ENVIRONMENTAL ASSESSMENT WORKSHEET

Note to reviewers: Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.

1. **Project title:** Wayzata Lake Effect

2. **Proposer:** City of Wayzata
   Contact person: Jeff Thomson
   Title: Director of Planning and Building
   Address: 600 Rice Street East
   City, State, ZIP: Wayzata, Minnesota 55391
   Phone: 952.404.5312
   Fax: 952.404.5318
   Email: jthomson@wayzata.org

3. **RGU:** City of Wayzata
   Contact person: Jeff Thomson
   Title: Director of Planning and Building
   Address: 600 Rice Street East
   City, State, ZIP: Wayzata, Minnesota 55391
   Phone: 952.404.5312
   Fax: 952.404.5318
   Email: jthomson@wayzata.org

4. **Reason for EAW Preparation:** (check one)

   Required:
   ☐EIS Scoping
   ☒Mandatory EAW

   Discretionary:
   ☐ Citizen petition
   ☐ RGU discretion
   ☐Proposer initiated

   If EAW or EIS is mandatory give EQB rule category subpart number(s) and name(s):
   MN Rule 4410.4300, subpart 27 wetlands and public waters
   MN Rule 4410.4300, subpart 36a land conversion in shoreland

5. **Project Location:**
   County: Hennepin
   City/Township: City of Wayzata
   PLS Location (¼, ¼, Section, Township, Range):
   - S ½ of Section 6, T 117 N, R 22 W
   - NW ¼ of Section 8, T 117N, R 22W

   Watershed (81 major watershed scale): 20
   GPS Coordinates: 44.97, -93.51
   Tax Parcel Numbers:
   - 0611722420032
   - 0611722440025 (portions)
   - 0611722310001
   - 081172240017 (portions)(Bushaway Road Parcel)
   - 0611722310089
   - 0611722320007 (portions)

At a minimum, attach each of the following to the EAW:

- County map showing the general location of the project (Figure 1);
- U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (Figure 2); and

- Site plans showing all significant project and natural features, pre-construction site plan and post-construction site plan (remaining figures).

Tables (embedded in the text)

Figures

Appendices

A-7: Option A5 Lake edge: Continuous Toe-Wood Plan
A-8: Option A6 Lake Edge: Intermittent Toe-Wood Plan
A-9: Options A5 & A6 Lake Edge: Toe-Wood Section

B: Lake Walk/Boardwalk Construction Options
Figures:
B-1: Option B1 Boardwalk Wood Pile Plan – Beach Area
B-2: Option B1 Boardwalk Wood Pile Plan – Lake Walk
B-3: Option B1 Boardwalk Wood Pile Section
B-4: Option B2 Boardwalk Concrete Pile Plan – Beach Area
B-5: Option B2 Boardwalk Concrete Pile Plan – Lake Walk
B-6: Option B2 Boardwalk Concrete Pile Section

C: Linear Reef and Shoreline Marsh Construction Options
Figures:
C-1: Option C1 Linear Reef Riprap Plan
C-2: Option C1 Linear Reef Riprap Section
C-3: Option C2 Linear Reef Sheet Pile Plan
C-4: Option C2 Linear Reef Sheet Pile Section

D: Mitigation Options
Figures:
D-1: Depot Park Terrace Section
D-2: Beach Section
D-3: Boatworks Marina
D-4: East Pond
D-5: Bushaway Road Mitigation

E: FEMA Map
F: Well Logs
G: Aquatic Environment Characterization
H: MN DNR NHIS Response
I: USFWS IPaC Trust Resources Report
J: MnDNR Best Practices for AIS
K: Blanding's Turtle Information
L: SHPO Correspondence

6. Project Description:

a. **Provide the brief project summary to be published in the *EQB Monitor*, (approximately 50 words).**

The Wayzata Lake Effect project (the proposed project) extends from a stormwater basin east of the Section Foreman House to the inland marina on the west. A meandering continuous boardwalk (the Lake Walk) will extend from a new "Eco Park" near the Section Foreman House on the east end, past the Broadway community docks, to the historic Depot. An Eco Park will be on the east side of the project with a restored shoreline marsh, fishing pier, and environmental education center. Lake Street will be redesigned to be more pedestrian and bicycle friendly with revised urban park/plaza replacing the Broadway Municipal parking lot. As part of a potential future phase, the existing swimming beach will be redesigned and enhanced. A City-owned parcel of land located on the east side of Bushaway Road (the Bushaway Parcel) will be modified as necessary to offset impacts to the lake bottom and lake volume displaced due to the construction of the proposed project.

b. **Give a complete description of the proposed project and related new construction, including infrastructure needs. If the project is an expansion include a description of the existing facility. Emphasize: 1) construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes, 2) modifications to existing equipment or industrial processes, 3) significant demolition, removal or remodeling of existing structures, and 4) timing and duration of construction activities.**

The proposed project will change the use of the currently underutilized lake shore to include more green space areas with boardwalks and paths for increased pedestrian and bicycle access to the area. The project will also restore portions of the lake shore to a more natural lake edge and restore a marsh area on the east end. The proposed project is shown on Figures 3 – 6.

The goals of the proposed project include: 1) providing people with safe, year-round access to Lake Minnetonka's shoreline; 2) restoring and creating shoreline marsh areas of native plants for wildlife and improved aesthetics, 3) enhancing the water quality of the lake; and 3) providing enhanced passive and active recreation through enhanced swimming and fishing facilities, and educational and interpretive opportunities associated with the environmentally-focused Eco Park.

The project extends from a stormwater basin east of the Section Foreman House (on the east end of the proposed project) to the west past the existing Boat Works building toward the inland marina (on the west end of the proposed project). An Eco Park will be created on the east side of the project with a restored shoreline marsh, fishing pier, and environmental education center. A meandering continuous boardwalk (the Lake Walk) will extend from the new Eco Park near the Section Foreman House, past the Broadway community docks, to the existing Depot building. A terrace area (the Depot Terrace) will be constructed near the Depot building to allow gathering by the lake shore. Shade structures and a restroom building are also planned for this area. Additional boardwalk may be placed in connection with the Broadway community docks.

As part of a potential future phase, the existing beach area on the west end of the proposed project will be redesigned with the addition of a boardwalk, a new shade structure, new restroom, and an expanded food/equipment rental facility. Lake Street will be redesigned to be more pedestrian and bicycle friendly with an urban park/plaza replacing the Broadway Municipal parking lot. Improvements to stormwater management elements will be conducted in the beach area and along Lake Street, including removing the existing storm water facility and replacing it with a new linear water quality device at the south end of the existing parking. The trailhead to the west of the marina will be enhanced to connect it to existing park areas.

The Lake Walk will be a 10' wide, 1,193' long, meandering continuous boardwalk, placed approximately one foot above the ordinary high water level (OHWL), with railings on both sides. The Lake Walk width was established to enable access in accordance with the Americans with Disabilities Act (ADA), enable winter maintenance, and to facilitate gatherings by small groups along the length of the Lake Walk. In addition, a boardwalk will be placed on the west end near the swimming beach, in the central area near the existing Broadway community docks, and on the east end near the Eco Park extending perpendicular from the lake shore. The total boardwalk length of these three segments will be 2,217 lineal feet (lf). As part of this project, the existing lake edge will be restored to be a more vegetated, natural lake edge. At this time, much of the lake edge is riprap with limited vegetation. The existing riprap will be left in place as the lake edge is modified. In order to establish shoreline vegetation, underwater structures (e.g. riprap, sheet pile, or toe-wood) will be needed in the water along the lake edge to create a shallower area for sediment to settle and vegetation to grow.

In order to restore the historical marsh on the east end, as shown on 1937 and 1940 aerial photographs (Figures 7 and 8) that will be part of the Eco Park, an underwater linear reef will be constructed. The purpose of the reef will be to reduce wave energy and to allow marsh vegetation to grow. The reef will also allow sediment contained in existing stormwater flows to settle in the restored shoreline marsh.

As discussed above, part of the proposed project will include construction below the OHWL for Lake Minnetonka, which will affect both the lake bottom as well as lake volume. At this time, different construction methods for restoring the lake edge, constructing the Lake Walk/boardwalks, and constructing the linear reef are being considered and are described below.

The range of options being considered were developed to minimize environmental effects and in response to discussions with regulators regarding the effects on lake bottom and lake volume. All of these options are currently included in the EAW to obtain regulator comments on these issues to help move forward in choosing the preferred alternative. The preferred alternative will be selected based on:

- The amount of mitigation required.
- The constructability of the option, in that some options are easier to construct than others.
- The long-term costs and maintenance required for the options.

The following is a summary of the different construction methods being considered. A more detailed discussion on each of the construction methods being considered is included in appendices. A discussion of their effects on the lake bottom and lake volume displaced is included under Item #11, b, iv, a.

Restored Lake Edge

The proposed project will restore the existing lake edge to be a more vegetated, natural shoreline. At this time, the lake edge is primarily riprap with limited vegetation. The riprap will be left in place. Establishing shoreline vegetation will require construction beneath the OHWL along the lake edge to create a strip of shallower water for establishment of aquatic and emergent shoreline marsh vegetation.

Six different construction methods are under consideration. These methods include:

- Option A1 Lake Edge – Continuous riprap
- Option A2 Lake Edge – Intermittent riprap
- Option A3 Lake Edge – Continuous sheet pile
- Option A4 Lake Edge – Intermittent sheet pile
- Option A5 Lake Edge – Continuous toe-wood
- Option A6 Lake Edge – Intermittent toe-wood
- Option A7 Lake Edge – Floating islands

A description of each of these options and figures showing these options are included as Appendix A.

Lake Walk/Boardwalk

As discussed above, the Lake Walk will be a 10' wide, 1,193' long, meandering continuous boardwalk, placed approximately one foot above the OHWL, with railings on both sides. In addition, a dock/boardwalk will be present on the west end near the swimming beach, in the central area near the existing Broadway community docks, and on the east end near the Eco Park as a fishing pier. The total boardwalk length will be 2,217 lf. The support structure for these boardwalks will affect the lake bottom and lake volume. Two different construction methods were evaluated. These two methods include:

- Option B1 Boardwalk Support – wood piles
- Option B2 Boardwalk Support – concrete piles

A description of each of these options and figures showing these options are included as Appendix B.

Linear Reef and Shoreline Marsh

Restoring the historic shoreline marsh near the Eco Park will entail construction of a linear reef to reduce wave energy and to allow marsh vegetation to grow, and the reef will also allow naturally-occuring lake sediment to settle in the restored marsh. Construction of this reef will alter the lake bottom and reduce lake volume. The underwater linear reef will be constructed approximately 180' to 250' from the existing lake edge, cresting approximately 2' below the OHWL. Two different construction methods are being evaluated. These methods include:

- Option C1 Linear Reef – riprap plan
- Option C2 Linear Reef – sheet pile plan

A description of each of these options and figures showing these options are included as Appendix C.

Lake Bottom and Lake Volume Mitigation

As part of the potential mitigation of the effects to the lake bottom and lake volume displaced for this project, several separate mitigation strategies are being proposed.
These mitigation strategies will be completed only to the amount needed to off-set changes representing actual water resource impacts, the volume of which is yet to be determined. These options include:

- Option M1 Depot Park Terrace
- Option M2 Beach Edge
- Options M3 and M4 Boatworks Marina Dredging
- Options M5 and M6 East Pond Dredging
- Option M7 Bushaway Road Parcel

These options are discussed briefly in Appendix D and a more detailed discussion is included under Item #11, b, iv, a.

Construction Methods and Activities

Construction of the proposed project will take place both on land and in the water. The following is a general discussion on the construction activities. Specific construction measures that will be taken to mitigate impacts to threatened and endangered species are discussed in Item 13d.

General Land Based Construction Activities

All land-based construction areas (Lake Street, Lake Street Plaza, Eco Park, Depot Park, and the Beach Area), will use standard construction means and methods. For buildings and shade structures, traditional concrete piers will be used, while all proposed retaining walls will utilize traditional concrete spread-footing installation methods. All construction activities will meet all local ordinances for hours of operation, timing, noise, and traffic requirements.

General Water Based Construction Activities

All water-based construction activities, such as the Lake Walk, the restored lake edge, and the linear reef will be completed using water-based techniques (barge or similar) and will only occur during times of open water; construction activities will shut down when the lake freezes. For the restored lake edge and linear reef alternatives proposing sheet pile construction, the driven sheet piles will be installed using vibrating hammers, diesel-powered impact hammers and/or hydraulic press-in machines to drive or push the piles into place. For the boardwalk alternatives proposing wood piers, the piers will be installed by water jetting, hammering, or drilling construction methods. For the boardwalk alternatives that propose concrete piers, piers will be installed using traditional drilling techniques. All other proposed alternatives will use traditional installation and construction techniques.

No existing equipment or industrial processes are present in the project area.

No significant demolition or removal of existing structures is planned. The Section Foreman House on the east end of the proposed project will be remodeled to accommodate an environmental education center.

The construction of the improvements to Lake Street and the urban plaza are anticipated to be started and completed in 2019. The other project components will be constructed as funding is available, with the earliest construction beginning in 2019.

c. **Project magnitude:**

Table 1: Project Magnitude

Total Project Acreage	Approximately 15.66 acres (proposed project) 1.22 ac (Bushaway Road Parcel)
Linear project length	3,410 lf (proposed project)
Number and type of residential units	Not applicable
Commercial building area (in square feet)	Not applicable
Industrial building area (in square feet)	Not applicable
Institutional building area (in square feet)	1,037 sf
Other uses – specify (in square feet)	Not applicable
Structure height(s)	One story

d. Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.

The City of Wayzata desires to redesign the shoreline of and access to Lake Minnetonka in its downtown area. The proposed project will improve lakefront access for the public, provide new community open space, and introduce ecological enhanced areas along the lakefront, benefitting the community as a whole. The proposed project will also help restore a more natural shoreline which will assist with water quality and improve wildlife habitat. Redesigning Lake Street will

make the area more pedestrian and bicycle friendly and create an area for community gathering which will adapt to support a variety of community events.

e. Are future stages of this development including development on any other property planned or likely to happen? ☐Yes ☒No

If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.

Not applicable.

f. Is this project a subsequent stage of an earlier project? ☐Yes ☒No

If yes, briefly describe the past development, timeline and any past environmental review.

Not applicable.

7. Cover types: Estimate the acreage of the site with each of the following cover types before and after development:

The existing and proposed land cover for the proposed project is shown on Figures 9 and 10, and the existing and proposed land cover for the Bushaway Road Parcel is shown on Figures 11 and 12. Summaries of the before and after acreages for the proposed project and the Bushaway Road Parcel are presented in Tables 2 and 3. The land cover estimates are based on current aerial photography and the proposed concept plans. The proposed project construction alternatives, discussed above, will result in only minor differences in land cover and so are not presented. Brief descriptions of the land cover types are also provided after the tables.

Table 2. Proposed Project Land Cover

Land Cover Type	Before	After
Littoral (lakeshore) wetlands	5.11	3.56
Shoreline marsh	0	1.64
Invasive cattail marsh	0.34	0.34
Deep water/streams	0	0
Wooded/forest	0	0
Brush/Grassland	1.64	1.29
Cropland	0	0
Lawn/landscaping	2.68	2.87
Impervious surface	4.80	5.27
Stormwater basin	0.57	0.42
Sand beach	0.52	0.27
Other	0	0
TOTAL	**15.66**	**15.66**

Table 3. Bushaway Road Parcel Land Cover

Land Cover Type	Before	After
Littoral (lakeshore) wetlands	0	0.23
Deep water/streams	0	0
Wooded/forest	0.62	0.60
Brush/Grassland	0.40	0.19
Cropland	0	0
Lawn/landscaping	0.15	0.15
Impervious surface	0.02	0.02
Stormwater basin	0.03	0.03
Other	0	0
TOTAL	**1.22**	**1.22**

Descriptions of land cover types:

- Littoral (lakeshore) wetland – Circular 39 Wetland Type 5, shallow (<2m depth) lake and shoreline wetland area, with patches of submergent vegetation (mostly invasive Eurasian water milfoil, *Myriophyllum spicatum*).
- Shoreline marsh – Circular 39 Wetland Type 4/5, proposed native littoral wetland, including native shoreline, emergent, submergent, and floating-leaved aquatic vegetation and habitats.
- Invasive cattail marsh – Circular 39 Wetland Type 3, existing wetlands (located around marina) heavily dominated by invasive cattails (*Typha angustifolia, T. x glauca*).
- Wooded/forest – relatively undisturbed wooded areas
- Brush/grassland – areas of herbaceous and sparse woody vegetation that are not regularly maintained.
- Lawn/landscaping – turf and other designed/maintained landscape areas
- Impervious surface – buildings, roads, parking lots, and other hard surfaces
- Stormwater basin – a basin designed to receive and treat collected stormwater runoff
- Sand beach – man-made beach, consisting of imported sand

8. Permits and approvals required: List all known local, state and federal permits, approvals, certifications and financial assistance for the project. Include modifications of any existing permits, governmental review of plans and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure. *All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules, Chapter 4410.3100.*

Table 4. Permits and Approvals Required

Unit of Government	Type of Application	Status
Federal		
U.S. Army Corps of Engineers (USACE)	Section 404 Wetland Permit	To be submitted

Unit of Government	Type of Application	Status
State		
Minnesota Department of Natural Resources (DNR)	Work in Public Waters	To be submitted
	Aquatic Plant Management Permit	To be submitted, if needed
	Aquatic Transplant Permit	To be submitted, if needed
	Water Appropriations – Temporary Construction Dewatering	To be submitted, if needed
Minnesota Pollution Control Agency (MPCA)	National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) Stormwater Construction Permit	To be submitted
	Section 401 Water Quality Certification	To be submitted, if needed
County/Regional		
Lake Minnetonka Conservation District	Dock permit/License	To be submitted
Minnehaha Creek Watershed District	Water Resource Permit	To be submitted
Local		
City of Wayzata	Shore Land Conditional Use Permit	To be submitted
	Grading Permit	To be submitted
	Erosion control	To be submitted
	Rezoning	To be submitted, if needed
	Vacation of Easements	To be submitted, if needed
	Preliminary and Final Plat Subdivisions	To be submitted, if needed
	Conditional Use Permit	To be submitted
	Tax Increment Financing	To be submitted, if needed
	Demolition Permit	To be submitted, if needed
	Building Permits	To be submitted
	Wetland Conservation Act (WCA) Authorizations	To be submitted
Burlington Northern Inc.	Railroad crossing	To be submitted

9. Land use:

a. Describe:

i. Existing land use of the site as well as areas adjacent to and near the site, including parks, trails, prime or unique farmlands.

The proposed project is located along Lake Minnetonka and Lake Street in downtown Wayzata. The eastern portion of the proposed project area is currently occupied by a building, the Section Foreman House, and a constructed stormwater basin. The central portion of the proposed project area is occupied by Lake Minnetonka with rip-rap along the shore, a few docks with boat slips, and the Depot building. The western portion of the proposed project area is occupied by a stormwater basin area, a beach, an inland marina (Boatworks Marina), docks with boat slips, and the parking area for a bike trail head. Lake Street, which is along the northern portion of the proposed project, is located in a commercial district with retail stores, offices, restaurants, and multi-family residential units. The existing land use is shown on Figure 3.

A bike trail enters the proposed project area from the west. The western and central portions of the proposed project area are considered a City Park. No prime or unique farmlands are located within or adjacent to the proposed project area.

The Bushaway Road Parcel is undeveloped and located between a lagoon and County Road 101, in a residential area of the City of Wayzata. A paved trail was recently constructed along the east side of County Road 101, just west of the City-owned parcel. Approximately 11.5% of the Bushaway Road Parcel is designated as farmland of statewide importance, although no currently-farmed areas are located within or adjacent to the Bushaway Road Parcel. The existing land cover of the Bushaway Road Parcel is shown on Figure 5.

ii. Plans. Describe planned land use as identified in comprehensive plan (if available) and any other applicable plan for land use, water, or resources management by a local, regional, state, or federal agency.

The City of Wayzata 2030 Comprehensive Plan, Proposed Land Use Map 3.2, indicates the area of the proposed project as park, institutional, public, and central business district uses. This map is provided as Figure 13.

The proposed project is located within the Lake Minnetonka Conservation District (LMCD), which assists in coordinating the planning and development of properties in the immediate vicinity of Lake Minnetonka. The LMCD has ordinances and permit requirements for uses of the lake area but does not have a separate comprehensive plan.

iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.

The City of Wayzata zoning districts within the proposed project area include residential, commercial, and right of way districts, as shown in Figure 14. Public parks are allowed uses (either permitted, accessory, or conditional) within all of the zoning districts.

Lake Minnetonka is classified as a General Development Lake. In accordance with City of Wayzata zoning regulations, lake classifications have minimum lot sizes and set back requirements, a maximum building/structure height, maximum impervious surface

coverage, residential density requirements, design criteria for structures, and restrictions on altering vegetation and topography within the shoreland areas. Developments that do not comply with the regulations would require approval through a City of Wayzata Shoreland Impact Plan and Conditional Use Permit.

The proposed project is located within a City of Wayzata shoreland district, which is defined as an area within 1,000 feet from the ordinary high water level (OHWL). The proposed project will need to comply with the City of Wayzata Shoreland Overlay District Ordinance, Section 91 of the Zoning Ordinance. The City of Wayzata has regulations and requirements imposed by the Shoreland District in addition to those established for base zoning districts that jointly apply. The proposed project will need to comply with these regulations and requirements, such as sizes and set back requirements, a maximum building/structure height, maximum impervious surface coverage, design criteria for structures, and restrictions on altering vegetation and topography within the shoreland areas, as applicable

Floodplain regulations are outlined in Section 93 of the Zoning Ordinance. The City has divided floodplain areas into three districts that include a Floodway District, Flood Fringe District, and the General Floodplain District. The Floodway District includes those areas which are within Zone AE and within a delineated floodway and those areas that are at or below the OHWL. The Flood Fringe District are those areas within Zone AE that are not within the delineated floodway and those areas below the 1% annual change (100-year) flood elevation but above the OHWL. The General Floodplain District are those areas within Zone A that do not have a delineated floodway.

All wetlands and their flood envelopes within the City of Wayzata are designated as part of the Wayzata Wetlands Overlay District, and are governed by Section 92 of the Zoning Ordinance. The regulations and requirements imposed under the Wetlands Overlay District are in addition to those established for zoning districts that jointly apply; the more restrictive requirements apply. Section 92 provisions include requirements for the placement of structures, fill, or other obstructions within wetlands and their flood envelopes.

The Bushaway Road Parcel is located within a Planned Unit Development (PUD) District (Figure 14). A PUD District is used to provide for the integration and coordination of land parcels with a varying type of residential, commercial, and industrial uses.

The Bushaway Road Parcel is also located within a Shoreland district, and includes areas that are within the Floodway District and the Flood Fringe District.

b. Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 9a above, concentrating on implications for environmental effects.

One of the vision statements in the City of Wayzata 2030 Comprehensive Plan (the 2030 Comprehensive Plan) is "We value parks, open spaces, other public areas, and public art to help

broaden our perspective." The proposed project will enhance the public area along Lake Minnetonka.

The 2030 Comprehensive Plan, Proposed Land Use Map 3.2, indicates the area of the proposed project is park, institutional, public, and central business district uses. This map is provided as Figure 13. The proposed project is consistent with the 2030 proposed land uses. The park land use category is for recreational facilities and lands owned by the City or other governmental bodies, intended for the general public's use and enjoyment. The institutional/public land use category is for land for schools, churches, government buildings and other institutions.

The 2030 Comprehensive Plan includes the following 1st Tier Priority for the Central Business District and Downtown Mixed Use District Policies:

> "Continue to provide a safe, comfortable, and attractive pedestrian scale environment through the enhancement of the pedestrian circulation system by improving sidewalks, walkways and street furniture; mitigating conflicts with traffic and street intersections, and by providing proper demarcation and sign control."

The proposed project will enhance the pedestrian areas along the shore of Lake Minnetonka and along Lake Street.

The proposed project is located within a shoreland district, which extends 1,000 feet from the ordinary high water level (OHWL). The proposed project was reviewed for consistency with the City of Wayzata Shoreland Overlay District Ordinance, Section 91 of the Zoning Ordinance.

Part of the proposed project, particularly the areas on and adjacent to the Lake, is within the Floodway District and the Flood Fringe District. A copy of the floodplain map is attached in Appendix E. The proposed project was reviewed for consistency with the City of Wayzata Floodplain Overlay District, Section 93 of the Zoning Ordinance.

The proposed project is in general conformance with the current City zoning and re-zoning will not be required. The central portion of the proposed project is within residentially-zoned area. A Conditional Use Permit will be required for the public parks located on residentially-zoned these areas.

The proposed project will require a Conditional Use Permit for the new structures, both above the water and below the water. This will include the boardwalks, linear reef, and lake edge structures.

The following table assesses the compliance of the proposed project with the existing zoning requirements:

Table 5. Zoning Requirements

Ordinance	Requirement	Proposed Project
Setback	75 feet	Will need variance for restrooms
Maximum building height	35 feet	Meets
Impervious surface coverage	25% of the lot area	Meets
High water elevations	3 ft above OHWL or constructed of flood-resistant materials	Meets
Vegetation alterations	No steep slopes	Meets
Vegetation alterations	Limited clearing of trees and shrubs	Meets
Grading or filling	Individually evaluated	Meets general requirements, will require permits

The variance requirements for the proposed project for setback would be for the restrooms, which is a unique circumstance and would not set a precedent which is contrary to the intent of the zoning ordinance.

Except for minor construction along the shore, no filling, grading, or excavation will occur below the regional flood elevation and above the ordinary high water level, within the floodplain for the proposed project. Construction work along Lake Street is not part of the General Floodplain District.

A portion of proposed work on the Bushaway Road Parcel is within the Floodway District and the Flood Fringe District. However, work in this area will enhance floodplain storage. The proposed work on the Bushaway Road Parcel will conform with the City of Wayzata Floodplain Overlay District.

Existing wetlands along the proposed project and the Bushaway Road Parcel will be protected or enhanced as part of the proposed project.

c. Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 9b above.

No potential incompatibility was identified for the proposed project or the Bushaway Road Parcel.

10. Geology, soils and topography/land forms:

a. Geology - Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project could have on these features. Identify any project designs or mitigation measures to address effects to geologic features.

According to published geologic information, the uppermost bedrock unit in the eastern and western portions of the proposed project and at the Bushaway Road Parcel is the Middle Ordovician, St. Peter Sandstone. The St. Peter Sandstone is described as a fine- to medium-grained, friable quartz sandstone in the upper half to two thirds of the unit. The lower part of the St. Peter Sandstone contains multicolored beds of mudstone, siltstone and shale with interbedded, very coarse sandstone.

The uppermost bedrock unit in the center portion of the proposed project is the Lower Ordovician, Prairie du Chien Group. The Prairie du Chien Group is described as Dolostone that varies greatly within Hennepin County in thickness because its top is a major erosional surface. The formation is sandy with minor amounts of shale in the upper third to half of the formation. The lower part of the formation is less sandy except within 10 to 15 feet of the base. The bedrock geology is shown on Figure 15. The depth to bedrock in the proposed project area is approximately 190 feet to 240 feet below land surface.

According to published geologic information, the unconsolidated sediment in the majority of the proposed project area is postglacial organic deposits. The organic deposits have largely been drained and filled over the last 100 years. The unconsolidated sediment in the easternmost portion of the proposed project is Pleistocene age loamy till deposits, which are loam in texture with a few beds and lenses of stratified sediment. The loamy till deposits are underlain by Superior lobe stratified sediment or till and are generally at a depth of more than 50 feet. This deposit includes small areas of thick, fine, loamy colluvium sediment. The surficial geology is shown on Figure 16.

No geologic features such as sinkholes, shallow limestone formations, or karst conditions were identified for the proposed project area or the Bushaway Road Parcel.

b. Soils and topography - Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 11.b.ii.

According to the USDA-NRCS Web Soil Survey, the soil at the proposed project area consists of the following classifications (Figure 17):

Table 6: USDA NRCS Web Soil Survey Proposed Project

Map Unit Symbol	Map Unit Name	% of Project Area
L2D	Malardi-Hawick complex, 12 to 18 percent slopes	0.2

Map Unit Symbol	Map Unit Name	% of Project Area
L64A	Tadkee-Tadkee, depressional, complex, 0 to 2 percent slopes	7.6
U1A	Urban land-Udorthents, wet substratum, complex, 0 to 2 percent slopes	38.2
U2A	Udorthents, wet substratum, 0 to 2 percent slopes	18.9
W	Water	35.1

The proposed project area is located at an elevation of approximately 940 feet above mean sea level. The topography is relatively level.

According to the USDA-NRCS Web Soil Survey, the soil at the Bushaway Road Parcel consists of the following classifications (Figure 18):

Table 7: USDA NRCS Web Soil Survey Bushaway Road Parcel

Map Unit Symbol	Map Unit Name	% of Project Area
L2B	Malardi-Hawick complex, 1 to 6 percent slopes	11.5
U2A	Udorthents, wet substratum, 0 to 2 percent slopes	83.2
W	Water	5.3

The Bushaway Road Parcel is located at an elevation of approximately 932 feet above mean sea level, and its topography slopes gently toward the lagoon and sedimentation basin.

11. Water resources:

a. Describe surface water and groundwater features on or near the site in a.i. and a.ii. below.

i. Surface water - lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within 1 mile of the project. Include DNR Public Waters Inventory number(s), if any.

The proposed project is on the shore of Wayzata Bay, located in the northeast portion of Lake Minnetonka (part of the Lower Lake, MnDNR Public Water ID: 27-0133-02). The Bushaway Road Parcel is located on a previously excavated backwater lagoon of the Lower Lake. A formal delineation of wetlands and waters of the U.S. has not been conducted for the two areas; however, data review and field investigations indicate that the only wetlands/surface waters in the proposed project area are the littoral (lakeshore) wetlands of Lake Minnetonka, three small areas of Invasive Cattail Marsh (around the existing marina on the west end of the proposed project), and the immediate shoreline (Figure 9). The ordinary high water level (OHWL) of Lake Minnetonka is 929.4 ft above mean sea level. Based on field observations by Applied Ecological Services, Inc. (AES) ecologists, the Bushaway Road Parcel

was mis-identified by the "National Wetlands Inventory (NWI) Update for the East-Central Region of Minnesota" as containing Shallow Marsh wetland.

Both the MPCA's Final 2012 Impaired Waters List and the Draft 2016 list identify Lake Minnetonka (Lower Lake, including Wayzata Bay and the Bushaway Road lagoon), as impaired for aquatic consumption (specifically, mercury in fish tissue). While the proposed project will extend into Lake Minnetonka, alterations are proposed primarily within the shallower lakeshore portions of the lake (<2m depth), which is classified as littoral wetland, shallow open water community, or Circular 39 Wetland Type 5.

Entering at the east edge of the proposed project is an historical drainageway (Gleason Creek). This creek was depicted on 1855 and 1898 historical maps, but it has since been piped underground. The 1937 and 1940 historical aerial photographs of this area (Figures 7 and 8) show what appears to be a shoreline marsh where Gleason Creek discharged into Lake Minnetonka. In subsequent years, this wetland was reduced in size and eventually eliminated for unascertained reasons. It is a goal of the proposed project to restore shoreline marsh in this area. Currently, the flow from the apparently perennial historical drainageway surfaces here and is routed around the constructed stormwater basin in this area (Figure 3). The constructed stormwater basin receives runoff from the nearby downtown area.

Nearby impaired waters (within one mile of the proposed project) are Lake Minnetonka (Grays Bay, ID: 27-0133-01, impaired for aquatic consumption, specifically, mercury in fish tissue) and Gleason Lake (ID: 27-0095-00, impaired for aquatic recreation, specifically nutrient/eutrophication biological indicators). Minnehaha Creek (located less than one mile southeast of the Bushaway Road Parcel) is impaired for aquatic life (based on fish bioassessments, chloride and dissolved oxygen levels) and aquatic recreation (due to fecal coliform).

ii. Groundwater – aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.

Seeps or springs have not been identified at either the proposed project or the Bushaway Road Parcel. In both areas, the surficial groundwater is likely expressed by the level of Lake Minnetonka, which has an average water level of approximately 929.1 ft above mean sea level (AMSL). Therefore, depth to surficial groundwater would be 0 ft along the lakeshore and is estimated to be 7 to 10 ft in the highest portion of the proposed project area and about 5 ft in the highest portion of the Bushaway Road Parcel.

Based on review of the Minnesota Department of Health's (MDH's) Minnesota County Well Index (MCWI) and the MnDNR's Cooperative Groundwater Monitoring (CGM) database, three wells were identified in the vicinity of the proposed project. A now-abandoned municipal supply well (Unique Well ID: 242144) was located on the edge, possibly on or off

the proposed project in the north-central portion of the proposed project. This well was installed into a bedrock aquifer in 1929. Depth to groundwater in this well during the period of record (1945 to 1958) was documented as approximately 32 ft below grade. Just east of the proposed project, an existing Senior Housing Partners well (Unique Well ID: 793702) was installed in 2012 to a depth of 60 feet. This well reportedly has a groundwater elevation of 2 ft below grade. Another well, nearby to the east (Borkland Regette, LLC, Unique Well ID: 793731), was installed in 2014, but no groundwater data were available.

Based on review of the MDH's MCWI and the MnDNR's CGM database, two wells were identified in the vicinity of the Bushaway Road Parcel. The Locust Hill Farm well (Unique Well ID: 249098) is located northeast of the Bushaway Road Parcel, across the lagoon. This domestic well was installed 486 ft into the bedrock aquifer with a groundwater depth of 115 ft below grade (measured in 2006). Southwest of the Bushaway Road Parcel, on the west side of Bushaway Road, is another domestic well (Unique Well ID: 251285). This bedrock well was constructed to a depth of 318 ft had a groundwater depth of 46 ft below grade (measured in 1997).

The logs for these nearby wells are included as Appendix F.

According to Minnesota Department of Health (MDH) data, the western portion of the proposed project lies within the City of Wayzata Wellhead Protection Area. In late 2015, the MDH approved the City of Wayzata's Wellhead Protection Plan. Based on the project design and communication with the City, the proposed project is not anticipated to pose threats to, or otherwise affect, municipal water supplies.

b. Describe effects from project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below.

i. Wastewater - For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site.

1) If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.

Wastewater from the new restrooms will be discharged to the City of Wayzata wastewater collection system. Due to the small amount of wastewater that will be generated by these restrooms, no significant impacts to wastewater treatment facility or expansion of municipal infrastructure is anticipated.

2) If the wastewater discharge is to a subsurface sewage treatment systems (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system.

No wastewater discharge to a SSTS is planned for the proposed project.

3) **If the wastewater discharge is to surface water, identify the wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges.**

No wastewater discharge to surface water is planned for the proposed project.

ii. **Stormwater - Describe the quantity and quality of stormwater runoff at the site prior to and post construction. Include the routes and receiving water bodies for runoff from the site (major downstream water bodies as well as the immediate receiving waters). Discuss any environmental effects from stormwater discharges. Describe stormwater pollution prevention plans including temporary and permanent runoff controls and potential BMP site locations to manage or treat stormwater runoff. Identify specific erosion control, sedimentation control or stabilization measures to address soil limitations during and after project construction.**

At the present, the majority of the stormwater flows from downtown Wayzata discharges directly into Lake Minnetonka or into one of two stormwater basins (one on the west end near the current beach, one on the east end near the Section Foreman House) prior to discharging into Lake Minnetonka. All of the stormwater from Lake Street (between Broadway Ave. and Barry Ave.) flows into pipes that directly discharge into Lake Minnetonka without treatment. The Boatworks' parking lot currently drains to a NURP pond that overflows into Lake Minnetonka once the pond fills up to a certain elevation. Another portion of the site drains to the stormwater basins on the Bushaway Road Parcel prior to discharging into Lake Minnetonka.

The proposed project will enhance water quality by improving upon the existing stormwater features with a combination of stormwater BMPs including temporary and permanent erosion control features. An enhanced vegetative buffer (along the shoreline) will reduce sediment and nutrient loading to the Lake. In addition, it is expected that water quality will be improved by restoring the shoreline marsh near the Eco Park (by Section Foreman House) with aquatic/marsh type plants. The stormwater management improvements being considered for the Lake Street and the beach area reconstruction are expected to reduce the volume of runoff and improve the quality of the stormwater discharge into Lake Minnetonka – these stormwater features may include tree trenches, permeable pavement, sand filters and underground storage.

iii. **Water appropriation - Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal**

water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.

No new appropriation of groundwater or surface water will occur. New restrooms may be constructed near the existing Depot Building on the proposed project and these restrooms will be connected to the existing City of Wayzata municipal water. Due to the small amount of water needed for these restrooms, no significant impacts to the current water source or expansion of the municipal water infrastructure is anticipated.

Temporary dewatering may be necessary during construction.

iv. Surface Waters

a) **Wetlands - Describe any anticipated physical effects or alterations to wetland features such as draining, filling, permanent inundation, dredging and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed, and identify those probable locations.**

The only wetlands/surface waters in the proposed project area are the littoral (lakeshore) wetlands of Lake Minnetonka, three small areas of Invasive Cattail Marsh (around the marina), and the immediate shoreline (Figure 9). Therefore, effects or alterations to surface waters are addressed under this section ("Wetlands"), rather than 11.b.iv.b ("Other surface waters").

As discussed in Item #6, the goals of the proposed project include, 1) providing people with safe, year-round access to Lake Minnetonka's shoreline; 2) restoring and creating shoreline marsh areas of native plants for wildlife and improved aesthetics, and 3) providing enhanced passive and active recreation through enhanced swimming and fishing facilities, and educational and interpretive opportunities associated with the environmentally-focused Eco Park. The proposed project will physically affect surface waters by installation of structures (e.g. supports for boardwalk), placing riprap and lake bottom sediment (fill) below the OHWL in the littoral fringe of the lake (for restoration of the former shoreline marsh and shoreline wetlands), and minor modifications to the shoreline. The majority of the proposed lake and shoreline alterations are associated with grading/filling necessary to create shallow, protected, shoreline marsh areas that will be revegetated with native vegetation. As discussed under Item #6, several design/construction options have been evaluated. The following is a discussion of each of the options as it relates to the lake bottom and lake volume impacts.

Restored Lake Edge

Part of the proposed project will restore lake edge to be a more vegetated, natural shoreline. At this time, the shoreline is primarily riprap with limited vegetation. Different options relating to construction of continuous versus intermittent shoreline marsh areas, and use of a variety of materials to support the underwater bench for the shoreline marsh (i.e., riprap, sheet pile, or toe wood) have been considered. A brief description of each option is provided in this section. A more detailed description is provided in Appendix A. Length, cross-section area, and volume calculations are provided in Table 8 after the descriptions.

Option A1 Lake edge – continuous riprap plan. Under this plan, the riprap would be placed continuously along the shoreline to create a linear ridge 2' below the OHWL. Lake bottom sediment (fill) would be placed on the land side of the riprap, creating an aquatic shelf for establishment of aquatic and emergent shoreline marsh vegetation (Figures A-1 and A-3).

Option A2 Lake edge – intermittent riprap plan. Similar to Option A1 above, this option would use several smaller areas of riprap and lake bottom sediment, which would create discrete areas of shoreline marsh (Figure A-2 and A-3).

Option A3 Lake edge – continuous sheet pile plan. Similar to Option A1 above, but this continuous treatment would use steel sheet pile as a vertical wall to contain the riprap and lake bottom sediments along the shoreline, reducing areal alteration to the lake bottom and volumetric displacement of aquatic habitat (Figures A-4 and A-6).

Option A4 Lake edge – intermittent sheet pile plan. Similar to Option A2, but using steel sheet pile to reduce alterations and displacement (Figures A-5 and A-6).

Option A5 Lake edge – continuous toe wood plan. Similar to Option A3, but using toe wood instead of steel sheet pile (Figures A-7 and A-9).

Option A6 Lake edge – intermittent toe wood plan. Similar to Option A4, but using toe wood instead of steel sheet pile (Figures A-8 and A-9).

Option A7 Lake edge – floating islands. Under this plan, synthetic-based mesh floating islands would be planted with living wetland plants. Floating islands would enable the introduction of wetland vegetation to the lake walk without impacts to the lake bottom or aquatic habitat displacement.

Table 8: Revised Lake Edge Options Details									
Option	Material	Length (lf)	Cross-section Area (sf)	Volume (cf)	Fill			Lake Bottom Alteration (sf)	Total Volume Displacement (cf)
					Length (lf)	Cross-section Area (sf)	Volume (cf)		
A1 Lake edge – continuous riprap	Riprap & lake bottom sediment	1,637	9	14,733	1,637	2.4	3,929	23,426	18,662
A2 Lake edge – intermittent riprap	Riprap & lake bottom sediment	585	9	5,265	585	2.4	1,404	8,371	6,669
A3 Lake edge – continuous sheet pile	Sheet pile & lake bottom sediment	1,637	0.125	205	1,637	4.1	6,712	8,185	6,917
A4 Lake edge – intermittent sheet pile	Sheet pile & lake bottom sediment	585	0.125	73	585	4.1	2,399	2,925	2,472
A5 Lake edge – continuous toe wood	Toe wood & lake bottom sediment	1,637	1	1.637	1,637	3.3	5,402	8,185	7,039
A6 Lake edge – intermittent toe wood	Toe wood & lake bottom sediment	585	1	585	585	3.3	1,930	2,925	2,515
A7 Lake edge – floating islands	synthetic-based mesh	1,637	0	0	0	0	0	0	0

Of these lake edge options, the continuous treatments result in alteration of a significant area of lake bottom and volumetric displacement of aquatic habitat, but create the largest area of restored lake edge as the end result. Of the intermittent treatments, riprap and toe wood are more natural materials than steel sheet pile; however, sheet pile results in the smallest footprint. Assuming the existing riprap used to construct the railroad bed extends lakeward to the location of the proposed toe wood or sheet pile, the installation of toe wood or sheet pile into the existing riprap may be challenging. If it does not extend to the proposed location of these structures, the challenge would be reduced. While floating islands can be attractive, provide habitat for native wetland plants and wildlife, and would not directly impact water resources, they are artificial structures that require routine maintenance, and they would need to be removed each fall and reinstalled each spring due to the destructive forces of ice on Lake Minnetonka.

Lake Walk/Boardwalks

Part of the proposed project will be a Lake Walk and other boardwalks. The Lake Walk will be a meandering continuous boardwalk. In addition, a boardwalk will be present on the west end near the swimming beach, in the central area near the existing Broadway

community docks, and on the east end near the Eco Park (fishing pier). The total boardwalk length will be 2,217 lf. The support structure for these boardwalks will impact the lake bottom and lake volume.

Two different construction methods were evaluated for the support structure: wood pile supports and concrete piles. A brief description of each option is provided in this section. A more detailed description is provided in Appendix B. Length, cross-section area, and volume calculations are provided in Table 9 after the descriptions.

Option B1. Boardwalk support – wood piles. Under this scenario, wood piles would be placed along the outside edges of the boardwalk (Figures B-1 and B-2).

Option B2. Boardwalk support – concrete pile. Under this scenario, concrete piers would be placed periodically along the boardwalk (Figures B-3 and B-4).

Table 9: Lake Walk/Boardwalks Options Details

Option	Number of Wood Piles	Length (lf)	Average Area (sf)	Average Length (ft)	Volume (cf)	Lake Bottom Alteration (sf)	Total Volume Displacement (cf)
B1 Boardwalk support – wood piles	512	2,217	0.35	3	14.35	180	986
B2 Boardwalk support – concrete piles	19	2,217	40	4.42	177	760	3,363

Wood pile supports for the boardwalks would necessitate bubbling throughout the winter to prevent freezing and ice damage to these structures. Winter bubbling currently occurs along the existing docks near the Boatworks in the western portion of the proposed project area.

Linear Reef and Shoreline Marsh

Restoring the historical shoreline marsh near the Eco Park will entail construction of a linear reef to reduce wave energy to allow marsh vegetation to grow, and the reef will also allow naturally-occurring lake sediment sediment to settle in the restored marsh. Construction of this reef would alter the lake bottom and reduce lake volume. The underwater reef will be placed as an arc, approximately 180’ to 250’ from the shore. Two options relating to the materials used to construct the reef are being considered. A brief description of each option is provided in this section and a more detailed description is provided in Appendix C. Length, cross-section area, and volume calculations are provided in Table 10 after the descriptions.

Option C1 Linear Reef – riprap plan. Under this plan, the reef would be constructed of riprap (Figures C-1 and C-2).

Option C2 Linear Reef – sheet pile plan. This option is similar to Option C1, but would entail installing sheet pile as an underwater wave break (Figures C-3 and C-4).

Table 10: Linear Reef Options Details				
Option	**Length (lf)**	**Cross Section Area (sf)**	**Lake Bottom Alteration (sf)**	**Total Volume Displacement (cf)**
Option C1 Linear Reef – Riprap	395	39	8,608	15,405
Option C2 Linear Reef – Sheet pile	395	0.11	13	43

While riprap is a more natural material than steel sheet pile, the lake bottom area altered and volumetric displacement of aquatic habitat is much greater than if sheet pile is used.

Aquatic Vegetation Management

The majority of aquatic vegetation in the proposed project area (i.e., littoral wetland fringe of the lake) is invasive Eurasian water milfoil (*Myriophyllum spicatum*). The project proposes to remove this invasive species (through mechanical mowing and possibly localized chemical treatments) in the protected bay created by the proposed linear reef. Once removed, live herbaceous native aquatic plants will be installed, including species such as: lake sedge (*Carex lacustris*), river bulrush (*Bolboschoenus fluviatilis*), and bur reed (*Sparganium eurycarpum*) near the shore; hardstem bulrush (*Schoenoplectus acutus*) extending out to a water depth of 2-3 ft; and possibly submerged and/or floating-leaved aquatic plants such as white water lily (*Nymphaea odorata*) and native pondweeds (*Potamogeton* spp) in deeper areas. A MnDNR Aquatic Plant Management Permit and Aquatic Transplant Permit will be acquired prior to implementing these restoration treatments.

Impact Avoidance, Minimization and Mitigation

An overarching goal of the proposed project is to improve environmental conditions along this highly altered, but important, stretch of shoreline. The design team has been in discussions with the MnDNR, Minnehaha Creek Watershed District, and Lake Minnetonka Conservation District throughout the Wayzata Lake Effect design project. Potential impacts to water resources have been assessed by "sequencing," whereby impacts are first avoided (through design considerations), then minimized, and then mitigated. The proposed lake walk, its associated shoreline marsh, and the linear reef and associated marsh are included in the proposed project in order to achieve project goals. Impacts to water resources will be minimized by considering the design options presented above as well as design sustainability/durability, safety, and life-cycle costs. A Construction Stormwater Pollution Prevention Plan (SWPPP) will be prepared to minimize impacts associated with the proposed project during construction. In addition, best practices during construction will also be followed to minimize impacts associated with the proposed project. Best practices that will be followed include, but are not limited to:

- No work in the aquatic environments from March through May (spawning season for fish, such as the state-listed pugnose shiner)

- Use of a floating silt curtain during soil/substrate disturbance along the lakeshore
- Standard erosion and sediment control techniques (associated with upland construction), such as silt fence, sediment socks, wildlife-friendly erosion control mesh, etc.
- Species- and habitat-specific protection strategies, outlined in greater detail under Item 13.d

Mitigation is typically required for impacts to floodplain storage, wetlands/Waters of the U.S., and public waters. While the proposed project will entail minor grading along the Wayzata Bay lakeshore within the 100-year floodplain (the area between the OHWL of 929.4 ft and the 100-year high water elevation of 931.5 ft), it is anticipated that these activities will result in a small net gain in floodplain storage. Wetlands/Waters of the U.S. and public waters will be altered by the proposed project and quantified as area of altered lake bottom and displaced volume of aquatic habitat. Due to existing aquatic conditions (e.g., a considerable portion of the shoreline currently consists of riprap and patches of invasive Eurasian water milfoil) and proposed conditions (modified primarily to restore and create shoreline marsh), it is felt that some project "impacts" will be self-mitigating (e.g., replacing one habitat type with another, but not eliminating lake bottom habitat).

Preferred alternatives have not been selected for the proposed project; therefore, the anticipated alterations and impacts cannot be finalized at this time. Required compensatory mitigation will be accomplished through a combination of potential mitigation measures, described in Appendix D and again below. Cross-section area and volume calculations are provided in Table 11 after the descriptions.

Option M1 Depot Park Terrace – the area near the existing Depot Park building would be shaped into four tiers, one of which would continue to the Lake Walk. As part of this terrace, and as a mitigation measure, approximately 285 lf of lakeshore would be excavated at or just below the OHWL (Figure D-1). This would create an additional 2,346 sf of lake bottom and 1,345 cf of aquatic habitat.

Option M2 Beach Edge –the existing beach edge would be excavated, moving the shoreline approximately 14' inland (Figure D-2). This shallow excavation would create an additional 2,934 sf of lake bottom and 322 cf of aquatic habitat.

Option M3 Boatworks Marina Dredging (1 ft) – The existing marina on the west end of the proposed project could be dredged to create deeper aquatic habitats. Dredging this marina 1 ft deeper would alter approximately 81,276 sf of lake bottom and create 76,887 cf of aquatic habitat (Figure D-3).

Option M4 Boatworks Marina Dredging (2 ft) – If the existing marina were dredged 2 ft deeper, it would alter the same lake bottom area as Option M3 (approximately 81,276 sf) and create 130,149 cf of aquatic habitat (Figure D-4).

Option M5 East Pond Dredging (1 ft) – If the existing stormwater basin on the east end of the proposed project were dredged 1 ft deeper, it would alter approximately 18,746 sf of lake bottom and create 2,508 cf of aquatic habitat (Figure D-5).

Option M6 East Pond Dredging (2 ft) – If the existing stormwater basin on the east end of the proposed project were dredged 2 ft deeper, it would alter the same lake bottom area as Option M5 (approximately 18,746 sf) and create 3,846 cf of aquatic habitat (Figure D-6).

Option M7 Bushaway Road Parcel – this is a separate parcel of land owned by the City of Wayzata, on the east side of Bushaway Road. This parcel contains an upland area that could be excavated to enlarge the adjacent lagoon of Lake Minnetonka (Figure D-7). This mitigation project proposes to shift a small existing stormwater basin to the south. This project would create approximately 10,121 sf of lake bottom and approximately 34,411 cf of aquatic habitat.

Table 11: Mitigation Options Details

Option	Altered or Created Lake Bottom (sf)	Created Aquatic Habitat (cf)
M1 Depot Park Terrace	2,346	1,345
M2 Beach Edge	2,934	322
M3 Boatworks Marina Dredging (1ft)	81,276	76,887
M4 Boatworks Marina Dredging (2 ft)	81,276	130,149
M5 East Pond Dredging (1 ft)	18,746	2,508
M6 East Pond Dredging (2 ft)	18,746	3,846
M7 Bushaway Road Parcel	10,121	34,411

Implementing projects that create new lake bottom (Options M1, M2, and M7) would result in approximately 15,401 sf of new lake bottom.

Implementing the most aggressive projects for mitigating displaced aquatic habitat (M1, M2, M4, M6, and M7) would result in approximately 170,073 cf of new aquatic habitat.

b) Other surface waters- Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal and riparian alteration.

Discuss direct and indirect environmental effects from physical modification of water features. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.

No other physical alterations to surface waters are anticipated by the proposed project.

The proposed project is not anticipated to significantly affect the number or type of watercraft use in Lake Minnetonka, and no new boat slips or docks are planned for the proposed project. While the proposed project does include new boat docks, these docks replace temporary docks that are installed each year.

12. Contamination/Hazardous Materials/Wastes:

a. Pre-project site conditions - Describe existing contamination or potential environmental hazards on or in close proximity to the project site such as soil or ground water contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

A Phase I Environmental Site Assessment (ESA) has been completed for the project area. Contaminated sites were identified near the proposed project but are not thought to pose any significant threat to the proposed project. There is a potential for contaminated soil to be present in the area of Lake Street, given the historic uses in and around that area. A Contingency Plan will be prepared for the construction to ensure that contaminated soil, if encountered, will be handled appropriately.

b. Project related generation/storage of solid wastes - Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.

With the exception of small amounts of household solid waste, no significant solid wastes will be generated at the site during construction and/or operation of the proposed project. Solid wastes will be disposed of off-site according to applicable regulations.

c. Project related use/storage of hazardous materials - Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location and size of any above or below ground tanks to store petroleum or other materials. Discuss potential environmental effects from accidental spill or release of hazardous materials. Identify measures to avoid, minimize or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.

No hazardous materials or petroleum products will be stored on the site during construction and/or after the project is complete. Hazardous materials and petroleum products, such as gasoline, lubricants, and solvents, will be brought to the site as needed for fueling and

equipment maintenance purposes only and will be used within a designated fueling and maintenance area. The hazardous materials and petroleum products (including wastes generated) will be removed from the site once the equipment maintenance task has been completed. The fueling and maintenance area will be chosen so that if a spill occurred, pollutants would be contained and allow for final cleanup. All required spill kit and containment materials will be on site and will be properly stored.

d. Project related generation/storage of hazardous wastes - Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of hazardous waste including source reduction and recycling.

No hazardous wastes are expected to be generated or stored at the site during construction or operation of the proposed project.

The Section Foreman House, which will be used for community spaces, is anticipated to generate small quantities of universal wastes, such as spent bulbs. These materials will be labeled, stored, and disposed of in accordance with applicable regulations.

Asbestos-containing materials, lead-based paint, and other hazardous materials were identified in the Section Foreman House in a Pre-Renovation Hazardous Building Materials Inspection Report completed in 2016. These materials will be properly abated, removed as necessary as part of building renovations, and disposed of off-site at a permitted facility.

13. Fish, wildlife, plant communities, and sensitive ecological resources (rare features):

a. Describe fish and wildlife resources as well as habitats and vegetation on or in near the site.

The primary fish and wildlife resources on or near the proposed project are associated with Lake Minnetonka and its shoreline. According to MnDNR LakeFinder records, the most recent fish survey, conducted in 2012, suggests that Lake Minnetonka contains a diverse fish community (14 species), and based on pounds per gillnet, the lake is dominated by northern pike (32.3 lbs/net), walleye (11.4 lbs/net), and bluegill (6.1 lbs/net). Regarding aquatic vegetation and habitats, the MnDNR reports that invasive Eurasian water milfoil (*Myriophyllum spicatum*) and curly-leaf pondweed (*Potamogeton crispus*) are found in high abundance throughout the lake, and in 2010, invasive zebra mussels (*Dreissena polymorpha*) and flowering rush (*Butomus umbellatus*) were first found to be present. The MnDNR describes the shoreline of Lake Minnetonka as highly developed, which puts stress on the lake's aquatic habitat and ecosystem integrity.

<u>Proposed Project Area</u>

Several field reviews of the proposed project area have been conducted from 2015 through 2016. On September 20, 2016, the proposed project shoreline and near-shore portions of the lake were assessed by two Applied Ecological Services, Inc. (AES) ecologists. Field data collected included vegetation (shoreline and aquatic), lake bottom substrates, and fish and wildlife observations. In brief, the western shoreline along the proposed project was dominated by riprap, extensive docks,

landscaped areas, and a constructed sand beach. The eastern shoreline was somewhat natural; however, evidence of historical riprap was observed, and the eastern end of the project shoreline contained a constructed stormwater basin. Shoreline vegetation consisted of planted/maintained vegetation and volunteer species (mostly herbaceous, but a few areas of trees and shrubs). Numerous native plant species (presumably seeded/planted) were observed along the eastern shoreline (near the constructed stormwater basin). Invasive shoreline vegetation included common buckthorn (*Rhamnus cathartica*), reed canary grass (*Phalaris arundinacea*), cocklebur (*Xanthium strumarium*), Canada thistle (*Cirsium arvense*), narrow-leaved cattail (*Typha angustifolia*), and black locust (*Robinia pseudoacacia*).

The near-shore aquatic zone was characterized by relatively gentle underwater slopes on the west and east portions of the proposed project shoreline, with very steep underwater slopes in the central portion (especially where the Burlington Northern railroad is closest to the lake). Areas of sandy substrate were observed mostly on the east and west portions of the aquatic zone, with the steep-sloped central substrates dominated by riprap boulders and cobbles. The aquatic zone (with the exception of the presumably cleared beach and dock areas, and some riprap areas) contained a significant amount of submerged aquatic vegetation. Native water celery (*Vallisneria americana*) and native pondweeds (*Potamogeton* spp) were observed (mostly in the west), but the majority of the aquatic zone was dominated by invasive Eurasian water milfoil. A few white water lilies (a native, floating-leaved, aquatic species) were observed in the east aquatic zone. Field data characterizing the near-shore aquatic environment is summarized in Appendix G.

<u>Bushaway Road Parcel</u>
On September 20 and October 5, 2016, the Bushaway Road Parcel was assessed by two AES ecologists. Field data collected focused on vegetation in the non-wooded portions of the site, deemed most appropriate for excavation should this parcel be needed for water volume mitigation purposes. In brief, the non-wooded portions of the parcel were upland, dominated by Canada goldenrod (*Solidago canadensis*) and Kentucky bluegrass (*Poa pratensis*). A recently-constructed wet detention basin (associated with recent road and trail improvements along Bushaway Road) exists on the parcel (Figure 11). Riprap was used to line the overflow from this basin into the lagoon of Lake Minnetonka, and several native wetland species (presumably planted during construction) were observed around the basin. What appeared to be a compacted construction access drive led from the stormwater basin to the north, then curved to the west to join the trail along Bushaway Road. A row of planted evergreens runs north-south near the western edge of the parcel. Invasive common buckthorn and other aggressive or volunteer species were observed on the parcel. Several large basswood (*Tilia americana*) trees and a constructed ring of large stones were observed in the southern portion of the parcel.

b. **Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-_) and/or correspondence number (ERDB _) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if**

any additional habitat or species survey work has been conducted within the site and describe the results.

No Minnesota County Biological Survey Sites of Biodiversity Significance, native plant communities, or other sensitive ecological resources were identified on or within one mile of the project areas.

A Natural Heritage Information System (NHIS) data request was submitted to the MnDNR. The MnDNR response, LA-728 and ERDB 20170194, Appendix H, identified two rare natural features that could be adversely affected by the proposed project:

- Pugnose shiner (*Notropis anogenus*). This state-listed threatened species has been documented in Lake Minnetonka (most recently in 2009).

- Blanding's turtle (*Emydoidea blandingii*). This state-listed threatened species has been documented in the vicinity of the proposed project (over 2.5 miles away) and may be encountered on site.

The U.S. Fish and Wildlife Service (USFWS) was also contacted regarding the proposed project (Consultation Code: 03E19000-2017-SLI-0029, Event Code: 03E19000-2017-E-00028). The USFWS response (Appendix I) identified four threatened or endangered species that might be affected (either locally and/or downstream) by the proposed project. *Endangered* species are animals and plants that are in danger of becoming extinct. *Threatened* species are animals and plants that are likely to become endangered in the foreseeable future. The threatened or endangered species identified were:

- Higgins eye (*Lampsilis higginsii*). This federally-endangered clam is a freshwater mussel, up to 4 inches long, typically found in large rivers.

- Snuffbox mussel (*Epioblasma triquetra*). This federally-endangered clam is a small- to medium-sized freshwater mussel, typically found in small- to medium-sized creeks.

- Rusty patched bumble bee (*Bombus affinis*). This federally-endangered insect historically occupied grasslands and tallgrass prairies.

- Northern long-eared bat (*Myotis septentrionalis*). This federally-threatened mammal is a medium-sized bat with long ears, which uses forested areas for summer roosting and overwinters in caves and similar places.

No critical habitats for these species were identified within the proposed project area. In addition, the USFWS identified 21 migratory birds (protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act) that have potential to be affected by the proposed project. See Appendix I for this bird species list and additional details.

A USFWS Information for Planning and Conservation (IPaC) Trust Resources Report was created for the Bushaway Road Parcel (Appendix I). This report identified the same protected wildlife resources identified in the formal consultation associated with the proposed project.

While formal wildlife surveys were not conducted for this project, animals observed by AES ecologists during the September 20, 2016, field assessment of the proposed project included a large muskellunge (*Esox masquinongy*, observed under the west dock, by the beach), bluegills (*Lepomis macrochirus*, mostly under/near docks), and unidentified small fish (also near the existing docks). No fish or notable wildlife were observed at the Bushaway Road Parcel.

b. Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.

The proposed project may adversely affect some plant and animal species; however, effects are anticipated to be minor and/or temporary, with the proposed project resulting in a net benefit for native plant communities, fish, and wildlife. Plants, animals, and their habitats may be temporarily affected by placement of riprap and lake bottom sediments in the vicinity of the proposed lake walk, construction of a submerged linear reef in the east portion of the project area, minor grading along the shoreline, and construction of boardwalks. However, the net benefit of placement of riprap and lake bottom sediments along the proposed lake walk will enable establishment of shoreline marsh, and the proposed linear reef will provide protection to this relatively shallow bay and facilitate restoration of an historical shoreline marsh in this area.

Introduction and spread of invasive terrestrial vegetation during project construction and operation will be avoided or minimized by following the MnDNR's "Identification and Description of Practices to Avoid the Introduction or Movement of Invasive Species" guidance document. Lake Minnetonka is already known to have aquatic invasive species (AIS), including Eurasian water milfoil, curly-leaf pondweed, zebra mussels, and flowering rush. However, further introductions and spread of AIS will be avoided or minimized by the construction contractor following best practices. Watercraft and equipment used in project construction will be properly cleaned, drained, and inspected prior to entering the lake and also upon leaving Lake Minnetonka so as not to infest other waterbodies. The MnDNR's best practices for preventing the spread of AIS are provided in Appendix J.

<u>Pugnose shiner</u>
The preferred habitat of pugnose shiner is clear, glacial lakes and streams with an abundance of aquatic vegetation. While most of the near-shore aquatic habitats in the vicinity of the proposed project are altered (e.g., riprap, docks, and maintained sand along the beach), this species may use the proposed project area. It is unlikely that pugnose shiner uses the lagoon along the Bushaway Road Parcel due to its turbidity. Pugnose shiner are vulnerable to:

- The removal of aquatic vegetation from lakes
- Increases in eutrophication from nutrient enrichment

- Increases in water turbidity or siltation that can be caused from pollution, pesticides, and runoff

Section 13.d, below, lists conservation practices that will be followed for this species and other listed species.

Blanding's turtle

Blanding's turtle requires both wetland (pond, marsh, shrub swamp, bog, slow-moving ditch/stream) and upland (open, grassy or brushy, sandy) habitats to complete their life cycle. The proposed project area does not provide preferred wetland habitat for this species, since this portion of Lake Minnetonka contains only littoral open water wetlands, degraded cattail marshes, and constructed stormwater basins. The Bushaway Road Parcel may be more suitable habitat, but the distribution and age of local records of this species suggest its presence is unlikely. Impacts and threats to Blanding's turtle are:

- 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

Higgins eye

Higgins eye is endangered due to habitat loss and degradation, as well as exotic species. It is unlikely that this species uses the proposed project area or Bushaway Road Parcel given its habitat requirements. Impacts and threats to Higgins eye are:

- Impoundment of rivers and subsequent changes in flow, substrates, and host fish
- Municipal, industrial, and farm runoff that degrade water quality
- Dredging and waterway traffic that produce siltation

Snuffbox mussel

Snuffbox mussel is endangered for reasons similar to Higgins eye. It is unlikely that this species uses the proposed project area or Bushaway Road Parcel given its habitat requirements. Impacts and threats to snuffbox mussel are:

- Dams which alter aquatic habitats and host fish populations as well as prevent migration
- Pollution as this species is easily harmed by toxins and poor water quality
- Sedimentation which can suffocate mussels or reduce feeding and respiration
- Non-native species, especially zebra mussel and round goby

Rusty patched bumble bee

Rusty patched bumble bees' habitat requirements include food (nectar and pollen from flowers), nesting sites (underground and abandoned rodent cavities or clumps of grasses above ground), and overwintering sites for queens (undisturbed soil). It is unlikely that this species uses the

proposed project area or Bushaway Road Parcel given its habitat requirements. Impacts and threats to rusty patched bumble bees are:

- Habitat loss and degradation, e.g. loss of native prairie
- Intensive farming and associated loss of crop diversity, hedgerows, and pastures
- Disease and pesticides
- Global climate change, which can lead to increased disease and loss of habitat elements at the critical time

Northern long-eared bat

Northern long-eared bat has winter (hibernating) and summer (roosting/nesting and foraging) habitat requirements. While possible, it is unlikely that this species uses the proposed project area due to the limited number of trees and their relatively young age (younger trees are less likely to have peeling bark and cavities used by roosting bats). The Bushaway Road Parcel may contain more suitable habitat, but local records of this species suggest its presence is unlikely. Impacts and threats to northern long-eared bat are:

- White-nose syndrome, which is a severe and immediate threat to this and other bat species
- Impacts to hibernacula, such as access changes, microclimate changes, and human disturbances
- Loss or degradation to summer habitat (loss of forests/trees)
- Wind farm operation (turbines can kill bats)

c. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to fish, wildlife, plant communities, and sensitive ecological resources.

Measures are discussed below by the species that will be protected.

Pugnose shiner

Pugnose shiner will be protected during the construction and operation of the proposed project as follows:

- The proposed project will reduce the use of pesticides and fertilizers along the lakeshore.
- The proposed project will improve shoreline vegetation through control of invasive species and extensive seeding/planting of diverse native plants.
- The proposed project will remove invasive aquatic vegetation (primarily Eurasian water milfoil) in select areas (namely the restored shoreline marsh near the Eco Park) and re-introduce native vegetation.
- The proposed project will follow best practices for erosion and sediment control.
- The proposed project will protect spawning fish by avoiding work within the water in March through May.

Blanding's turtle

Blanding's turtle will be protected during the construction of the proposed project by the following MnDNR recommendations:

General

- A flyer with an illustration of a Blanding's turtle shall be given to all contractors working in the area (Appendix K).
- Turtles which are in imminent danger shall be moved, by hand, out of harm's way. Turtles which are not in imminent danger shall be left undisturbed.
- If a Blanding's turtle nest is in the proposed project, the nest shall not be disturbed.
- Silt fencing shall be set up to keep turtles out of construction areas. Silt fencing shall be removed after the area has been revegetated.

Wetlands

- The proposed project's three small Type 3 wetlands (Invasive Cattail Marshes, Figure 9) shall not be dredged, deepened, filled, or converted to storm water retention basins as this wetland type can provide important habitat during spring and summer.
- Wetlands (including littoral/lakeshore wetlands) shall be protected from pollution; use of fertilizers and pesticides shall be avoided, and run-off from lawns and streets shall be controlled. Erosion shall be prevented to keep sediment from reaching wetlands and Lake Minnetonka.

Utilities

- Utility access and maintenance roads shall be kept to a minimum to reduce road-kill potential.
- Because trenches can trap turtles, trenches shall be checked for turtles prior to being backfilled, and the areas will be returned to original grade where possible.

Landscaping and Vegetative Management

- Terrain shall be left with as much natural contour as possible.
- Graded areas shall be revegetated with native grasses and forbs where it complies with the project goals (some non-natives form dense patches through which it is difficult for turtles to travel).
- Vegetation management in infrequently mowed areas - such as in ditches, along utility access roads, and under power lines - shall be done mechanically when feasible (chemicals should be avoided). When feasible, vegetation management shall occur fall through spring (after October 1st and before June 1st).
- Erosion control mesh shall be made of wildlife-friendly materials so as not to endanger turtles or other wildlife susceptible to entanglement (see MnDNR recommendations in Appendix K).

Higgins eye and snuffbox mussel

Higgins eye and snuffbox mussel will be protected during the construction of the proposed project by following best practices:

- Erosion and sediment control best practices will be followed to protect water quality.
- Water quality will also be protected by minimizing the use of lawn chemicals and proper handling and disposal of oil, paint, batteries, or other toxic products.
- Lake dredging, filling or other substrate disturbance will be conducted only after proper installation of floating silt curtains and/or other techniques to minimize siltation.

Rusty patched bumble bee

Rusty patched bumble bees will be protected during the construction of the proposed project by following best practices:

- Installation of diverse native flowering plants and removal/control of invasive vegetation.
- Preservation of native landscapes areas, where lack of mowing and soil disturbance will provide potential habitat.
- Avoidance of use of pesticides and chemical fertilizers.

Northern long-eared bat

Northern long-eared bat will be protected during the construction of the proposed project by following best practices:

- Few, if any, trees (which bats could use for roosting) will be removed as part of the proposed project.
- Known roost trees and trees within 150 feet of a known roost will not be cut when young bats are with mothers at the roost. This "non-volant pup" phase is June 1 through July 31.

14. Historic properties:

Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.

A letter was sent to the State Historic Preservation Office (SHPO) for consultation with that office. A response was received on December 8, 2016 (Appendix L). The SHPO office indicated the presence of both recorded archaeological sites and a historic/architectural property within the project area. Due to the location of these sites, the SHPO recommended that a Phase I archaeological survey be completed unless the project area or more detailed plans indicate that the project areas have been previously surveyed or disturbed.

In addition, the letter noted that the Section Foreman House has been determined to be eligible for listing in the National Register of Historic Places (NRHP). Based on information at the SHPO office, a draft Historic Structures Report was completed in 2015. The SHPO noted that for work that will be done on this area of the proposed project, 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 Places*.

A Phase I Archaeological Survey for the proposed project was completed in November 2017 (the Phase I Survey). The Phase I Survey included conducting a literature review and historical research at the Office of the State Archaeologist (OSA) and the Minnesota Historic Preservation Office; online research to locate historical map and aerial photographs; an on-site visual assessment; and a Phase I archaeological field survey to identify any archaeological sites within the proposed project.

The Phase I Survey did not result in the identification of any archaeological sites. Several locations within the proposed project were paved but could contain archaeological deposits given their proximity to previously identified precontact burial mounds. For these areas, the City of Wayzata will engage in consultation with the OSA to determine what additional steps may be necessary prior to ground disturbance.

Shovel testing was not conducted in some high-potential locations with the project area due to the proximity of the railroad. The City will have an archaeological monitor present during any project-related ground disturbance within those areas.

15. **Visual:**
Describe any scenic views or vistas on or near the project site. Describe any project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.

The views of Lake Minnetonka from the City of Wayzata are considered to be scenic and are important to the owners and users of property in the City. The proposed project's goals include naturalizing and restoring the Lake Minnetonka shoreline, which will have the added benefit of improving the look of the shoreline. Lights from the Lake Walk will be visible from the City and the Lake. Lighting will use the "dark sky" concept where feasible to reduce light impacts. Lighting will meet applicable requirements of the City of Wayzata ordinances.

16. **Air:**
    a. **Stationary source emissions - Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants, and any greenhouse gases. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.**

       The proposed project is not anticipated to generate additional stationary source emissions. The existing Section Foreman House is currently heated with natural gas and is not anticipated to change once the project is complete.

    b. **Vehicle emissions - Describe the effect of the project's traffic generation on air emissions. Discuss the project's vehicle-related emissions effect on air quality. Identify measures (e.g.**

traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.

The proposed project will create a small amount of fugitive emissions from construction equipment during the construction phase. However, these temporary emissions are expected to be small and intermittent and are not expected to be a significant threat to air quality in the project area.

Over the long term, the proposed project is not anticipated to generate significant additional air pollutant emissions. The project area is not in any non-attainment area for any air quality standards.

c. Dust and odors - Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under item 16a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.

During construction, the proposed project will generate temporary dust and odors. Construction equipment will have gasoline and diesel engine emissions and will create temporary fugitive dust emissions, especially in the areas where fill or lake bottom will be excavated, transported, and placed. The fugitive dust emissions will be controlled by watering, sprinkling, and/or calcium products as necessary and appropriate. Dust mitigation measures will include preparing and implementing a dust control plan.

Temporary odors may be generated from operation of facility equipment engines and excavation of lake bottom sediments. Odor mitigation measures will include minimizing equipment used on-site, minimize idling, keep engines in good repair, and minimize idling truck traffic through scheduling.

Once construction is complete, the proposed project is not anticipated to produce any ongoing odors or dust.

17. Noise:

Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area, 2) nearby sensitive receptors, 3) conformance to state noise standards, and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.

1) Existing noise in the area is from traffic along Lake Street and other streets in the area, railcar traffic from the Burlington Northern railroad that crosses the proposed project, and from boating traffic on Lake Minnetonka. Boat traffic is driven in part by an existing boat dock in the central portion of the proposed project, docks on the west end near the Boatworks, and in the two Boatworks marina lagoons on the west end of the project.

2) Residences and senior living complexes are present just to the north-northeast of the proposed project area. No other known sensitive receptors are located nearby.
3) The proposed project is expected to generate noise during the construction phase. This noise will be temporary in nature. Daily hours of construction will follow regulatory and construction permit regulated times. Noise will primarily be produced by the construction machinery on-site and potentially placement of piling during construction. All machinery is equipped with back-up alarms for safety purposes, which would likely be the producers of the loudest noise on the construction site (97-112 decibels), outside of the potential pile driving. Ongoing operations will conform to state and local noise standards.
4) Excessive noise is not expected once the construction phase is complete. Noise generated once the project is complete will be primarily noise from automobiles, railcars, and recreational boats in the area. Noise would be expected seasonally from use of the beach area.

18. Transportation:

a. Describe traffic-related aspects of project construction and operation. Include: 1) existing and proposed additional parking spaces, 2) estimated total average daily traffic generated, 3) estimated maximum peak hour traffic generated and time of occurrence, 4) indicate source of trip generation rates used in the estimates, and 5) availability of transit and/or other alternative transportation modes.

The proposed project includes removing the existing municipal parking lot along Lake Street and revisions to parking along Lake Street to accommodate the parking that will be eliminated. The proposed project does not include other additions or modifications of parking areas. The proposed project is not anticipated to generate additional daily traffic, other than what is already present in this heavily used area. Public transportation is available to the north and east of the proposed project, but does not currently serve the proposed project area. No revisions to public transit are planned for the proposed project or are anticipated to be necessary once the proposed project has been completed.

b. Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system. ***If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW.*** **Use the format and procedures described in the Minnesota Department of Transportation's Access Management Manual, Chapter 5** ***(available at: http://www.dot.state.mn.us/accessmanagement/resources.html)*** **or a similar local guidance.**

The proposed project is not expected to negatively impact traffic congestion in the area. Traffic flow is expected to improve after the changes to Lake Street have been completed. The proposed project is not expected to have an impact on the regional transportation system.

c. Identify measures that will be taken to minimize or mitigate project related transportation effects.

No mitigation measures are proposed.

19. Cumulative potential effects: (Preparers can leave this item blank if cumulative potential effects are addressed under the applicable EAW Items)

a. Describe the geographic scales and timeframes of the project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.

The proposed project will occur within the limits of work (LOW) shown on Figures 5 and 6. Environmental effects are anticipated to be localized to within the LOW or in nearby adjacent areas. The timeframe of the proposed project is spring 2018 to fall 2018.

b. Describe any reasonably foreseeable future projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed project within the geographic scales and timeframes identified above.

The City is aware of three other development projects that are located in close proximity to the project area. They are: the Wayzata Blu, which is 18 residential condos and 3,000 square feet of commercial space; 253 Lake St E, which is a 16-residential unit condo project; and 235 Lake St E, which is a 40,000 square foot office project. The City is not aware of other future projects that may interact with the environmental effects of the proposed project.

c. Discuss the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects.

Because cumulative potential effects have not been identified in association with the proposed project, cumulative effects are not believed to increase the potential for significant environmental effects as a result of the proposed project.

20. Other potential environmental effects: If the project may cause any additional environmental effects not addressed by items 1 to 19, describe the effects here, discuss the how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

No additional impacts from this project other than those discussed above are anticipated.

RGU CERTIFICATION. *(The Environmental Quality Board will only accept **SIGNED** Environmental Assessment Worksheets for public notice in the EQB Monitor.)*

I hereby certify that:

- The information contained in this document is accurate and complete to the best of my knowledge.
- The EAW describes the complete project; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively.
- Copies of this EAW are being sent to the entire EQB distribution list.

Signature Date 2/23/2018

Title Director of Planning and Building