a DNR Invasive Species Specialist could approve alternative methods or requirements for treatment. Contact the appropriate Regional Invasive Species Specialist:  
[www.mndnr.gov/invasives/contacts.html](http://www.mndnr.gov/invasives/contacts.html)

## 5. Temporary appropriations of water from Designated Infested Waters to utilize elsewhere (such as for dust control, landscaping, bridge washing, etc.) is not allowed except by permit, thus should be avoided.

If use of Designated Infested Waters is unavoidable, permit information is located at [www.mndnr.gov/waters/watermgmt\\_section/appropriations/permits.html](http://www.mndnr.gov/waters/watermgmt_section/appropriations/permits.html)



**Figure 3. Drying will also kill aquatic organisms. Lay out materials to dry in the proper time. Drying times vary by species. Inspect after drying period is over.**  
Photo credit: Dwayne Stenlund, MnDOT



**Figure 4. Drying techniques must not trap water. This equipment will not dry adequately.**  
Photo credit: Peter Leete, DNR



**Figure 5. Pumping from designated infested waters for use elsewhere on the project is prohibited without a permit.**  
Photo credit: Peter Leete, DNR



**Figure 6. Drain all water from equipment where water may be trapped. Remove drain plugs and drain hoses prior to transport.**  
Photo Credit: Peter Leete, DNR

## Document Information

[www.mndnr.gov/waters/watermgmt\\_section/pwpermits/gp\\_2004\\_0001\\_manual.html](http://www.mndnr.gov/waters/watermgmt_section/pwpermits/gp_2004_0001_manual.html)

Best Practices for Meeting DNR GP 2004-0001 (published 5/11, updated 12/12) – Chapter 1/Page 8

More on the DNR Invasives Species Program can be found at: [www.mndnr.gov/AIS](http://www.mndnr.gov/AIS)

<sup>1</sup> **'Equipment'** is defined as any implement utilized in construction. This includes boats, barges, heavy machinery, light machinery, or other material that may be moved on-site or off-site, including but not limited to rock (riprap) or timber for temporary workpads, backhoes, pumps, hoses, worksite isolation materials (eg, sheet pile or jersey barriers), boats, barges, temporary staging materials, erosion prevention products, sediment control products (eg, silt curtain), water trucks that take water from open bodies of water (eg, dust control), or dewatering components.

<sup>2</sup> **List of Designated Infested Waters:** [http://files.dnr.state.mn.us/eco/invasives/infested\\_waters.pdf](http://files.dnr.state.mn.us/eco/invasives/infested_waters.pdf)

## DNR Contact Information



DNR Ecological and Water Resources lists area office staff at [www.mndnr.gov/waters](http://www.mndnr.gov/waters)

DNR Ecological and Water Resources  
500 Lafayette Road, Box 32, St. Paul, MN  
55155-4032, (651)259-5700 or 5100

DNR Ecological and Water Resources website provides information at [www.mndnr.gov](http://www.mndnr.gov) or by calling (651) 259-5700 or 5100.

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## DNR Information Center

Twin Cities: (651) 296-6157  
Minnesota toll free: 1-888-646-6367  
Telecommunication device for the deaf (TDD): (651) 296-5484  
TDD toll free: 1-800-657-3929

Equal opportunity to participate in and benefit from programs of the Minnesota Department of Natural Resources is available regardless of race, color, national origin, sex, sexual orientation, marital status, status with regard to public assistance, age, or disability. Discrimination inquiries should be sent to Minnesota DNR, 500 Lafayette Road, St. Paul, MN 55155-4049; or the Equal Opportunity Office, Department of the Interior, Washington, DC 20240.

*This information is available in an alternative format on request*

## **Appendix K**

### **Blanding's Turtle Information**

**Endangered, Threatened, and Special Concern Species of Minnesota**

**Blanding's Turtle**  
*(Emydoidea blandingii)*

Minnesota Status: Threatened  
Federal Status: none

State Rank<sup>1</sup>: S2  
Global Rank<sup>1</sup>: 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.

<b>List 1. Recommendations for all areas inhabited by Blanding's turtles.</b>	<b>List 2. Additional recommendations for areas known to be of state-wide importance to Blanding's turtles.</b>
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 <sup>st</sup> and before June 1 <sup>st</sup> ).	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 1<sup>st</sup>** so the young turtles can escape from the nest when they hatch!

## REFERENCES

- <sup>1</sup>Association 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. Pfanmuller. 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 (507-206-2820); or St. Paul (651-259-5772).

**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 harm's 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 1<sup>st</sup> and before June 1<sup>st</sup>).

**Appendix L**  
**SHPO Correspondence**



**City of Wayzata**  
600 Rice Street  
Wayzata, MN 55391-1734

---

**Mayor:**  
Ken Willcox

**City Council:**  
Bridget Anderson  
Johanna McCarthy  
Andrew Mullin  
Steven Tyacke

**City Manager:**  
Jeffrey Dahl

November 1, 2016

Ms. Sarah Beimers  
Government Programs and Compliance  
State Historic Preservation Office  
Minnesota Historical Society  
345 Kellogg Blvd. W.  
St. Paul, Minnesota 55102-1903

RE: Request for Historic and Cultural Resources Database Review  
Wayzata Lake Effect Project  
Wayzata, Minnesota

Dear Ms. Biemers:

The City of Wayzata is proposing revisions to the park area along the shore of Lake Minnetonka in Wayzata, Minnesota (the property). Please refer to the attached map to clarify the property location and areas of expected direct impacts.

The project will include improvements to the beach area, bike trail head, and parking areas around Lake Minnetonka in downtown Wayzata. The existing building off Barry Street will not be changed. The project also proposes a boardwalk connecting the park area on the west side of the project to a new nature preserve to the east. The new nature preserve area will include docks and additional wetland/vegetated areas. One building is within the area of the proposed project – the Section Foreman House. This building would remain in place but may be renovated.

The Section Foreman House is located at 738 Lake Street East, Wayzata, Minnesota. The building was originally constructed in 1913. The house is constructed of wood, concrete block, with concrete foundation walls. The typical interior finished included sheetrock/joint compound, ceiling tile, wood flooring, and vinyl sheet flooring. The exterior of the house has wood siding with an asphalt shingle roof system. The building is currently vacant. A photograph of the building is provided below.



In addition to the lake property, an additional parcel located along Bushaway Road, may be excavated to offset the change in floodplain storage due to the construction of the boardwalk.

We are requesting that you please review the project area to determine whether there are known or likely cultural resources at the property. The information received from you will be used as part of the preparation of an Environmental Assessment Worksheet for the project. If you have any questions or require additional information, please contact me at 952-404-5312 or Jennifer Wolff at 952-995-2454.

Regards,

A handwritten signature in black ink, appearing to read "Jeffrey R. Thomson". The signature is written in a cursive style and extends across the width of the page.

Jeffrey R. Thomson  
Director of Planning and Building

Attachments

- Site location topographic map
- Parcel outline map
- Limits of disturbance map



**BRAUN**  
**INTERTEC**  
 11001 Hampshire Avenue S  
 Minneapolis, MN 55438  
 PH. (952) 995-2000  
 FAX (952) 995-2020

Base files provided by:

WAYZATA LAKE EFFECT EA BASE DATA SKETCH  
 PROJECT NAME  
 ADDRESS  
 LOCATION

**LEGEND**

— Limits of Disturbance

0 125 250 Feet

Project No:	B1607634
Drawing No:	B1607634_DataSkch
Scale:	1 in = 250 ft
Drawn By:	CMF
Date Drawn:	09/01/2016
Checked By:	JW
Last Modified:	9/23/16
Sheet:	Fig.
1 of 1	X



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Google

Imagery ©2016, DigitalGlobe, U.S. Geological Survey

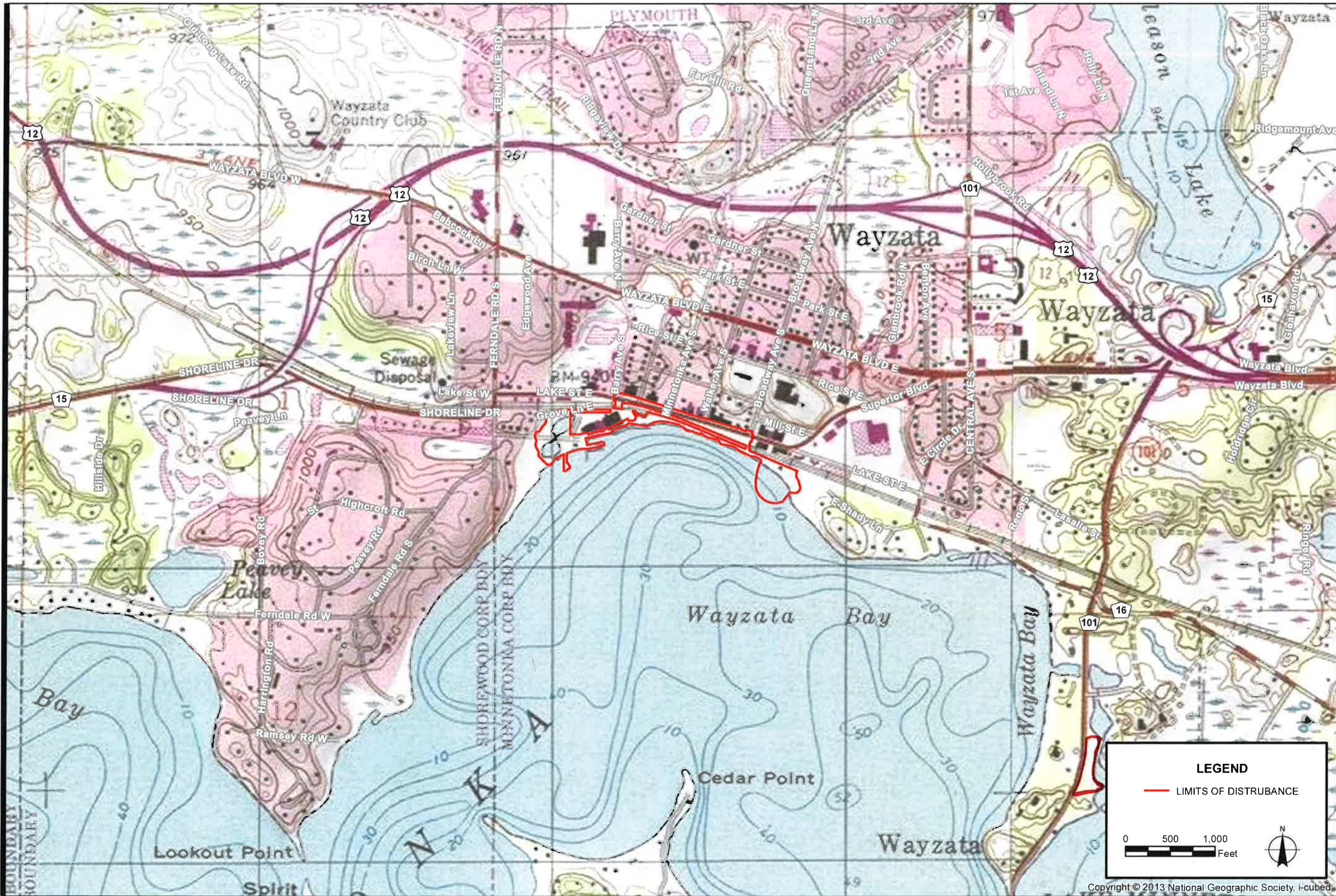
# Wayzata Lake Effect

## Legend

-  Limits of Disturbance
-  Wayzata



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**LEGEND**

— LIMITS OF DISTURBANCE

0 500 1,000 Feet

N

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**BRAUN INTERTEC**  
 11001 Hampshire Avenue S  
 Minneapolis, MN 55438  
 PH (952) 995-2000  
 FAX (952) 995-2020

Base files provided by:

WAYZATA LAKE EFFECT EA BASE DATA SKETCH  
 PROJECT NAME  
 ADDRESS  
 LOCATION

Project No:	B1607634
Drawing No:	B1607634_DataSketch
Scale:	1 in = 1,000 ft
Drawn By:	CMF
Date Drawn:	09/01/2016
Checked By:	JW
Last Modified:	9/23/16
Sheet:	1 of 1
Fig:	X

MINNESOTA HISTORIC PRESERVATION OFFICE

December 8, 2016

Jeffrey Thomson  
Director of Planning and Building  
City of Wayzata  
600 Rice Street  
Wayzata, MN 55391-1734

RE: Wayzata Lake Effect Project  
Improvements to Parkland along Lake Minnetonka  
Wayzata, Hennepin County  
MnHPO Number: 2017-0399

Dear Mr. Thomson:

Thank you for consulting with our office during the preparation of an Environmental Assessment Worksheet for the above referenced project.

We have completed our review of your letter dated 1 November 2016 which included baseline information regarding the City of Wayzata's proposed park improvement project along the shore of Lake Minnetonka.

Our records indicate the presence of both recorded archaeological sites and a historic/architectural property within the project area. Due to the location of the proposed project and proximity of known archaeological sites, we recommend that a Phase I archaeological survey be completed. The survey must meet the requirements of the Secretary of the Interior's *Standards for Identification and Evaluation* as well as our guidelines for completing archaeological surveys in Minnesota. The survey should include an evaluation of National Register eligibility for any properties that are identified. For a list of consultants who have expressed an interest in undertaking such surveys, please visit the website [preservationdirectory.mnhs.org](http://preservationdirectory.mnhs.org), and select "Archaeologists" in the "Search by Specialties" box.

We will reconsider the need for survey if the project area or more detailed park improvement plans indicate that project areas have been previously surveyed or disturbed. Any previous survey work must meet contemporary standards. **Note:** plowed areas and right-of-way are not automatically considered disturbed. Archaeological sites can remain intact beneath the plow zone and in undisturbed portions of the right-of-way.

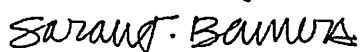
The **Great Northern Railroad, Wayzata Section House**, referred to in your letter as the "Section Foreman House", was previously determined by our office to be eligible for listing in the National Register of Historic Places (NRHP). Based on information included in the historic property file, it appears as though the City has been pursuing NRHP listing and has even completed a Historic Structures Report for the property (draft dated 2015). As you move forward with the park improvement project it will be

important for the City to either avoid direct impacts to this property (building and site) or, if any work on the property is proposed to be integrated into the park improvement project, then consideration should be given to appropriate preservation or rehabilitation treatment in accordance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties*.

Please note that this comment letter does not address the requirements of Section 106 of the National Historic Preservation Act of 1966 and 36CFR800, procedures of the Advisory Council on Historic Preservation for the protection of historic properties. If this project is considered for federal assistance, or requires a federal license or permit, it should be submitted to our office by the responsible federal agency.

Please contact me at 651-259-3456 or [sarah.beimers@mnhs.org](mailto:sarah.beimers@mnhs.org) if you have any questions regarding our comments on this project.

Sincerely,

A handwritten signature in black ink that reads "Sarah J. Beimers". The signature is written in a cursive, slightly slanted style.

Sarah J. Beimers, Manager  
Government Programs and Compliance



**City of Wayzata**  
600 Rice Street  
Wayzata, MN 55391-1734

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**Mayor:**  
Ken Willcox

**City Council:**  
Dan Koch  
Johanna McCarthy  
Alex Plechash  
Steven Tyacke

**City Manager:**  
Jeffrey Dahl

March 7, 2017

Ms. Sarah Beimers  
Government Programs and Compliance  
State Historic Preservation Office  
Minnesota Historical Society  
345 Kellogg Blvd. W.  
St. Paul, Minnesota 55102-1903

RE: Wayzata Lake Effect Project  
Improvements to Parkland along Lake Minnetonka  
Wayzata, Minnesota  
MnHPO Number: 2017-0399

Ms. Biemers:

Thank you for your letter dated December 8, 2016, on the above-referenced project. In your letter, you made two recommendations:

1. Complete a Phase I archaeological survey
2. Appropriate preservation of the Section Foreman House

The purpose of this letter is to provide responses to these two recommendations, and to provide additional information regarding the project.

SHPO recommendation: complete a Phase I archaeological survey

In your letter, you indicated that you will reconsider the need for a Phase I archaeological survey if the project area or more detailed park improvement plans indicate that project areas have been previously surveyed or disturbed. The City of Wayzata believes that the Lake Effect project would be located within previously disturbed areas. I have enclosed the map that was provided in my previous letter, which shows the project area, and two additional maps that show the proposed project. The following provides additional information about the extent of impacts for the proposed project, and a more detailed description of the work:

- Wayzata Beach: On the west end of the proposed project area, the proposed project will make modifications to the existing man-made beach by adding a dock/pier and potentially a floating platform. This activity may impact some existing beach area as well as areas below the ordinary high water level (OHWL) of Lake Minnetonka. In the existing beach area, the

shoreline may be modified by removing some of the existing sand and moving the beach edge 14 feet further upland. The maximum depth of the excavation is expected to be one foot.

- Wayzata Depot: In the area to the east of the Wayzata Depot, which is currently grass park land and shoreland rip-rap, a series of terraces would be constructed, leading down to the lake edge. The terraces will include excavation of up to two feet of the lake bottom along the lake edge.
- Lake Boardwalk: The terraces would connect to a new lake boardwalk that would be constructed on the lake, between the Depot and the existing community docks located at Broadway Avenue. The lake boardwalk will be 10 feet wide, 1,193 feet in length, and will be located within the lake, but above the OHWL. At the community docks at Broadway, the lake boardwalk would connect to the existing upland sidewalk/driveway. From the Broadway docks to the Section Foreman House, the lake walk would be located entirely within the footprint of the existing driveway/sidewalk.
- Lake Street: In the central area of the project, the project includes reconstruction of the existing Lake Street, including modifications to parking, drive lanes, sidewalks, and pavement. The Lake Street area has been previously disturbed with many City of Wayzata utilities located beneath the street.
- Shoreline Restoration: The central shoreline from the Depot to the Broadway docks consists of a constructed rip-rap lake edge. The proposed plans include restoration of the shoreline with aquatic vegetation. However, the shoreline restoration would not impact or disturb the existing rip-rap, which provides structural stability for the lake edge and adjacent railroad tracks.
- Broadway Docks: The City currently owns and operates public docks at the end of Broadway Avenue, which includes permanent docks and transient seasonal docks. The proposed project will include adding additional permanent docks and boardwalk/pier at this location, in place of the current transient docks.
- Railroad Crossings: There are two existing railroad crossings located at Barry Avenue and Broadway Avenue. The proposed project includes safety improvements to these existing crossings.
- Eco Park: On the east end of the proposed project the area around the Section Foreman House, the improvements would include improved ADA access to the renovated and restored house, and construction of a fishing pier out into the lake. In addition, an underwater linear reef would be constructed, allowing the shoreline in this area to return to a more natural vegetative state.
- Floodplain and Shoreland Mitigation: Finally, as part of potential mitigation for the impacts to the lake bottom and lake volume, a parcel along Bushaway Road would be impacted by

construction activities. The existing man-made stormwater pond would be deepened to create new lake volume to compensate for fill in other areas of the project. I have included two land cover maps to show you the area that would be disturbed. Portions of this area have previously been disturbed by road construction and the installation of the man-made stormwater pond.

In summary, the expected impacts for this project are primarily within the lake itself, with minor impacts in areas that have been previously disturbed (existing beach, park land, railroad crossings, and public street.) Based on this additional information, the City is requesting clarification on which areas of the project you feel a Phase I archaeological survey is warranted.

Please keep in mind that for the entire project, if buried artifacts, human remains, cultural sites, or ground features are unexpectedly unearthed during ground-disturbing activities, all construction in that area will immediately cease and the resources will be examined by a professional archaeologist. Additionally, appropriate authorities, including the State Historic Preservation Office will be notified.

SHPO Recommendation: Appropriate preservation of the Section Foreman House

As you noted in your letter, consideration should be given to appropriate preservation or rehabilitation treatment for the building or surrounding area, in accordance with the Secretary of the Interior's "Standards for the Treatment of Historic Properties". The proposed project is still in the planning stages, so exact details of the proposed project, other than the general description provided above, are not available at this time. The City agrees with this recommendation and consideration will be given to these standards.

If you have any questions or require additional information, please contact me at (952) 404-5312.

Regards,

A handwritten signature in black ink, appearing to read "Jeff Thomson", with a long horizontal line extending to the right.

Jeffrey R. Thomson  
Director of Planning and Building

Enclosures

CC: Jennifer Wolff, Braun Intertec

# PROPOSED LAKE EFFECT SIGNATURE PARK







**PROPOSED PROJECT POST-CONSTRUCTION**  
 WAYZATA LAKE EFFECT  
 WAYZATA, MINNESOTA

**LEGEND**

- ⬮ LIMITS OF DISTURBANCE
- ⬮ PROPOSED PROJECT


0 125 250 Feet

Project No:	B1607634
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Scale:	1 in = 250 ft
Drawn By:	CMF
Date Drawn:	01/20/2017
Checked By:	JBW
Last Modified:	2/9/17
Sheet:	Fig.
1 of 1	4


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# Wayzata Lake Effect EAW


## Bushaway Road Parcel - Existing Land Cover

 Limits of Work

### Existing Land Cover

 Wooded/Forest

 Brush/Grassland

 Lawn/Landscaping

 Impervious Surface

 Stormwater Pond

Data Sources:  
- LMIC WMS server (2012 aerial)


AES Project Number: 16-0549

Date: 1/4/17

File Name: Wayzata EAW\_bush\_exist lc\_2017-01-04



Applied Ecological Services, Inc.  
21938 Mushtown Road  
Prior Lake, MN 55372  
952-447-1919  
www.appliedeco.com

 Feet  
0 25 50 100



# Wayzata Lake Effect EAW

## Bushaway Road Parcel - Proposed Land Cover

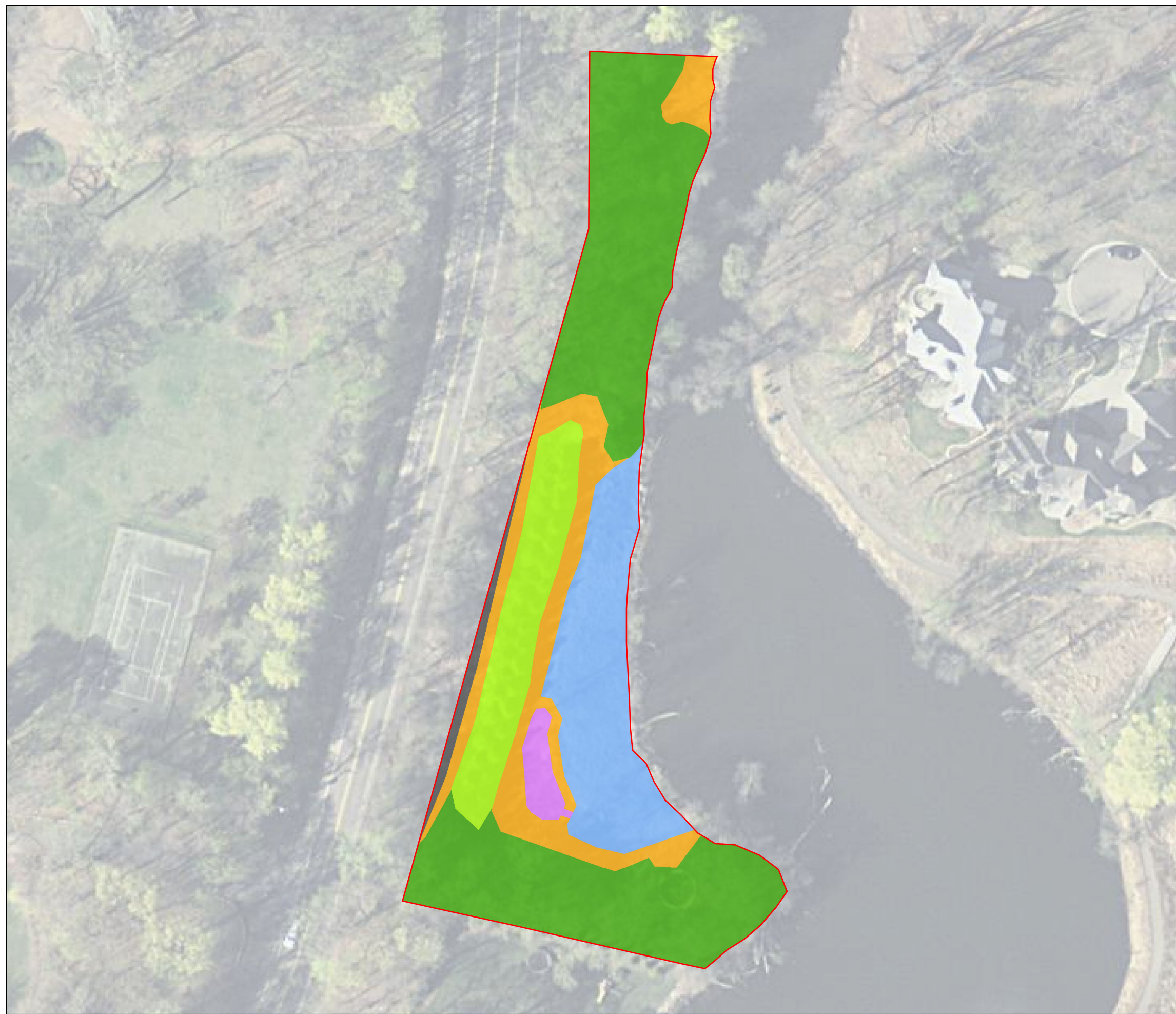
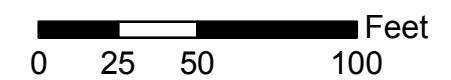


Data Sources:  
- LMIC WMS server (2012 aerial)

AES Project Number: 16-0549  
Date: 1/4/17  
File Name: Wayzata EAW\_bush\_prop lc\_2017-01-04



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MINNESOTA HISTORIC PRESERVATION OFFICE

April 7, 2017

Jeffrey Thomson  
Director of Planning and Building  
City of Wayzata  
600 Rice Street  
Wayzata, MN 55391-1734

RE: Wayzata Lake Effect Project  
Improvements to Parkland along Lake Minnetonka  
Wayzata, Hennepin County  
MnHPO Number: 2017-0399

Dear Mr. Thomson:

Thank you for continuing consulting with our office during the preparation of an Environmental Assessment Worksheet for the above referenced project. It has been reviewed pursuant to the responsibilities given the Minnesota Historical Society by the Minnesota Historic Sites Act (M.S. 138.665-138.666) and the Minnesota Field Archaeology Act (M.S. 138.40).

We last wrote to you on 8 December 2016 in response to your request that we review and provide comments as it pertains to the City of Wayzata's environmental review for a proposed Wayzata Lake Effect park improvement project (Project). Due to the presence of recorded archaeological sites, including sites on land and several in Wayzata Bay including the Wayzata Bay Wreck (21HE401), a historic property which is listed in the National Register of Historic Places (NRHP), our December 8<sup>th</sup> letter recommended that the City contract for the completion of a Phase I archaeological survey for the Project. Alternatively, the City could present to our office more detailed Project information and information as it pertains to previously disturbed areas within the Project. Your letter dated 7 March 2017 provides more detailed Project information and a statement that the City believes the Project would be located within previously disturbed areas. We have completed our review of your recent letter and supporting Project documents. Our comments are provided below.

### Archaeology

The Minnesota Historic Preservation Office's National Register Archaeologist David Mather has reviewed your recent letter and additional Project documentation. His comments and recommendations are summarized below:

- Because it is surrounded by recorded archaeological sites, this Project is located in an area of high archaeological potential and cultural sensitivity. Recorded sites on land include mounds or other burial sites and there are several recorded sites in the water, including one that is listed in the NRHP (as noted above). There is no indication, either in our records or made by the City, that an archaeological survey has ever been completed for the park.

The new information submitted is helpful, but does not change our earlier recommendation that an archaeological survey of the park will need to be conducted for the Project. The consulting archaeologist should review Project plans, and determine the Area of Potential Effect, including areas needed for construction staging. They should then survey those locations where archaeological survey is appropriate, based upon research and field review. Since this is a small park, it may be most effective to simply have an archaeological survey done for the entire park. A comprehensive survey would ensure avoidance or appropriate treatment of any archaeological sites for the currently proposed Project as well as documentation the City could utilize for planning any future park improvements as well.

You mention in your letter that the City is committed to stop work, consult with our office and others, to address and appropriately treat any unexpected archaeological discoveries during project construction. We agree that an unexpected discoveries plan is beneficial for a Project such as this, but we caution the City that a plan for addressing unexpected archaeological discoveries does not substitute for completion of an archaeological survey during project planning. It has been our experience that the survey would meet the regulatory requirements in that it would identify any archaeological sites so that provisions in the Project design could be made in order to avoid effects to any archaeological sites prior to construction.

If you have not done so already, we recommend that the City initiate consultation with the Office of the State Archeologist as it pertains to their review role under both M.S. 138.40 and, as it pertains to human burials, M.S. 307.08.

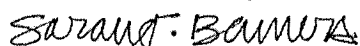
#### **Historic Structures**

As you are aware, the **Great Northern Railroad, Wayzata Section House**, referred to in your letter as the "Section Foreman House", was previously determined by our office to be eligible for listing in the National Register of Historic Places (NRHP). Your March 6<sup>th</sup> letter indicates that, although the proposed work to, and adjacent to, the historic property is still in planning stages, the City agrees with our previous recommendation that any work proposed on this historic property as part of the Project should be developed in conformance with the Standards. We look forward to additional consultation on this matter as Project plans are further developed.

Please note that this comment letter does not address the requirements of Section 106 of the National Historic Preservation Act of 1966 and 36CFR800, procedures of the Advisory Council on Historic Preservation for the protection of historic properties. If this Project is considered for federal assistance, or requires a federal license or permit, including a U.S. Army Corps of Engineers permit for impacts to Waters of the U.S., it should be submitted to our office by the responsible federal agency. Be advised that comments and recommendations provided by our office for this state-level review may differ from findings and determinations made by the federal agency as part of review and consultation under Section 106.

Please contact me at 651-259-3456 or [sarah.beimers@mnhs.org](mailto:sarah.beimers@mnhs.org) if you have any questions regarding our comments on this project.

Sincerely,



Sarah J. Beimers, Manager  
Government Programs and Compliance