

MEETING DATE: May 23, 2019

TITLE: Authorization to Accept a Conservation Easement at 555 Bushaway Road, Wayzata

RESOLUTION NUMBER: 19-062

PREPARED BY: Tiffany Schaufler

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TELEPHONE: 952-641-4513

REVIEWED BY: Administrator Counsel Program Mgr. (Name): _____
 Board Committee Engineer Other

WORKSHOP ACTION:

<input type="checkbox"/> Advance to Board mtg. Consent Agenda.	<input type="checkbox"/> Advance to Board meeting for discussion prior to action.
<input type="checkbox"/> Refer to a future workshop (date): _____	<input type="checkbox"/> Refer to taskforce or committee (date): _____
<input type="checkbox"/> Return to staff for additional work.	<input type="checkbox"/> No further action requested.
<input checked="" type="checkbox"/> Other (specify): Seeking approval at May 23, 2019 Board Meeting	

PURPOSE or ACTION REQUESTED:

Authorization to execute and accept a donated conservation easement at 555 Bushaway Road, Wayzata.

PROJECT/PROGRAM LOCATION:

555 Bushaway Road, Wayzata (see attached map)

PROJECT TIMELINE:

- June 2019: Record easement
- Summer 2019: Landowner implement subdivision and home construction; begin site restoration

PAST BOARD ACTION:

- May 24, 2018 – PPC briefed on the potential conservation easement donation
- July 26, 2018 – PPC updated on the conservations with the property owner
- August 23, 2018 – PPC reviewed the draft concept landscape plan, vegetation restoration goals, and preliminary easement boundary
- September 27, 2018 – PPC reviewed the draft conservation easement document and stormwater analysis for the property

SUMMARY:

Background

The District operates a Land Conservation Program (“Program”) to conserve natural resource areas throughout the watershed to protect and enhance water resources and ecological integrity. Through this Program, the District acquires conservation easements and/or fee title to lands with high priority natural resources. The Program also encourages voluntary conservation of private lands and donation of land interests as they can help contribute towards accomplishing the District’s mission.

In May 2018 District staff were approached by a prospective buyer of 555 Bushaway Road in Wayzata, Lake Properties LLC, as it was interested in potentially donating a conservation easement to the District. Fee owner benefits from a conservation easement donation include federal tax benefits for the appraised loss of property value associated with the donation. The easement area is 2.436 acres and contains a variety of plant communities, including maple-basswood forest, oak woodland, hardwood swamp, and a forested wetland. Additionally the easement includes approximately 140 feet of undeveloped shoreline along Wayzata Bay on Lake Minnetonka.

At the May 24, 2018 Policy and Planning Committee (PPC) meeting, staff briefed the committee on the potential conservation easement opportunity and possible conservation values of the property. Following that discussion the committee directed staff to continue the conversation with the prospective buyer as it related to the District serving as a potential conservation easement holder.

The prospective buyer purchased the property in June 2018 and confirmed its interest at that time to donate a conservation easement to the District.

At the July 26, 2018 PPC meeting, staff briefed the committee on conversations with the property owner and discussed next steps. Following the July 26, 2018 update the committee asked that staff continue to update the PPC on the easement process and to review any draft documents with the PPC.

At the August 23, 2018 PPC meeting staff reviewed a draft concept landscape plan with the committee, which identified the preliminary easement boundary and vegetation restoration goals for the property.

At the September 27, 2018 PPC meeting staff reviewed the terms of the draft conservation easement and provided an update on recent discussions with the property owner which identified its desire to redevelop the property into either one or two single family residential lakeshore homes. Additionally, staff summarized that the District did not have any concerns after reviewing the Phase 1 and Phase 2 environmental site assessment reports and reviewed the District’s stormwater analysis for the site.

555 Bushaway Road Conservation Easement & Natural Resource Management Plan

Between October 2018 and May 2019 the District and landowner coordinated to finalize the conservation easement document (attached), including the drafting of a Natural Resource Management Plan (NRMP).

The easement document permits the following actions/activities in the conservation area by the landowner:

- Restoration or enhancement of wildlife habitat or native biological communities that improve or enhance the function and quality of existing wetlands and surface waters, prevent or control noxious weeds and invasive vegetation

- Stormwater management and flood mitigation, including the right to install and maintain subsurface stormwater tanks and appurtenances
- Installation, repair, and maintenance of fountains, pumps, and related piping and equipment within the ponds for water management and flood mitigation
- Establishment and maintenance of trails comprised of turf, woodchips, or stones that do not result in the removal of mature trees
- District staff access within the easement area, and the opportunity to work with the District to plant and manage vegetation in accordance with the approved NRMP

This easement fits with the District's Watershed Management Plan land protection goals as it would conserve and restore natural areas along Lake Minnetonka. Accepting this easement would also advance the District's goals by protecting and enhancing the water quality of Lake Minnetonka, protecting and enhancing wetlands, providing wildlife habitat, and preserving maple-basswood forest remnants located within the property. Additionally, this easement is located in close proximity to two other District easements that conserve natural habitat along Lake Minnetonka (see attached map).

The NRMP (attached) follows the District's standard template and contains a description of the current natural resource conditions, management goals for the site, and the proposed restoration steps to restore and manage the natural resources within the easement.

As part of the NRMP development, a field assessment of the easement area was completed on October 17, 2018 and this assessment was field reviewed with District staff. This field assessment identified several plant communities, including a maple-basswood forest, disturbed oak woodland, hardwood swamp, forested vernal pools, and undeveloped shoreline on Lake Minnetonka. This field assessment also identified turf grass, landscaping, compost piles, and a tennis court located in the proposed easement area.

The natural resource management goals as identified in the NRMP are:

1. Protection of existing natural communities and associated wildlife habitat
2. Restoration or enhancement of natural communities that are impacted by past human disturbances
3. Protection and enhancement of wetlands including hydrologic and water quality functions
4. Maintain/protect the shoreline and water quality of Lake Minnetonka

The NRMP divides the easement into nine management units (MU). Initial restoration steps of each MU are identified in the NRMP and will be implemented by the landowner. Initial restoration steps would commence after all permits and approvals are granted for the property and are assumed to coincide with site work, including the construction of stormwater facilities, flood plain mitigation, and general grading and site preparation associated with redevelopment of the property which is expected to begin in the summer of 2019. Initial restoration steps generally include:

- Removal and management of invasive species, including buckthorn and garlic mustard
- Removal of an existing tennis court
- Tree, shrub, and herbaceous plantings
- Raingarden and stormwater pond creation

Once the initial restoration steps have been completed, the landowner would then maintain the easement area in accordance with the NRMP. Ongoing management and restoration steps would include management of the restoration areas which would include monitoring and controlling invasive species.

Lastly, as the District considered serving as the easement holder, staff assessed and considered the District's obligation and dedicated level of staff resources going forward. Staff have estimated that approximately five hours of staff time would be spent annually to coordinate with the landowner, perform inspections, and generate property reports, assuming the site is in compliance with the easement terms.

District staff is recommending acceptance of the conservation easement located at 555 Bushaway Road in Wayzata.

Attachments:

1. Location Map
2. Conservation Easement
3. Natural Resource Management Plan

RESOLUTION

RESOLUTION NUMBER: 19-062

TITLE: **Authorization to Accept and Execute a Conservation Easement at 555 Bushaway Road, Wayzata**

WHEREAS, pursuant to Minnesota Statutes §103D.335, subdivision 11, the Minnehaha Creek Watershed District (“District”) may acquire real property by gift or purchase;

WHEREAS, the District’s Watershed Management Plan includes a Land Conservation Program; and

WHEREAS, the District’s Land Conservation Program, among other program goals, encourages voluntary conservation of private lands; and

WHEREAS, it is the District’s policy to work cooperatively with prospective donors so that conservation land donations conform to the letter and the spirit of the law, preserve the charitable intent of the donor, and achieve the conservation goals of the District; and

WHEREAS, Lake Properties LLC is the owner of approximately 6.28 acres of property located at 555 Bushaway Road in Wayzata and riparian to Wayzata Bay on Lake Minnetonka (the “Property”); and

WHEREAS, the owner would like to donate to the District a conservation easement burdening 2.436 acres of the Property, which easement provides for the owner’s initial restoration work to establish the ecological condition of the Property, and its ongoing maintenance to preserve and enhance that condition; and

WHEREAS, the conservation easement will contribute towards accomplishing the District’s mission; and

WHEREAS, on the basis of staff review, the Board of Managers finds that the burdened area contains high-valued natural resources including lakeshore along Lake Minnetonka, wetlands, floodplain, and mature forests; and

WHEREAS, the Property is located on Wayzata Bay on Lake Minnetonka and is in close proximity to two other easements held by the District; and

WHEREAS, the easement provides the District access within the easement area, and the opportunity to work with the owner to plant and manage vegetation in accordance with the approved natural resource management plan; and

NOW, THEREFORE, BE IT RESOLVED that the Minnehaha Creek Watershed District Board of Managers hereby authorizes the Board President, with non-material changes and on advice of counsel, to accept and execute the 555 Bushaway Road easement under which the District would serve as the easement holder; and

BE IT FURTHER RESOLVED that the District Administrator is authorized to process and sign IRS Form 8283, on advice of counsel and in accordance with the District’s adopted policy, and to perform all other administrative actions necessary or appropriate to complete the donation transaction in accordance with its terms.

**DRAFT for discussion purposes only and subject to Board approval and the availability of funds.
Resolutions are not final until approved by the Board and signed by the Board Secretary.**

Resolution Number 19-062 was moved by Manager _____, seconded by Manager _____.
Motion to adopt the resolution ___ ayes, ___ nays, ___ abstentions. Date: _____.

Secretary Date: _____



Wayzata Bay

555 Bushaway Road

MCWD Hwy 101
Causeway
Shoreline Project &
Easement

Gray's Bay Dam &
Headwaters Shoreline
Easement

Grays Bay

McGinty Rd

Crosby Rd

16

101

This instrument prepared by and after recording return to:

Todd M. Phelps, Esq.
Stinson Leonard Street LLP
50 South Sixth Street, Suite 2600
Minneapolis, MN 55402

Tax Parcel Identification Numbers:

08-117-22-22-0001
08-117-22-22-0002
08-117-22-23-0006
08-117-22-23-0007

(Space reserved for recording information)

CONSERVATION EASEMENT

THIS CONSERVATION EASEMENT (this "Easement") is granted and accepted on _____, 2019 (the "Effective Date"), by LAKE PROPERTIES LLC, a Delaware limited liability company (the "Grantor" and, together with any successors and assigns, "Owner"), to the MINNEHAHA CREEK WATERSHED DISTRICT, a governmental body created under Minnesota Statutes Chapter 103D (the "District").

RECITALS

A. OWNER. The Grantor is the fee simple owner of real property, commonly known as 555 Bushaway Road, in the City of Wayzata (the "City"), Hennepin County, Minnesota, which is legally described in Exhibit A attached hereto (the "Protected Property"). The Grantor desires to protect and preserve a portion of the Protected Property, legally described on Exhibit B-1 attached hereto (the "Easement Area"), and identified as the Easement Area on the site plan attached hereto as Exhibit B-2 (the "Site Plan").

B. EASEMENT AREA. The Easement Area is approximately 106,108 square feet (2.436 acres), and contains lakeshore on Lake Minnetonka, a public water under Minnesota Statute § 103G.005, wetlands, floodplain and mature tree canopy.

C. MINNEHAHA CREEK WATERSHED DISTRICT. The District is a governmental body created and operated exclusively for the purposes of water resource protection, conservation and management, including the protection, conservation, and management of lands to serve those purposes. The District is an organization qualified to hold conservation easements under Minnesota Statutes Chapter 84C and Section 170(h) of the Internal Revenue Code and related regulations.

D. CONSERVATION POLICY. Preservation of the Easement Area will further those governmental policies established by the following:

1. Minnesota Statutes Chapter 84C, which recognizes the importance of private conservation efforts by authorizing conservation easements for the retention or protection of natural, scenic, or open space values of real property, assuring its availability for agriculture, forest, recreational, or open space use, protecting natural resources, and maintaining or enhancing air or water quality.

2. The Metropolitan Surface Water Act, Minnesota Statutes Section 103B, which specifically identifies the importance of protecting the natural surface waters and groundwaters of the Metropolitan Area.

3. Minnesota Statutes Section 103D which provides for the establishment of watershed districts to conserve the natural resources of the State of Minnesota.

4. Minnehaha Creek Watershed District watershed management plan (as amended) which includes the policies, programs, and projects implementing the Metropolitan Surface Water Act.

5. The City of Wayzata 2030 Comprehensive Plan, which provides for (a) valuing redevelopment to protect natural and physical resources, (b) preserving and protecting the sensitive natural resource areas, and (c) preserving trees and wetlands, particularly within the Bushaway Road area.

6. The Lake Minnetonka Conservation District Code of Ordinances, which provides that the goals and policies include (a) preserving and promoting Lake Minnetonka as a recreational and natural resource for all the citizens of the State; (b) preventing pollution of the Lake and preserve the ecological balance by carrying out a comprehensive program of environmental control and management; (c) achieving a balance between the interest of public use and the conservation of the Lake as a natural resource; and (d) providing for the health, safety, order, convenience and general welfare by ordinances not inconsistent with the laws of the State of Minnesota.

E. CONSERVATION INTENT. The parties are committed to protecting and preserving the Easement Area in perpetuity. Accordingly, it is their intent to create and implement a conservation easement that is binding in perpetuity upon the Grantor and all future owners of the Protected Property and that conveys to the District the right to protect and preserve the Easement Area for the benefit of this generation and generations to come, pursuant to the terms of this Easement.

F. DOCUMENTATION. The current condition of the Protected Property is described and documented in a property report, titled “Natural Resources Management Plan, 555 Bushaway Road Conservation Easement, Wayzata, Minnesota” attached hereto as Exhibit C (the “NRMP”). The NRMP contains: (1) an accurate representation of the natural resources and physical condition of the Protected Property at the time of this conveyance, (2) a description of the current and historical uses of the Protected Property, and (3) the documentation set forth in 26 C.F.R. §1.170A-14(g)(5)(i). The Grantor and the District each acknowledge and agree that the NRMP accurately represents the condition of the Protected Property at the time of this conveyance, except as the NRMP explicitly may provide otherwise, and that the NRMP may be

used by the parties in monitoring future uses of the Easement Area, in documenting compliance with the terms of this Easement and in any enforcement proceeding. This paragraph does not preclude the use of other information and evidence to establish the present condition of the Protected Property in the event of a future controversy.

NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS:

GRANT OF CONSERVATION EASEMENT:

Pursuant to the laws of the State of Minnesota and in particular Minnesota Statutes Chapter 84C and in consideration of the Recitals above, which are incorporated herein by reference, and the mutual covenants contained herein, and in further consideration of the sum of one dollar and other valuable consideration, the Grantor hereby grants to the District a perpetual conservation easement, in accordance with the terms herein, over the Easement Area. The Grantor warrants title to the Easement Area to the extent of the rights granted to the District herein. This Easement consists of the following rights, terms and restrictions applicable within the Protected Property:

1. CONSERVATION PURPOSE. The purpose of this Easement is to (a) preserve and protect in perpetuity the Easement Area, which in its present state, has significant natural, aesthetic, scientific and conservation values as a “relatively natural habitat of fish, wildlife, or plants or similar ecosystem,” as that phrase is used in 26 U.S. Code §170(h)(4)(A)(ii), as that section may be amended from time to time, and in the regulations promulgated thereunder, and (b) preserve and protect in perpetuity the open space created by the Easement Area, because such preservation permits for the scenic enjoyment of the general public from both Bushaway Road and Lake Minnetonka and is supported by clearly delineated Federal, State, and local governmental conservation policies, and will yield significant public benefit, as set forth in 26 U.S. Code §170(h)(4)(A)(iii)(I) and (II), as those sections may be amended from time to time, and in the regulations promulgated thereunder (collectively, “Conservation Purpose”). It is the Grantor’s intent to create and implement a conservation easement that is binding in perpetuity upon the Grantor and all future owners of the Protected Property and that conveys to the District the right to protect and preserve the Easement Area for the benefit of this generation and generations to come, pursuant to the terms of this Easement.

As set forth in the NRMP, the Easement Area consists of a wide variety of plant communities, including maple-basswood forest, disturbed oak woodland, hardwood swamp, forested vernal pools and undeveloped shoreline of Lake Minnetonka. The Easement Area also includes scenic views to and from Lake Minnetonka. The northeast portion of the Easement Area includes forested wetland, which is contiguous with a larger wetland to the north.

The management objectives for the Easement are to protect and enhance existing native plant communities, restore degraded native plant communities, pretreat stormwater runoff from adjacent areas and to protect shoreline areas of Lake Minnetonka. The Easement will help protect and enhance the water quality of Lake Minnetonka, protect wetlands, provide for fish and wildlife habitat, and preserve maple-basswood forest remnants that are located with the Easement Area.

2. PRESERVATION AND RESTORATION.

2.1 In conjunction with the redevelopment of the Protected Property into either one or two single family residential lakeshore homes, the Owner will restore and enhance the natural resources on portions of the Protected Property identified in the NRMP as management units (“MU’s”) MU-1, MU-2, MU-3, MU-4, MU-5, MU-6, MU-7, MU-8 and MU-9, in conformance with the management plan set forth in the NRMP. The NRMP may be amended from time-to-time by the parties, in a document that expressly references this paragraph and is duly signed by the Owner and the District.

2.2 Once the initial restoration plantings are established within the MU’s pursuant to the NRMP, the Owner shall maintain the Easement Area in accordance with the NRMP.

2.3 The Owner may fund an endowment (the “Endowment”) in an amount to be determined, in the Owner’s sole discretion, to be held by the District pursuant to an independent endowment management agreement, and to be used by the Owner for the purposes set forth in the NRMP.

3. USES WITHIN THE CONSERVATION EASEMENT. In furtherance of the intent of this Easement, from and after the completion of the restoration and enhancements within the Easement Area as set forth in the NRMP, the terms of this Section 3 shall apply to the Owner and all persons acting under the Owner’s authority or control.

3.1 Industrial and Commercial Activity. No industrial or commercial use of the Easement Area is allowed.

3.2 Right of Way. No right of way shall be granted across the Easement Area.

3.3 Mining. No mining, drilling, exploring for or removing of any minerals from the Easement Area is allowed. The foregoing notwithstanding, prior to completing the redevelopment of the Protected Property, the Owner may remove material within the Easement Area for use in the redevelopment of the Protected Property, in which case the Owner will protect and restore the disturbed area in accordance with the NRMP.

3.4 Subdivision. The Easement Area may not be divided, subdivided, or partitioned. Any adjustment to the boundary of a lot within the Easement Area requires District approval. Any such adjustment will be evidenced by the recording of an Amendment to this Easement to redefine the Easement Area. Notwithstanding the foregoing, the District acknowledges that the Protected Property may be subdivided, in the Owner’s sole and absolute discretion, into two separate lots for redevelopment of single family residential homes. If the Protected Property is subdivided, the Easement Area may be subdivided too, but in no event shall the Easement Area be owned by a third-party or entity that is not the Owner (or an entity owned and controlled by an Owner) of one or both of the separate lots.

3.5 Water. No activity shall be conducted in the Easement Area that would pollute, alter, deplete, or extract surface water or groundwater; cause erosion; or be detrimental to water quality, except as follows:

a. Activities approved in writing by the District that restore or enhance wildlife habitat or native biological communities or that improve or enhance the function and quality of existing wetlands and surface waters on and off of the Protected Property.

b. Activities undertaken in the exercise of rights reserved under Section 4 of this Easement, if any, that might cause erosion or impact water quality on a temporary basis, provided that all reasonable erosion and sediment control measures are undertaken to limit the impacts of those activities. All activities permitted hereunder remain subject to any applicable permitting requirements of the District and other governmental bodies.

c. The Owner shall have the right to repair, maintain and replace the existing well within the Easement Area, as identified on Exhibit B-2 attached hereto, for purposes of providing irrigation for plantings and landscaping within the Protected Property; provided however, the Owner shall not install any new wells within the Easement Area.

d. The Owner shall have the right to utilize the Easement Area for stormwater management and flood mitigation as may be required for the development of the remainder of the Protected Property, including the right to install and maintain subsurface stormwater tanks and appurtenances. The Owner will use best efforts to limit surface structural features in the Easement Area associated with such measures.

e. The Owner shall have the right to install, repair, maintain and replace fountains, pumps and related piping and equipment within and around the ponds within the Easement Area for water management and flood mitigation. In otherwise exercising those rights, the Owner will use best efforts to limit the disturbance to the Easement Area from surface structural features.

f. In exercising rights under 3.5(d) and (e), the Owner will use best efforts to limit the disturbance of the Easement Area from surface structural features.

3.6 Dumping. No trash, garbage, organic material for composting, hazardous or toxic substances or unsightly material may be dumped or placed within the Easement Area.

3.7 Storage Tanks. There shall be no placement of underground storage tanks on, in, or under the Easement Area, except as provided in paragraph 3.5(d) and (e), above.

3.8 Agricultural Use. No agricultural use or cultivation, except for vegetation management permitted under subsection 3.12, below, is allowed within the Easement Area.

3.9 Recreational Use. The Owner retains the right to access the Easement Area for recreational use. This includes the following:

a. The Owner may establish and maintain private turf, wood plank, woodchip, brick, or stone trails for fire breaks and other safety measures, walking, cross-country skiing, and other non-motorized recreational activities over or across the Easement Area; provided however, no mature, non-invasive tree may be removed in exercising this right.

b. The Owner may use the beach area and shoreline along Lake Minnetonka for pedestrian access to and from the Lake, but shall not include the ability to install dockage or store boats or other watercraft within the Easement Area or its riparian edge.

c. Subject to the other restrictions contained in this Section 3, the Owner may use the Easement Area for any other recreational use that is consistent with the purpose of this Easement and the NRMP.

3.10 Fences. No fence may be located or constructed within the Easement Area, except along the northern, eastern and southern boundaries of the Protected Property. Notwithstanding this limitation, the existing fencing as documented in the NRMP may be repaired, maintained or replaced. When installing any new or replacement fencing, the Owner will use reasonable efforts to not obstruct wildlife movement within or through the Easement Area; provided however, the primary consideration for the design, installation and function for any new or replacement fencing will be the safety and security of the Owner, the Owner's family, the "Permitted Users" (defined below), and any pets owned by the Owner, the Owner's family or a Permitted User. If there is a conflict between obstructing wildlife movement and the primary consideration of safety and security, the primary consideration of safety and security shall control.

3.11 Structures and Improvements. No temporary or permanent building, structure, sign or other improvement of any kind may be placed or constructed within the Easement Area, except to mark the boundaries of the Easement Area and to mark wetland buffer boundaries. Notwithstanding the foregoing, incidental placement of temporary structures within the Easement Area associated with the permitted use of the Protected Property not part of the Easement Area (*e.g.*, weddings or parties in the formal gardens), is permitted, provided that there is no land alteration or damage to vegetation. The Owner will restore soil and vegetation if disturbed.

3.12 Vegetation Management. Vegetation may be altered in accordance with the NRMP or, as otherwise consistent with this Easement, if such alteration is conducted in order to maintain, restore or enhance habitat for wildlife and native biological communities; prevent or control noxious weeds, invasive vegetation, or disease; improve the water quality or stabilize areas of potential erosion; or improve the water quality of Lake Minnetonka. The foregoing notwithstanding, emergency action may be taken as necessary to prevent or abate fire or any other condition causing or threatening injury or substantial property damage. Additionally, the Owner may, at its sole discretion, remove downed, diseased or dead trees within the Easement Area.

3.13 Topography and Surface Alteration. The Owner may not alter or change the topography or surface of the Easement Area after the restoration as identified within the NRMP is completed, unless approved by the District. This includes no ditching, draining, diking, filling, excavation, dredging, mining, drilling or removal of soil, sand, gravel, rock, minerals, or other materials. Notwithstanding the foregoing, with the District's written approval, surface disturbance including excavation and fill may occur for the purpose of restoring previously disturbed areas on the Protected Property.

3.14 Vehicles. No motorized vehicle may be operated within the Easement Area except (a) as required for the restoration of the Easement Area, (b) to perform maintenance and management as identified within the NRMP, or (c) for public safety.

3.15 Chemicals. Except as authorized by subsection 3.13 above or the NRMP, within the Easement Area there shall be no use of pesticides or biocides, except that the Owner may control mosquitoes and other insects in accordance with best selective control practices.

4. RESERVED RIGHTS. The Owner retains all rights associated with ownership and use of the Protected Property and the Easement Area except as expressly restricted or prohibited by this Easement. Such rights include, but may not be limited to, the following, as otherwise conforming to the specific terms of this Easement: (a) the right to sell, give, lease, bequeath, devise, mortgage or otherwise encumber or convey the Protected Property and the Easement Area, (b) use the Protected Property as one or two single family residential properties, including without limitation, repairing, maintaining, constructing and replacing the existing improvements, fences, paths, gardens, landscaping, and utilities, (c) use the Protected Property as one or two single family lakeshore residences, including without limitation, swimming, boating and other recreational activities commonly associated with lakeshore property, and (d) all uses and activities necessary to implement and satisfy the obligations of the NRMP.

5. DISTRICT'S RIGHTS AND REMEDIES. In order to accomplish the purposes of this Easement, the District has the following rights and remedies, which it will exercise consistent with the NRMP.

5.1 Right to Enter. During reasonable, daytime hours and with one week's prior written notice to the Owner, but in no event more than one (1) time per calendar quarter, and for no longer than two (2) hours per entry (or any such additional time as may be mutually agreed to by the parties), the District may engage in the following activities, at its sole cost and expense:

a. To inspect the Easement Area, monitor compliance with the terms of this Easement, and enforce the terms of this Easement as set forth herein. The District shall not unreasonably interfere with the legal and appropriate use and quiet enjoyment of the Protected Property by the Owner, and any Permitted Users, so long as such use is in a manner consistent with this Easement. To further the purposes as set out in this Easement, the Owner hereby grants to the District a perpetual non-exclusive easement for the purpose of access to the Easement Area by reasonable means, on, over, and across all trails, footpaths, public and private roads, driveways, and platted drainage and utility easements within the Protected Property, subject to the conditions set forth in this Section 5.1. The easement granted in this subsection 5.1.a. shall expressly not encumber or be located over, under or on any portion of the Protected Property containing buildings, pools, tennis courts, gardens or other improvements or structures.

b. To survey or otherwise mark the boundaries of all or part of the Easement Area. Any survey or boundary demarcation completed under this provision will be at the District's expense.

c. Management of the Easement Area to advance applicable laws and regulations to protect or enhance the conservation purpose as stated at Section 1 above. Management may consist of, but not be limited to, planting, removing and maintaining native vegetation; modifying hydrology or soils; altering and stabilizing land; installing improvements for water quality and flood management purposes; erecting fencing or other measures to protect against intentional or unintentional impact; and installing and maintaining educational or informational signage. The District's actions under this paragraph are subject to the Owner's prior written approval, which approval may be withheld in Owner's sole and absolute discretion.

d. The District shall not have the right to access any buildings, improvements or structures on the Protected Property and the District's entry shall not interfere unreasonably with the Owner's or the Permitted Users' quiet use and enjoyment of the Protected Property.

e. Notwithstanding anything to the contrary contained in this Section 5.1, the District retains all rights under Minn. Stat. § 103D.335, Subd. 14.

f. The parties agree to act reasonably in the exercise of their rights under this Section 5.1, balancing the District's need to inspect the Easement Area and monitor Easement compliance with the Owner's use of the Protected Property as a single family residence and the desire for privacy.

5.2 No Grant of Public Right. Nothing in this Easement shall be construed as: (a) a public dedication; or (b) a grant of right to persons other than the District to enter or use the Easement Area as provided in this Conservation Easement. Nothing in this Easement constitutes a general right of public entry onto or across the Protected Property and any entry onto or across the Protected Property by the general public without the Owner's express prior permission shall be a trespass under Minnesota law. The District shall not be liable in trespass for any entry by itself or the general public.

5.3 Right of Enforcement.

a. Enforcement. If the District finds at any time that the Owner has breached the terms of this Easement, the District will notify the Owner of the alleged breach and direct the Owner to take action to cure the default. If such action is not taken, the District may give written notice detailing the breach to the Owner and demand action to cure the breach including, without limitation, restoration of the Easement Area as required in this Easement. If the Owner does not cure the breach within thirty (30) days from receipt of such written notice, or such longer time as may be reasonably required (provided that the Owner's efforts to cure the breach are commenced within said thirty (30) day period and are diligently pursued toward completion), the District may commence an action to obtain one or more available remedies including but not limited to: (i) enforcing the terms of this Easement, (ii) enjoining the breach, or (iii) requiring restoration of the Easement Area to its condition prior to the Owner's breach. Grantor, on behalf of itself and subsequent Owners, recognizes that the benefit to the District of entering into this Easement is to achieve and protect the Conservation purpose as set forth in Section 1

above. Accordingly, Grantor recognizes that if the Grantor or an Owner fails to establish or preserve the condition of the Easement Area in accordance with the terms of the Easement, monetary compensation to the District in place of site restoration: (1) is not susceptible to quantification; and (2) will not fulfill the District's purpose in entering into the Easement, and will not make the District whole. Therefore, the Grantor agrees that if an Owner fails to establish or preserve the condition of the Easement Area as the Easement requires, the Owner will perform restoration activities to achieve this result. Notwithstanding anything to the contrary, the Owner is not liable for damages to the District for acts of trespassers, but the Owner remains responsible for restoration of the Easement Area due to acts of trespassers.

b. Waiver of Jury Trial. The District and the Owner each hereby irrevocably, knowingly and voluntarily waive trial by jury in any action, proceeding or counterclaim brought by either of the parties against the other or their successors in respect to any matter arising out of or in connection with this Easement, the relationship of the District and the Owner, the use or occupancy of the Protected Property and the Easement Area, or any claim for injury or damage, or any emergency or statutory remedy.

c. Discretionary Enforcement. The District does not, by any delay or prior failure of the District to discover a violation or initiate enforcement proceedings, waive or forfeit any enforcement right.

d. Acts Beyond Owner's Control. The District will have no claim against the Owner for any change to the Protected Property: (i) not caused in whole or part by an action of the Owner or a party acting under the Owner's authority, (ii) to the extent caused by an action of the Owner, or of a party acting under the Owner's authority, taken reasonably and in good faith under emergency conditions to prevent or mitigate substantial damage from such conditions, (iii) resulting from natural events or natural causes, including, without limitation, fire, flood, storm, infestations, natural deterioration, earth movement, or climate change, (iv) from any prudent action taken by the Owner under emergency conditions to prevent, abate, or mitigate significant injury to the Protected Property, (v) from acts of any animals beyond the Owner's possession, custody or control, or (vi) the acts of third parties other than the Owner, Owner's agents, employees, lessees, invitees, family members or contractors (the "Permitted Users"). Notwithstanding the foregoing, the Owner is responsible for restoration as specified in paragraph 5.3(a), above.

e. Attorneys' Fees. If either party institutes any action or proceeding to enforce or interpret this Easement or any provision hereof, for damages by reason of any alleged breach of this Easement or of any provision hereof, or for a declaration of rights hereunder, the prevailing party in any such action or proceeding shall be entitled to receive from the other party all reasonable costs and expenses reasonably incurred in good faith by the prevailing party in connection with such action or proceeding, including without limitation, reasonable attorneys' fees, reasonable accountants' fees, and any and all consultants and other similar fees incurred in connection with the action or proceeding and preparations therefor. The term "action or proceeding" shall mean and include actions, proceedings, suits, arbitrations, appeals and other similar proceedings.

Notwithstanding the foregoing, the Owner will not have a right to reasonable attorneys', accountants' and other consultant fees unless it is determined by the tribunal that the District's judgment of an actual or imminent violation was unreasonable or not in good faith.

6. SIGNIFICANT PUBLIC BENEFIT. Notwithstanding that this Easement does not give or grant to the public a right to enter upon or to use the Protected Property, the Easement Area, or any portion thereof, the District hereby acknowledges and agrees that this Easement provides a significant public benefit resulting from: (a) the uniqueness of the Protected Property to the surrounding area; (b) the intensity of land development in the vicinity of the Protected Property (both existing development and foreseeable trends of development); (c) the consistency of the proposed open space use with public programs (whether Federal, state or local) for conservation in the region, including programs for outdoor recreation, irrigation or water supply protection, water quality maintenance or enhancement, flood prevention and control, erosion control, shoreline protection, and protection of land areas included in, or related to, a government approved master plan or land management area; (d) the consistency of the proposed open space use with existing private conservation programs in the area, as evidenced by other land, protected by easement or fee ownership by organizations referred to in 26 C.F.R. §1.170A-14(c)(1), in close proximity to the property; (e) the likelihood that development of the Protected Property would lead to or contribute to degradation of the scenic, natural, or historic character of the area; (f) the opportunity for the general public to appreciate its scenic values from Bushaway Road and Lake Minnetonka; (g) the importance of the property in preserving a local or regional landscape or resource that attracts tourism or commerce to the area; (h) the likelihood that the District will acquire equally desirable and valuable substitute property or property rights; (i) the cost to the District of enforcing the terms of this Easement; (j) the population density in the area of the Protected Property; and (k) the consistency of the proposed open space use with a legislatively mandated program identifying particular parcels of land for future protection.

7. SECTION 2031(c) FEDERAL ESTATE TAX EXCLUSION. The Grantor desires to qualify this Conservation Easement for estate tax exclusion under 26 U.S. Code § 2031(c). Notwithstanding anything herein to the contrary, to qualify this Conservation Easement for treatment under 26 U.S. Code § 2031(c)(8)(B) any use of the Protected Property for more than a *de minimis* use for a commercial recreational activity is prohibited.

8. GENERAL PROVISIONS.

8.1 Assignment. This Easement, and any rights or responsibilities hereunder, may be assigned or transferred by the District to, or shared by the District with, a conservation organization that is a qualified organization under 26 C.F.R. §1.170A-14(c)(1) and that is authorized to hold conservation easements under Minnesota law. Any future holder of this Easement shall have all of the rights conveyed to the District by this Easement. As a condition of any assignment or transfer, the District shall require any future holder of this Easement to continue to carry out the conservation purposes of this Easement in perpetuity. The District shall provide no less than thirty (30) days written notice to the Owner of the Protected Property and the City before any such transfer or assignment shall be effective.

8.2 Amendment. Under appropriate circumstances, this Easement may be modified or amended. However, no amendment or modification will be allowed if, in the reasonable judgment of the District, it: (a) does not further the purposes of this Easement, (b) affects the perpetual duration of the Easement, or (c) affects the validity of the Easement under Minnesota law or under 26 C.F.R. §1.170A-14.

Any amendment or modification must be in writing, signed by the Owner and the District and must be recorded in the same manner as this Easement.

8.3 Extinguishment. This Easement may be extinguished without the consent of the District and the Owner only through judicial proceedings and only under the following circumstances:

a. This Easement may be extinguished only (i) if unexpected change in the conditions of or surrounding the Easement Area makes the continued use of the Easement Area for the conservation purposes set out above impossible or impractical or (ii) pursuant to the proper exercise of the power of eminent domain.

b. The Owner recognizes that uses of the Easement Area prohibited by this Easement may, in the future, become more economically viable than those uses permitted by the Easement.

Changes to the surrounding area or other circumstances may cause the public benefit provided by this Easement to change. Therefore, such changes are not considered unexpected changes and shall not be deemed to be circumstances justifying the extinguishment of this Easement as otherwise set forth above.

If a subsequent unexpected change in the conditions of or surrounding the Protected Property makes impossible or impractical the continued use of the Protected Property for the conservation purposes described herein, and if the restrictions of this Easement are extinguished by judicial proceedings (including, but not limited to, eminent domain proceedings), then upon the sale, exchange or involuntary conversion of the Protected Property, the District shall be entitled to a portion of the proceeds at least equal to the proportionate value of the Easement described above. Pursuant to 26 C.F.R. §1.170A-14(g)(6)(i) and (ii), the Grantor hereby agrees that the donation of this Easement gives rise to a property right, immediately vested in the District, with a fair market value that is at least equal to the proportionate value that the grant of this Easement bears to the value of the Protected Property as a whole as of the date of this Easement. The District will use its share of any and all proceeds received for such sale, exchange or involuntary conversion in a manner consistent with the conservation purposes of this Easement or for the protection of a “relatively natural habitat of fish, wildlife, or plants or similar ecosystem,” as that phrase is used in 26 U.S. Code §170(h)(4)(A)(ii), as that section may be amended from time to time, and in regulations promulgated thereunder.

8.4 Real Estate Taxes. The Owner shall pay all real estate taxes and assessments levied against the Protected Property as and when such taxes and assessments become due and payable.

8.5 Ownership Costs and Liabilities. The Owner retains all responsibilities and shall bear all costs and liabilities of any kind related to the ownership, operation, upkeep and maintenance of the Protected Property, as described in the NRMP, including the maintenance of such

comprehensive general liability insurance coverage as the Owner deems adequate. The Owner agrees to hold harmless, defend and indemnify the District from any and all liabilities arising out of any waste or contaminant on the Protected Property as of the date of this Easement, which terms are to be understood in their broad common meaning and not as defined by any specific statute, as well as any and all liabilities, including, but not limited to, injury, losses, damages, judgments, costs, expenses and fees that the District may suffer or incur, to the extent they result from the activities of Owner on the Protected Property. The District agrees to hold harmless, defend and indemnify the Owner from any and all liabilities including, but not limited to, injury, losses, damages, judgments, costs, expenses and fees that the Owner may suffer or incur, to the extent they result from work or improvements of the District on the Protected Property. Each party shall keep the Protected Property free of any liens arising out of any work performed for, materials furnished to or obligations incurred by that party. Nothing in this paragraph or this Easement creates any right in any third party or diminishes any immunity, defense or liability limitation of the Owner or District as against any third party.

By assuming its rights and responsibilities under this Easement, the District is not assuming the role of owner or operator, or otherwise of a potentially responsible party, under any law with respect to any preexisting environmental condition on the Protected Property.

8.6 Notice and Approval. Any notice or request for approval required by this Easement must be written and is subject to the following:

a. Delivery. Any required notice or request for approval must be delivered or sent by first class mail or other nationally recognized delivery service to the appropriate party at the following addresses (or other address specified in writing):

To the Owner:

Lake Properties LLC
Attention: Michael L. O’Shaughnessy
6423 City West Parkway
Eden Prairie, MN 55344

With copy to:

Stinson Leonard Street LLP
Attention: Todd M. Phelps
50 South Sixth Street, Suite 2600
Minneapolis, MN 55402

To the District:

Minnehaha Creek Watershed District
Attention: Administrator
15320 Minnetonka Blvd.
Minnetonka, MN 55345

With copy to:

Smith Partners PLLP
Attention: Charles B. Holtman
400 South Second Avenue,
Suite 1200
Minneapolis, MN 55401

b. Timing. Unless otherwise specified in this Easement, any required notice or request for approval must be in writing and delivered at least 30 days prior to the date proposed for initiating the activity in question, provided that in the event the party who receives notice does not respond within 30 days of the documented day of delivery, the proposed activity shall be deemed approved by that party so long as the request states prominently in a top heading “Response Required Within 30 Days” and the activity is not

inconsistent with the conservation purpose of this Easement and is not otherwise prohibited by the Easement. The District shall communicate a final decision within 60 days of a request.

c. Content. The notice or request for approval must include sufficient information to allow the approving party to make an informed decision on whether any proposed activity is consistent with the terms and purposes of this Easement.

d. Approval. The approving party may consent to any activity under this Easement only if it reasonably determines that the activity (1) will not violate the conservation purpose of this Easement, and (2) will either enhance or not impair any significant water resource or associated ecological element associated with the Protected Property, including the following: restoring and protecting the water quality, habitat value and ecological integrity of surface waters and wetlands, as well as associated riparian land, floodplain and supporting groundwater. The approving party may condition its approval on the requesting party's acceptance of modifications that, in the approving party's reasonable judgment, would allow the proposed activity to meet these criteria. Unless provision is made for a specific time period, each response to a request for approval or consent required to be considered pursuant to this Easement shall be given by the party to whom directed within thirty (30) days after receipt thereof, in accordance with Section 8.6(b). The District shall communicate a final decision within 60 days of a request. Any disapproval shall be in writing and, subject to this subsection 8.6.d., the reasons therefor shall be clearly stated. With respect to all requests for approval under this Easement, the requesting party will not unreasonably withhold, delay or condition approval.

8.7 Binding Effect; Immediate Vesting. This Easement will run with and burden the Protected Property in perpetuity. The terms of this Easement are binding and enforceable against the Owner, its lessees, agents, personal representatives, successors and assigns, and all other parties entitled to possess or use the Protected Property. This Easement creates a property right immediately vested in the District and its successors and assigns that cannot be terminated or extinguished except as set out herein.

8.8 Merger. The Owner and the District agree that the terms of this Easement shall survive any merger of the fee and easement interest in the Protected Property.

8.9 Disclaimer of Tax Matters. Matters of conformance to federal requirements for estate tax exclusion or any other tax or legal treatment is entirely the responsibility of the Grantor. The District makes no representation in this regard, and the Grantor holds the District harmless with respect to any claims relating to such matters.

8.10 Definitions. Unless the context requires otherwise, the term "Owner" means the Grantor and its representatives, successors and assigns in title to the Protected Property. The term "District" means the Minnehaha Creek Watershed District, and its successors and assigns. In the exercise of the right of entry under Section 5.1, "District" means the District, and its managers, employees, agents, contractors, successors, assigns and partners to any interest it holds in this Easement. In the enjoyment of protections from liability under Section 8.5, including

immunities and the right to be held harmless, provided with a defense and indemnified, “District” means the District and its managers and employees.

8.11 Termination of Rights and Obligations. A party’s rights and obligations under this Easement terminate upon the transfer or termination of that party’s interest in this Easement or the Protected Property, provided, however, that any liability for acts or omissions occurring prior to the transfer or termination will survive that transfer or termination.

8.12 Recording. The District will record or register this Easement in a timely manner in the official records for Hennepin County. Following reasonable written notice to the Owner, the District may re-record or re-register this Easement or any other document reasonably necessary to protect its rights under this Easement or to assure the perpetual enforceability of this Easement. The Owner will cooperate as necessary to accomplish and effect acts of recordation.

8.13 Controlling Law and Construction. This Easement shall be governed by the laws of the State of Minnesota and construed to resolve any ambiguities or questions of validity of specific provisions in favor of giving maximum effect to its conservation purposes and to the policies and purposes of Minnesota Statutes Chapter 84C.

8.14 Permits and Applicable Laws. The Owner and the District acknowledge that the exercise of any reserved right herein or other use of the Protected Property is not by this Easement relieved from complying with or obtaining any permit from any applicable governmental authority, including the District, prior to the exercise thereof.

8.15 Severability. A determination that any provision or specific application of this Easement is invalid shall not affect the validity of the remaining provisions or any future application.

8.16 Captions. The captions herein have been inserted solely for convenience of reference and are not a part of this Easement and shall have no effect upon construction or interpretation.

8.17 Additional Documents. The District and the Owner agree to execute or provide any additional documents reasonably needed by the parties to carry out in perpetuity the provisions and intent of this Easement, including, but not limited to any documents reasonably needed to correct any legal description or title matter or to comply with any federal, state, or local law, rule or regulation.

8.18 Entire Agreement. This document states the entire agreement of the parties with respect to this Easement and supersedes all prior discussions or understandings.

8.19 Estoppel Certificate. The District and the Owner agree upon written request by the other party agree to issue, within thirty (30) days after receipt of such request to such party, or its prospective mortgagee or successors or assigns, an estoppel certificate stating to the best of the issuer's knowledge as of such date:

- a. Whether it knows of any default under this Easement by the requesting party, and if there are known defaults, specifying the nature thereof in reasonable detail.

b. Whether this Easement has been assigned, modified or amended in any way by it and if so, stating the nature thereof in reasonable detail.

c. Whether this Easement is in full force and effect.

8.20 Excusable Delays. If completion of performance is delayed at any time by reason of acts of God, war, civil commotion, terrorism, riots, strikes, picketing, labor disputes, unavailability of labor or materials, damage to work in progress by reason of fire or other casualty, or any cause beyond the reasonable control of such party, then the time for performance as herein specified shall be appropriately extended by the amount of the delay actually so caused.

[The remainder of this page is intentionally blank. Signature pages follow]

IN WITNESS WHEREOF, on the basis of mutual valuable consideration, and intending to be legally bound, the Grantor and the District voluntarily execute this Conservation Easement on the _____ day of _____, 2019.

GRANTOR:

LAKE PROPERTIES LLC, a Delaware limited liability company

By: _____
Michael L. O'Shaughnessy
Its: Chief Manager

STATE OF MINNESOTA)
) ss.
COUNTY OF HENNEPIN)

On this __ day of _____, 2019, before me appeared Michael L. O'Shaughnessy as Chief Manager of Lake Properties LLC, a Delaware limited liability company, to me personally known to be the person described in and who executed the foregoing instrument and acknowledged that each executed the same on behalf of the company.

Notary Public

ACCEPTANCE

The Minnehaha Creek Watershed District hereby accepts the foregoing Conservation Easement this _____ day of _____, 2019.

MINNEHAHA CREEK WATERSHED DISTRICT

By: _____

Title: _____

STATE OF MINNESOTA)
) ss.
COUNTY OF HENNEPIN)

The foregoing instrument was acknowledged before me this _____ day of _____, 2019 by _____, the _____ of the Minnehaha Creek Watershed District, a governmental body created under Minnesota Statutes Chapter 103D, on behalf of said governmental body.

Notary Public
My Commission Expires:

MORTGAGEE'S CONSENT AND SUBORDINATION

For Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged by the undersigned owner and holder of a that certain Combination Mortgage, Security Agreement, Fixture Filing and Assignment of Leases and Rents (the "Mortgage"), encumbering the real property described in the Conservation Easement to which this Mortgagee's Consent and Subordination is attached, which Mortgage was filed for record on _____, 2018, in the Office of the Registrar of Titles, Hennepin County, Minnesota, as Document No. _____, the undersigned hereby consents to the said Conservation Easement and subordinates the Mortgage to the rights and interests of the Minnehaha Creek Watershed District, a governmental body created under Minnesota Statutes Chapter 103D, its successors and assigns, arising under and by virtue of the Conservation Easement, and covenants and agrees that, in the event of a foreclosure, deed in lieu of foreclosure or other enforcement of the said Mortgage, the Conservation Easement, as it may be modified from time to time, shall remain undisturbed and shall be binding upon the undersigned and any other person or entity that acquires any interest in the said real property as the result of any such foreclosure, deed in lieu of foreclosure or other enforcement of the said Mortgage, and upon such acquirer's successors and assigns.

[The remainder of this page is blank. This instrument continues on the next page.]

[SIGNATURE PAGE FOR MORTGAGEE]

MORTGAGEE:

TRADITION CAPITAL BANK,
a Minnesota banking corporation

By: _____

Name: _____

Title: _____

Date Signed: _____, 20__

STATE OF MINNESOTA)
) ss.
COUNTY OF HENNEPIN)

The foregoing instrument was acknowledged before me this _____ day of _____, 2019 by _____, the _____ of Tradition Capital Bank, a Minnesota banking corporation, on behalf of said corporation.

Notary Public
My Commission Expires:

EXHIBIT A

LEGAL DESCRIPTION OF PROTECTED PROPERTY

In the following described land situated in the County of Hennepin and State of Minnesota:

Par 1: Lots D and E, "Carpenter's Point, Hennepin County Minn."

Par 2: That part of Lot F, "Carpenter's Point, Hennepin County Minn." described as follows, to-wit: Commencing at the Southeast corner of said Lot F; thence North on the East boundary line thereof to a point 60 feet from said point of beginning which point is marked by a Judicial Landmark set pursuant to district court case no. 4922; thence in a straight line Westerly to a point marked by a Judicial Landmark set pursuant to district court case no. 4922, on the shore of Wayzata Bay, Lake Minnetonka, which point is 40 feet along said shore, North of the Southwest corner of said Lot F; thence Southerly along said shore of Wayzata Bay to the South boundary line of said Lot F; thence East along said South boundary line to the point of beginning.

Par 3: That part of Lot F, "Carpenter's Point, Hennepin County Minn." described as follows: Beginning at a judicial landmark set pursuant to district court case no. 4922 in the Easterly line of said Lot F, distant 60 feet Northerly, measured along the Easterly line of said lot from the Southeast corner thereof; thence Westerly in a straight line to the shore of Wayzata Bay, Lake Minnetonka, said line passing through a point marked by a judicial landmark set pursuant to district court case no. 4922 in the Westerly line of said Lot F, distant 40 feet Northerly, measured along said Westerly line from the Southwest corner of said Lot F, said last described course being hereinafter designated and referred to as Line "A"; thence Northerly along the shore of said lake to its intersection with a line drawn parallel with and distant 25 feet Northerly of, measured at a right angle to, the above mentioned Line "A"; thence Easterly parallel with said Line "A" to the Easterly line of said Lot F; thence southerly along said Easterly line to the point of beginning.

Being registered land as is evidenced by Certificate of Title No. 1466114.

EXHIBIT B-1 - LEGAL DESCRIPTION OF CONSERVATION EASEMENT AREA

[attached]

CONSERVATION EASEMENT EXHIBIT

SITE ADDRESS: 555 Bushaway Road, Wayzata, MN 55391

Three conservation easements over, under and across part of the following described parcel:

Parcel 1: Lots D and E, "Carpenter's Point, Hennepin County Minn."

Parcel 2: That part of Lot F, "Carpenter's Point, Hennepin County Minn." described as follows, to-wit: Commencing at the Southeast corner of said Lot F; thence North on the East boundary line thereof to a point 60 feet from said point of beginning which point is marked by a Judicial Landmark set pursuant to district court case no. 4922; thence in a straight line Westerly to a point marked by a Judicial Landmark set pursuant to district court case no.4922, on the shore of Wayzata Bay, Lake Minnetonka, which point is 40 feet along said shore, North of the Southwest corner of said Lot F; thence Southerly along said shore of Wayzata Bay to the South boundary line of said Lot F; thence East along said South boundary line to the point of beginning.

Parcel3: That part of Lot F, "Carpenter's Point, Hennepin County Minn." described as follows: Beginning at a judicial landmark set pursuant to district court case no.4922 in the Easterly line of said Lot F, distant 60 feet Northerly, measured along the Easterly line of said lot from the Southeast corner thereof; thence Westerly in a straight line to the shore of Wayzata Bay, Lake Minnetonka, said line passing through a point marked by a judicial landmark set pursuant to district court case no. 4922 in the Westerly line of said Lot F, distant 40 feet Northerly, measured along said Westerly line from the Southwest corner of said Lot F, said last described course being hereinafter designated and referred to as Line "A"; thence Northerly along the shore of said lake to its intersection with a line drawn parallel with and distant 25 feet Northerly of, measured at a right angle to, the above mentioned Line "A"; thence Easterly parallel with said Line "A" to the Easterly line of said Lot F; thence southerly along said Easterly line to the point of beginning.

Being Registered land as is evidenced by Certificate of Title Number 1466114

Easement #3

Lying northerly, westerly and easterly of a line commencing at the northeast corner of said parcel; thence on an assumed bearing of South 00 degrees 15 minutes 18 seconds West, along the east line of said parcel, a distance of 156.24 feet to a point to hereinafter be referred to as Point "A" being the point of beginning of the line to be described; thence North 89 degrees 44 minutes 42 seconds West a distance of 25.00 feet; thence South 00 degrees 15 minutes 18 seconds West a distance of 30.00 feet; thence North 89 degrees 44 minutes 42 seconds West a distance of 89.73 feet; thence North 00 degrees 19 minutes 06 seconds East a distance of 108.02 feet; thence South 86 degrees 10 minutes 33 seconds West a distance of 333.53 feet, more or less, to the shore of Lake Minnetonka and there terminating.

And

Easement #2

That part of said parcel described as commencing at said Point "A"; thence South 00 degrees 15 minutes 18 seconds West, along said east line, a distance of 70.00 feet to the point of beginning; thence North 89 degrees 44 minutes 42 seconds West a distance of 105.29 feet; thence South 15 degrees 24 minutes 12 seconds West a distance of 230.68 feet; thence South 74 degrees 35 minutes 48 seconds East a distance of 81.00 feet; thence North 15 degrees 24 minutes 12 seconds East a distance of 30.00 feet; thence South 74 degrees 35 minutes 48 seconds East a distance of 25.00 feet to said east line to a point to hereinafter be referred to as Point "B"; thence North 15 degrees 24 minutes 12 seconds East along the east line of said parcel a distance of 212.04 feet to an angle point; thence North 00 degrees 15 minutes 18 seconds East, along said east line, a distance of 16.73 feet to the point of beginning.

And

Easement #1

Lying southerly and easterly of a line which commences at said Point "B"; thence South 15 degrees 24 minutes 12 seconds West, along said east line, a distance of 60.00 feet to the point of beginning; thence North 74 degrees 35 minutes 48 seconds West a distance of 106.00 feet; thence South 15 degrees 24 minutes 12 seconds West a distance of 94.40 feet; thence North 77 degrees 42 minutes 16 seconds West a distance of 367.22 feet, more or less, to the shore of Lake Minnetonka and there terminating.

Area Information: Easement 1 ~ 42,700 sq. ft. - 0.980 acres
Easement 2 ~ 25,185 sq. ft. - 0.578 acres
Easement 3 ~ 38,223 sq. ft. - 0.878 acres
Total ~ 106,108 sq. ft. - 2.436 acres

I hereby certify that this survey, plan, or report was prepared by me or under my direct supervision and that I am a duly Licensed Land Surveyor under the laws of the State of Minnesota.

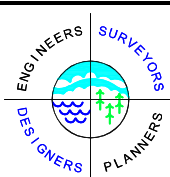
Dated this 16th day of October, 2018.



David B. Pemberton, PLS
pemberton@sathre.com

Minnesota License No. 40344

Sheet 1 of 2 Sheets



SATHRE-BERGQUIST, INC.
150 SOUTH BROADWAY WAYZATA, MN. 55391 (952) 476-6000

Section 08 - Township 117 - Range 22

EASEMENT EXHIBIT

PREPARED FOR

Lake Properties, LLC.

JOB #: 49352-001

FIELD CREW:

DRAWN BY: DBP

CHECKED BY: JJA

DATE: 10/12/18

REVISIONS

Easement Area Information

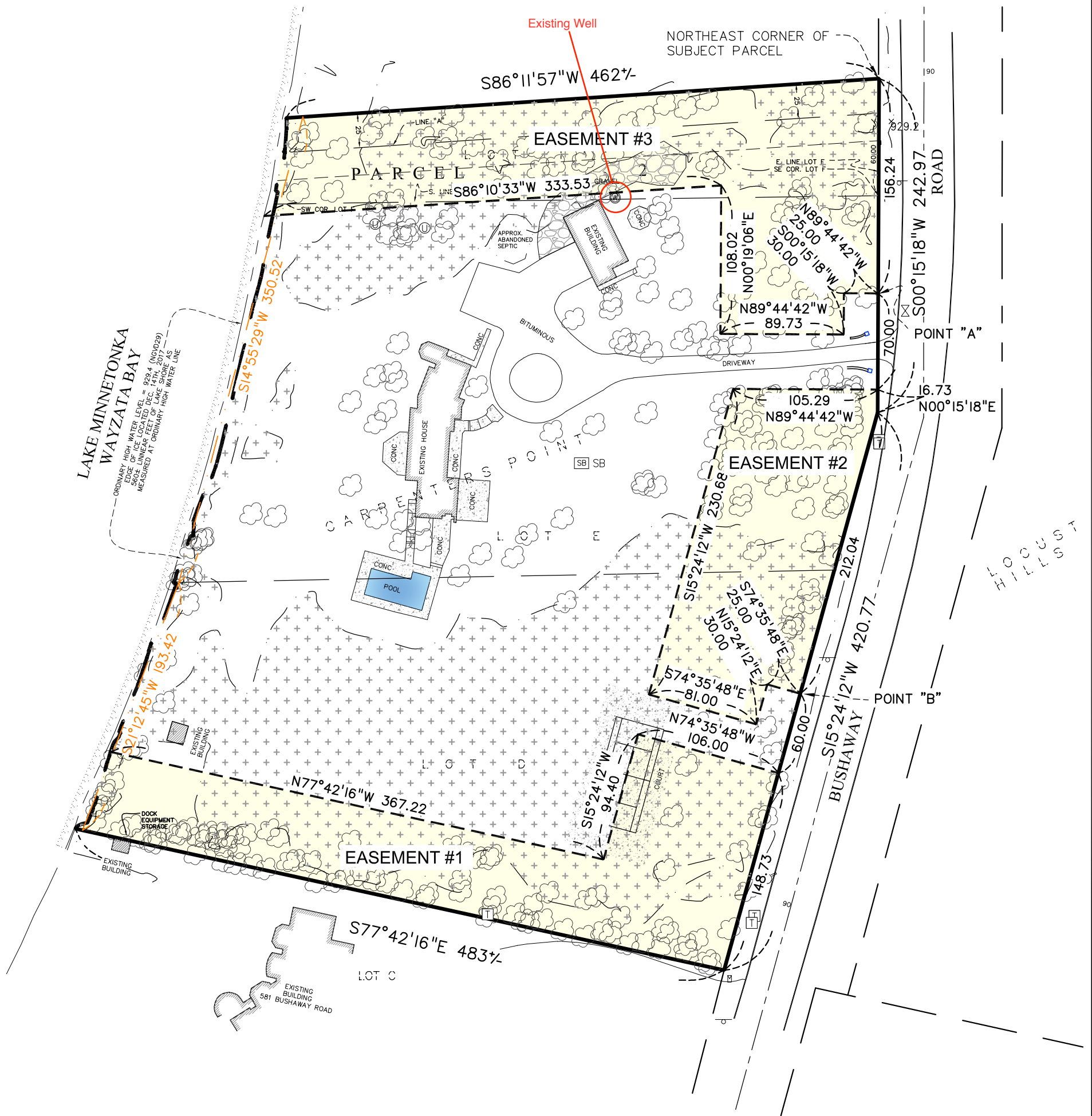
11/09/18 Easement Area/Description

EXHIBIT B-2 - SITE PLAN

[attached]

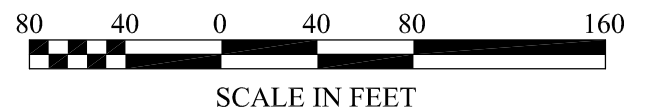
CONSERVATION EASEMENT EXHIBIT

SITE ADDRESS: 555 Bushway Road, Wayzata, MN 55391

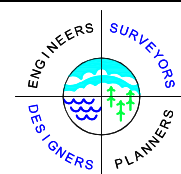


SURVEY LEGEND

⊗ STORM DRAIN	972.5 GROUND ELEVATION	☁ EXISTING TREE	===== CONCRETE CURB
⊠ CATCH BASIN	(972.5) PROPOSED ELEVATION	☁ PROPOSED TREE	—>—>— SANITARY SEWER
⊗ GATE VALVE	WETLAND BUFFER POST	☁ PROPOSED TREE	—>—>— STORM SEWER
⊗ HYDRANT	⊠ HAND HOLE	⊠ BITUMINOUS	— — WATERMAIN
○ IRON PIPE SET	⊠ ELECTRIC TRANSFORMER	⊠ CONCRETE	----- PROPOSED SILT FENCE
● IRON PIPE FOUND	⊠ TELEPHONE PEDESTAL	⊠ CONTOUR PROPOSED	— DT — DRAIN TILE
⊗ SANITARY MANHOLE	⊠ UTILITY PEDESTAL	⊠ CONTOUR EXISTING	-x-x- FENCE
⊗ DENOTES SUMP PUMP	⊠ SEWER SERVICE ELEVATION	⊠ DRAINAGE ARROW	— BSBL — BUILDING SETBACK LINE



Sheet 2 of 2 Sheets



SATHRE-BERGQUIST, INC.
150 SOUTH BROADWAY WAYZATA, MN. 55391 (952) 476-6000

Section 08 - Township 117 - Range 22

EASEMENT EXHIBIT

PREPARED FOR

Lake Properties, LLC.

JOB #: 49352-001

FIELD CREW:

DRAWN BY: DBP

CHECKED BY: JJA

DATE: 10/12/18

REVISIONS

Easement Area Information

11/09/18 Easement Area/Description

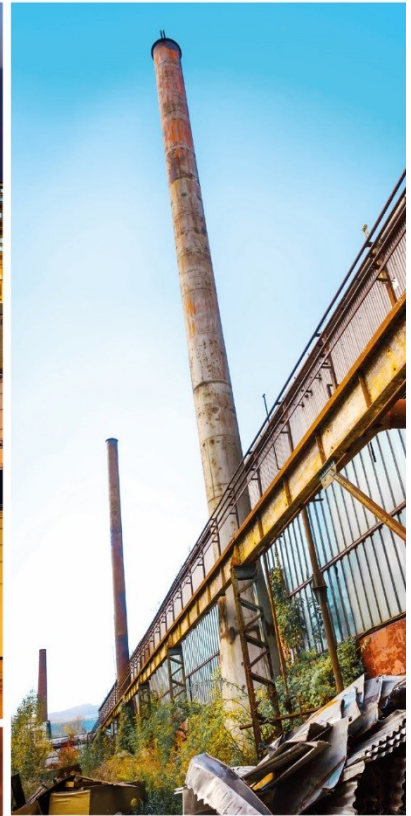
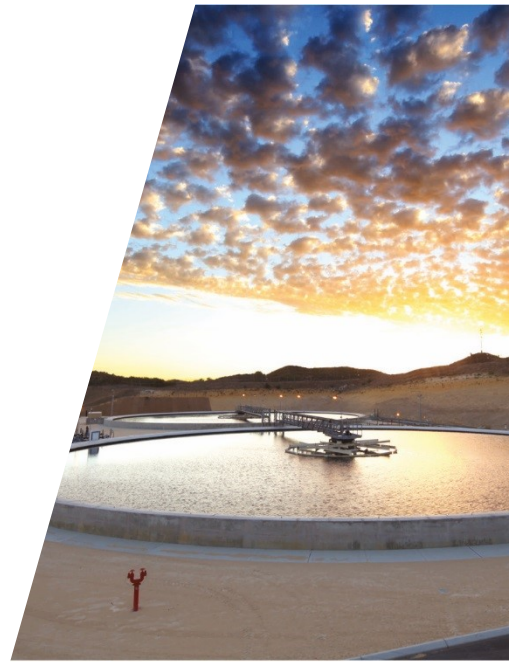
EXHIBIT C
NATURAL RESOURCES MANAGEMENT PLAN

[attached]

Natural Resources Management Plan

555 Bushaway Road Conservation Easement
Wayzata, Minnesota

Lake Properties LLC





Executive Summary

This natural resources management plan (NRMP) is for the Bushaway Road Conservation Easement located at 555 Bushaway Road, Wayzata, Minnesota, referred to herein as the “parcel”. The parcel is owned by Lake Properties LLC (owner) and encompasses approximately 6.28 acres that includes approximately 560 feet of shoreline on Lake Minnetonka. The owner is redeveloping the parcel into one or two buildable lots that will include three conservation easement areas along the north, south and east boundaries of the parcel. It is the intent of the owner and the Minnehaha Creek Watershed District (MCWD), the easement holder, that the easement be managed to protect and enhance the water quality of Lake Minnetonka, protect wetlands, provide for fish and wildlife habitat, and preserve maple-basswood forest remnants that are located on the parcel. This NRMP describes site conditions, key ecological features, management goals and a framework to restore and manage natural resources on the easement.

A field assessment of the easement was completed on October 17, 2018. The field assessment included mapping and survey of native plant communities and land cover types derived from the Minnesota Land Cover Classification System (MLCCS), evaluation of native plant community species composition and structure, inventory of invasive species, soils, hydrology, wildlife habitat, land use, access/public use and ecological restoration opportunities.

Plant communities within, or overlapping the easement, include maple-basswood forest, disturbed oak woodland, hardwood swamp, forested vernal pools and undeveloped shoreline of Lake Minnetonka. The easement area also includes maintained lawn and landscaping, compost piles and a tennis court. The highest quality areas of the easement are maple-basswood forest on either side of the existing driveway into the parcel and bordering Bushaway Road. Other forested areas of the easement are of lower quality and dominated by invasive species including buckthorn (*Rhamnus cathartica*) and garlic mustard (*Alliaria petiolata*). The northeast corner of the easement parcel includes a forested wetland, which is contiguous with a larger wetland to the north.

The management objectives for the easement are to protect and enhance existing native plant communities, restore degraded native plant communities, pretreat stormwater runoff from adjacent areas and protect shoreline areas of Lake Minnetonka. This NRMP identifies several opportunities to expand and enhance wetlands, including creation of vernal pools to support life cycle requirements of forest amphibians. This NRMP integrates the concept and design work that has previously been completed for the parcel by the owner and recommends measures that will enhance the ecological functions of these features within the easement. This NRMP outlines a framework for invasive species control, site preparation, restoration, revegetation and short and long term management strategies for management units within the easement.



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1. Introduction

This natural resources management plan (NRMP) is prepared for the Conservation Easement located at 555 Bushaway Road, Wayzata, Minnesota, referred to herein as the “parcel”. The parcel is owned by Lake Properties, LLC (owner) and encompasses approximately 6.28 acres that includes approximately 560 feet of shoreline on Lake Minnetonka. The owner is redeveloping the parcel into one or two buildable lots that will include three conservation easement areas along the north, south and east boundaries of the parcel. It is the intent of the owner and the MCWD, the easement holder, that the easement be managed to protect and enhance the water quality of Lake Minnetonka, protect wetlands, provide for fish and wildlife habitat, and preserve maple-basswood forest remnants that are located on the parcel. This NRMP describes site conditions, key ecological features, management goals and a framework to restore and manage natural resources on the easement.

2. Site Description

2.1 Easement Location

The location of the easement is shown on Figure 1 and described in the Conservation Easement Exhibits. The easement area totals approximately 106,108 sq. ft. (2.436 acres) and includes three separate areas: Easement Area #1 (42,700 sq. ft./ 0.980 acres), Easement Area #2 (25,185 sq. ft./0.578 acres) and Easement Area #3 (38,223 sq. ft./0.878 acres). The three easement areas extend along Bushaway Road and the north and south boundaries of the parcel and include approximately 150 feet of Lake Minnetonka shoreline.

2.2 Existing and Historical Land Use

The existing land use of the property is residential. The easement parcel has been in use as a residential home site since about 1929. 1945 aerial imagery of the parcel shows the existing home, carriage house, tennis court and general layout out of the property as being similar to existing conditions.

2.3 Adjacent Land Use

Land uses on adjacent properties are residential land use. The easement parcel and parcels to the north and south are residential. The 2018 Wayzata Zoning Designation map shows the easement parcel and parcels to the north and south zoned as R-1A-Low Density Single Family Estate District. The property east of the parcel (across Bushaway Road) is zoned as PUD-Planned Unit Development.

2.4 Key Conservation Areas and Corridors

The easement is not located within a mapped Key Conservation Area of the MCWD or within a Metro Conservation Corridor identified by the Minnesota Department of Natural Resources. The MCWD holds two easements in the vicinity of the easement parcel: Highway 101 Causeway Shoreline Project and Easement located to the south, and the Gray’s Bay Dam and Headwaters



Shoreline Easement located at the Gray’s Bay Dam to the southeast of the easement parcel. Although the easement parcel is not contiguous with other MCWD easements or projects, it provides a link between Wayzata Bay and the large wetland complex located north of Gray’s Bay. Through this connection, the easement links Lake Minnetonka with the lower Minnehaha Creek Watershed while protecting an undeveloped shoreline area on Wayzata Bay, Lake Minnetonka.

3. Existing Conditions

3.1 Physiographic Features

The parcel is located in the Lake Minnetonka Subwatershed of the Minnehaha Creek Watershed. Surficial geology is characterized by loamy till of the Des Moines Lobe and Grantsburg Sublobe Deposits, underlain by Superior Lobe stratified sediment or till. The MCWD Comprehensive Plan describes the landscape as rugged hills and deep irregular depressions, with the many bays, points and islands of Lake Minnetonka derived from submerged knobs and kettles formed by melted glacial ice. This description characterizes well the easement property and adjacent areas. As shown in Figure 2, topography ranges from level to moderately steep with elevations ranging from 944 feet above mean sea level (amsl) on the highest knob located north of the existing driveway to 930 feet amsl in the wetland located at the northeast corner of the parcel. The elevation of the Lake Minnetonka shoreline is approximately 929 feet amsl.

Existing drainage on the north ½ of the parcel is to the north and east into the wetland on the northeast corner of the parcel. Existing drainage on the south ½ of the parcel is to the west and into Lake Minnetonka at the southwest corner of the parcel. All stormwater runoff on the parcel is via surface runoff. The ordinary high water elevation of Lake Minnetonka is 929.4 feet (NGVD29). The 100-year floodplain elevation of Lake Minnetonka is 931.5 feet amsl. A significant portion of the parcel is located below the 100-year flood elevation and subject to periodic flooding.

Soils on the parcel are shown in Figure 3 and summarized in Table 3.1. The dominant soil is the Malardi-Harwick complex, which is an excessively drained sandy loam characteristic of areas that historically supported hardwood forest. The Lester-Malardi soil is a well-drained loam that is also characteristic of historically forested areas. The Udorthent soil is a well-drained soil associated with level area, including much of the flood prone south ½ of the parcel. In addition to these mapped soil types, cut and fill activities have altered soils on many areas of the parcel. Soil characteristics on these areas may be variable depending on the type of cut and fill material, degree of compaction from construction equipment and other factors such as depth to water table and drainage.

Table 3.1 Soils Summary

MUSYM	MUNAME	Hydric Class	Drainage Class
L2B	Malardi-Harwick complex, 1-6 percent slopes	Not hydric	Excessively drained
L702C	Lester-Malardi complex, 6 to 12 percent slopes, eroded	Partially hydric	Well drained
U2A	Udorthents, wet substratum, 0 to 2 percent slopes	Unknown	Well drained



3.2 Ecological Features

3.2.1 Known or Potential Rare Features

The Hennepin County Natural Resource Interactive Map site does not show any ecologically significant features including rare features or native plant communities on the parcel. The City of Wayzata Natural Resources Inventory (Bonestroo, 2006) did not map any natural communities within the parcel, although lowland hardwood forest was identified immediately to the east of the parcel across Bushaway Road.

3.2.2 Existing Plant Communities

Minnesota Land Cover Classification System (MLCCS) cover types are shown in Figure 4. The majority of the parcel is mapped as “other deciduous trees with 26-50% impervious cover”. The MLCCS also shows “short grasses on upland soils” and “short grasses with scattered tree cover on upland soils” cover types on the parcel. It should be noted that the MLCCS does not generally map small acreage features such as the forest, woodland and wetlands areas that are known to be present on the parcel.

Existing plant communities are summarized in Table 3.2 and mapped in Figure 5. Each native plant community or mapped landscape feature is referred to as a management unit (MU). Where applicable, qualitative rankings are assigned to native plant communities based on MN DNR Natural Heritage Program guidelines. Areas of the easement that consist of maintained lawn or that that are significantly impacted by invasive species are described according to land use description or listed as disturbed deciduous woodland. Proposed rain gardens, ponds, intermittent streams and wetland creation areas are shown on Figure 5 and included in applicable MU's in parenthesis. Dominant plant species are listed for each MU in Appendix A.

Maple-basswood forest and mesic oak-basswood forest encompass approximately 50% of the total easement area and are the most ecologically significant features on the parcel. Disturbed deciduous woodland extends along the north and east side of the parcel and encompasses approximately 25% of the easement. The hardwood swamp/wetland area on the northeast corner of the parcel totals approximately 15% of the easement. The remaining areas of the easement are maintained lawn and tennis court. A more detailed description of each MU is provided in the Management Unit Description that follows in the next section of this report. Representative photographs of each MU are shown in Appendix B.



Table 3.2 Management Unit Plant Community Summary

MU	NPC or Cover Type	Quality	Acres
MU-1	Disturbed deciduous woodland (stream and rain garden)	NA	0.46
MU-2	Hardwood swamp (wetland creation)	D	0.29
MU-3	MHs39 – maple-basswood forest	C	0.23
MU-4	MHs39 – maple-basswood forest	C	0.39
MU-5	Maintained lawn (pond/wetland creation)	NA	0.19
MU-6	Disturbed deciduous woodland	NA	0.11
MU-7	Maintained lawn/tennis court (stream and rain garden)	NA	0.12
MU-8	MHs38 - mesic oak-basswood forest	D	0.55
MU-9	Maintained lawn (stream and rain garden)	NA	0.09

3.2.3 Invasive and Introduced Species

Invasive and introduced species are present across much of the parcel, with the greatest density of invasive species along the north and east edges of the easement. Within the maple-basswood and oak-basswood forest, buckthorn (*Rhamnus cathartica*) and garlic mustard occur, but at generally low densities. Within the disturbed deciduous woodland areas, invasive species include creeping charlie (*Glechoma hederacea*), buckthorn, garlic mustard and yellow foxtail (*Setaria glauca*). On the northeast corner of the parcel within and adjacent to wetland areas, buckthorn is common. Although not common in the wetland on the northeast corner of the parcel, reed canary grass (*Phalaris arundinacea*) is abundant in wetland areas immediately to the north. Common introduced and invasive species along the Lake Minnetonka shoreline include buckthorn, tararian honeysuckle (*Lonicera tatarica*), weeping willow (*Salix babylonica*), Canada thistle (*Cirsium arvense*) and mullein (*Verbascum thapsus*). A complete list of plant species within each of the management units is shown in Appendix A.

3.2.4 Fish and Wildlife Habitat

The parcel provides important habitat for species associated with mesic forests, ephemeral wetlands and shoreline areas. The forested portions of the easement contain standing snags and otherwise healthy trees that contain cavities. Where preservation of standing live and dead trees on the easement does not pose a safety issue, or otherwise conflict with uses of the property, they may be preserved to provide nesting and denning habitat for wildlife.

Although wetlands on and to the north of the parcel are of low quality, they include ephemeral pools that provide breeding habitat for amphibians and nesting/foraging habitat for wetland-dependent birds. The undeveloped shoreline areas along Lake Minnetonka provide aquatic habitat for fur-bearing mammals, waterfowl, shore birds and fish.

Some of the common wildlife species associated with mesic forest habitat that would be expected to occur, or with habitat management might occur within the parcel, are listed below. This list does not imply that these species have been documented on the parcel.

Mammals

- Northern short-tailed shrew (*Blarina brevicauda*)



- Eastern mole (*Scalopus aquaticus*)
- Eastern chipmunk (*Tamias striatus*)
- Grey squirrel (*Sciurus carolinensis*)
- Southern flying squirrel (*Glaucomys volans*)
- White-footed mouse (*Peromyscus leucopus*)
- Grey fox (*Urocyon cinereoargenteus*)

Resident and Breeding Birds

- Eastern wood-pewee (*Contopus virens*)
- Great crested flycatcher (*Myiarchus crinitus*)
- Least flycatcher (*Empidonax minimus*)
- White-breasted nuthatch (*Sitta carolinensis*)
- Verry (*Catharus fuscescens*)
- Wood thrush (*Hylocichla mustelina*)
- Yellow-throated vireo (*Virea flavifrons*)
- Red-eyed vireo (*Virea olivaceus*)
- Ovenbird (*Seiurus aurocapillus*)
- Scarlet tanager (*Piranga olivacea*)
- Pileated woodpecker (*Dryocopus pileatus*)

Amphibians and Reptiles

- Blue-spotted salamander (*Ambystoma laterale*)
- Spring peeper (*Pseudacris crucifer*)
- Eastern gray treefrog (*Hyla versicolor*)
- Wood frog (*Rana sylvatica*)
- Eastern garter snake (*Thamnophis sirtalis*)
- Red belly snake (*Storeria occipitomaculata*)

4. Restoration and Management Framework

4.1 Natural Resource Management Goals

The over-arching natural resources management goal is to protect and improve the ecological functions of the easement area, including, without limitation:

1. Protection of existing natural communities and associated wildlife habitat



2. Restoration or enhancement of natural communities that are impacted by past human disturbances
3. Protection and enhancement of wetlands including hydrologic and water quality functions
4. Maintain/project water quality of Lake Minnetonka

4.2 Management Unit Description, Restoration and Management

As part of the field review, the parcel was subdivided into management units (MU). The MU's are mapped at a finer scale than MLCCS, with mapping based on soils, topography, native plant community type and ecological quality. Where applicable, the MU boundaries are also defined by proposed rain gardens, intermittent channels, created wetlands or ponds. Figure 5 shows an aerial view of the parcel with management units identified. Table 2 summarizes attributes of each MU. A brief description and general management approach follows for each MU. Section 4.4 and Appendix C provide more detailed discussion of management recommendations for each MU.

Table 4.1 Management Unit Target Summary

MU	NRMP Target (Future Condition)
MU-1	Oak woodland with intermittent stream and rain garden
MU-2	Hardwood swamp with vernal pools
MU-3	Maple-basswood forest
MU-4	Maple-basswood forest
MU-5	Open water (pond) with wet prairie border
MU-6	Oak woodland
MU-7	Short height native prairie with intermittent stream and rain garden
MU-8	Maple-basswood forest
MU-9	Short height native prairie with intermittent stream and rain garden

4.2.1 MU-1

MU-1 extends across Easement Area #3 from the shoreline of Lake Minnetonka to the wetland area on the northeast corner of the parcel. The tree canopy is dominated by box elder, green ash (*Fraxinus americana*), American elm (*Ulmus americana*) and bur oak (*Quercus macrocarpa*). The shrub layer is dominated by buckthorn and scattered ash, elm seedlings and patches of raspberry (*Rubus spp.*). Common herbs include white snakeroot (*Eupatorium rugosum*), creeping charlie, stinging nettle (*Urtica dioica*) and woodbine (*Parthenogenesis inserta*). The invasive herb garlic mustard is present, particularly along the east side of this MU. This MU includes many box elder (*Acer negundo*) and ash (*Fraxinus spp.*) trees in the 15-30 inch diameter breast height (dbh) size range. With the exception of ash and box elder, tree regeneration in this MU is limited. This oak woodland MU extends to and encompasses approximately 75 feet of shoreline. Portions of this MU are located below the 100-year floodplain elevation of 931.5 feet amsl.

Restoration and Management

The existing forested portions of MU-1 should be managed to control buckthorn and garlic mustard. Following removal of buckthorn, tree and shrub seedlings should be planted within the created openings and around the edges of the existed forested area that fall within the easement. In areas



that are adjacent to the proposed stream channel and rain garden, a transitional planting zone consisting of low height, early successional, woodland grasses and forbs should be planted along with bur oak and woodland shrub seedlings. This portion of the MU is identified as transitional because it is located between maintained areas outside the easement and the target oak woodland community within the easement. In addition to serving as physical transition, this area also serves as a temporal transition in that over time, as trees and shrubs fill in, the grasses and forbs will gradually succeed to woodland species. The shoreline portion of this MU is generally protected from wave erosion by the relatively unmaintained natural vegetation and associated root systems that anchor the shoreline soil. Tree, shrub and herbaceous species planted in this MU should be selected based on their tolerance to occasional flooding, since portions of this MU are located below the 100-year flood elevation. Nonnative or native trees and shrubs, including conifers, may be planted along the north property line to provide screening between the parcel and the property to the north.

Potential tree and shrub species that provide screening and that may be suitable for the site conditions on MU-2 are listed in Appendix D, Planting List #2.

4.2.2 MU-2

MU-2 encompasses wetland areas that extend into Easement Area 3 from the north and an adjacent area proposed as wetland creation. This MU includes a linear pile of soil and compost material. The tree canopy of MU-2 is dominated by box elder, green ash, hackberry (*Celtis occidentalis*), and basswood (*Tilia americana*). Both the shrub and herb layers are dominated by buckthorn. Other herbaceous species present include clearweed (*Pilea pumila*), wood nettle (*Laportea canadensis*), and stinging nettle (*Urtica dioica*). This MU includes a vernal pool that coincides with an elevation of approximately 930 feet amsl.

Restoration and Management

Wetland creation and enhancement should include removal of the soil/compost pile, shallow scapping of areas outside the existing wetland boundary to an elevation of approximately 930 feet amsl, and shallow scraping within the existing wetland to an elevation of approximately 929 feet amsl. Since this site contains buckthorn and is adjacent to a stand of reed canary grass, all soil removed from this area should be carefully removed and disposed of by burying elsewhere on the property or by offsite disposal. For areas that are not scraped, buckthorn should be removed and treated. Following shallow scapping and buckthorn removal, portions of the MU at or above an elevation of approximately 930 feet amsl, should be planted to hardwood swamp tree and shrub species in the created openings and where the existing tree canopy is not closed. Areas below an elevation of 930 feet amsl are expected to retain vernal pool hydrology and should be seeded to wet meadow sedges, grasses and forbs, with consideration given to shade tolerant species. This entire MU will require ongoing monitoring for buckthorn and garlic mustard with follow up spot control for these species on an as-needed basis.

Nonnative or native trees and shrubs, including conifers, may be planted along the north property line to provide screening between the parcel and the property to the north. Potential tree and shrub species that provide screening and that may be suitable for the site conditions on MU-2 are listed in Appendix D, Planting List #2.



4.2.3 MU-3/MU-4

MU-3 and MU-4 are maple-basswood forest remnants separated by the existing residential access driveway. The canopy is dominated by mature sugar maple (*Acer saccharum*), white oak (*Quercus alba*), basswood and red oak (*Quercus rubra*). The northwest corner of this MU includes several large, mature eastern cottonwood, some of which exceed 70 inches in diameter. The shrub layer is patchy and dominated by chokecherry (*Prunus virginiana*), black current (*Ribes americanum*) and alternate-leaved dogwood (*Cornus alternifolia*). Buckthorn is common on the edges in shrub form and as small seedlings within the herb layer. Many of the herbaceous groundcover species typical of this forest type are spring ephemerals and include trilliums (*Trillium spp.*), hepatica (*Hepatica spp.*), bloodroot (*Sanguinaria canadensis*), wild geranium (*Geranium maculatum*), dutchman's breeches (*Dicentra cucullaria*), and wild ginger (*Asarum canadense*), to name a few. A few species that were visible at the time of the site visit include enchanter's nightshade, aster species (*Symphotrichum lateriflorum*). In addition to buckthorn, other invasive species noted include Canada thistle and garlic mustard on the edges of this MU. Both of these MU's include edges or pockets where the maple-basswood forest canopy is opened up that have dense pockets of buckthorn. These MU's should be re-surveyed during late spring-early summer to better assess diversity of herbaceous species and refine management recommendations. This entire MU will require ongoing monitoring for buckthorn and garlic mustard with follow up spot control for these species on an as-needed basis.

Restoration and Management

Management of maple-basswood forests is focused on preventing further fragmentation and limiting encroachment of invasive species on the edge of the forest. Buckthorn and garlic mustard should be removed by pulling the small seedlings and disposing of off-site. Where buckthorn is growing around the edges of the maple-basswood forest, stems should be cut and treated with a basal application of herbicide and these areas planted to species that can serve as a transitional edge between the closed canopy maple-basswood forest and the more open areas along the easement boundary. Oak woodland trees, shrubs, grasses and forbs are well adapted to this type of edge. In the areas where the forest canopy has broken up and the shrub layer is dominated by buckthorn, buckthorn will need to be cut, treated, and controlled before transitional forest edges can be established. As discussed in previous sections of this report, large, mature trees and snags on the easement, maybe preserved, provided they do not pose a safety hazard, or otherwise conflict with uses of the parcel.

4.2.4 MU-5

MU-5 is an existing area of maintained grass immediately to the north of the tennis court. A deep, open water pond/wetland is proposed for this area.

Restoration and Management

To provide ecological benefits to the conservation easement area, the pond will be designed, to the extent possible, to support native vegetation and will be buffered with unmown/maintained vegetation. Deep water ponds can provide excellent overwintering and breeding habitat for amphibians, deep water refuge for turtles, nesting and brood rearing habitat for waterfowl, and habitat for aquatic fur-bearing mammals. Key design elements that improve wildlife habitat and that may be incorporated into the pond design include: creation of a shallow zone (bench) around the perimeter of the pond, use of native grass, forb and shrub plantings that provide food and cover for



wildlife, creation of deep water refuge for overwintering reptiles and amphibians and barriers to prevent migration of fish into the pond. Between the south side of the pond and easement, short-height prairie grasses, wildflowers and other plantings may be used to create an upland buffer. Fish of any kind should not be released into the pond, since fish prey on larval amphibians. If possible, the pond should be designed to enable periodic drawdowns to manage vegetation and improve water quality. If possible, the pond outlet will be designed to minimize the movement of fish into the pond from Lake Minnetonka.

Nonnative or native trees and shrubs, including conifers, may be planted along the east property line to provide screening between the parcel and Bushaway Road. Potential tree and shrub species that provide screening and that may be suitable for the site conditions on MU-5 are listed in Appendix D, Planting List #2.

4.2.5 MU-6

MU-6 is a narrow strip of brushy deciduous woodland that borders Bushaway Road. MU-6 is dominated by box elder, green ash and planted weeping willow. Buckthorn is common within this MU. The edge bordering Bushaway Road contains a weedy mix of roadside grasses and such weeds as Canada thistle and sow thistle (*Sonchus arvensis*). The restoration target for this MU is oak woodland. The benefit of restoring this area include: removing a significant invasive species seed source from the site, maintaining a continuous forest corridor between forested areas to the north and south and creating a more viable and attractive buffer between the residential site and Bushaway Road.

Restoration and Management

From a restoration perspective, there is little to salvage in this MU; therefore, complete removal of existing vegetation and replanting is recommended. Since this MU contains a number of weed species, material cleared from this area should be carefully removed and disposed of. If buckthorn stumps result from the clearing, these will need to be treated with a basal application of herbicide. Once the buckthorn and other weeds are under control, seed to a short height, early successional grass/forb seed mix cover crop. Oak woodland trees and shrubs should then be planted. If visual screening is desired, red cedar is probably the best local conifer that occurs naturally within oak woodlands. Other species that might be considered are listed in Appendix D, Planting List #2.

4.2.6 MU-7/MU-9

MU-7 and MU-9 encompass tennis court and maintained residential lawn areas on Easement Area #1. A stormwater treatment corridor will extend the length of this MU and include rain gardens. An intermittent stream channel will extend from the pond described in MU-6, connect with the rain gardens and then outlet into Lake Minnetonka. This MU is also part of a flood mitigation area that may flood during times when the water level on Lake Minnetonka is high.

Restoration and Management

The recommended management target for this MU is short-height prairie plantings with wetland plantings in rain gardens and the intermittent stream channel areas. Because this entire MU may occasionally be flooded, the short-height prairie planting should include species adapted to alternating wet-dry periods that are able to withstand inundation. Although the Lester-Malardi soils



mapped for this area are rated as well drained, soil texture and shallow groundwater elevations should be carefully considered for prairie planting species selection.

4.2.7 MU-8

MU-8 is a low to moderate quality oak-basswood forest that extends along the south boundary of Easement Area #1 from Bushaway Road to the shore of Lake Minnetonka. The forest canopy is dominated by sugar maple, red oak, basswood and American elm. The shrub layer is patchy and includes buckthorn, pagoda dogwood and sugar maple seedlings. At the time of the site visit few herbaceous species were observed in this MU; however, during spring and summer, there is likely to be a fair diversity of wildflowers, including many of the species noted for MU-3/MU-4. MU-8 should be re-surveyed during late spring-early summer to better assess diversity of herbaceous species and refine management recommendations. Invasive species noted in this MU include buckthorn (both shrub and groundcover layers) and garlic mustard. This MU also includes a partial row of large, mature weeping willow trees and one clump of planted northern white cedar (*Thuja occidentalis*). This entire MU will require ongoing monitoring for buckthorn and garlic mustard with follow up spot control for these species on an as-needed basis.

Restoration and Management

The management target for MU-8 is maple-basswood forest. Since portions of this MU are located below the 100-year flood elevation of 931.5 feet amsl, the potential for periodic flooding or high water tables should be factored into management of this area. Management of MU-8 should focus first on removal and treatment of buckthorn and garlic mustard. Once the buckthorn and garlic mustard is controlled, edges of the MU and canopy gaps should be planted to flood-tolerant trees and shrubs that are characteristic of oak-basswood forest. An example of using flood-tolerant species would be to plant bur oak instead of red or white oak, since bur oak are better adapted to flood conditions. In lower lying areas near the stream channel and rain gardens, swamp white oak (*Quercus bicolor*) and river birch (*Betula nigra*) may be appropriate.

Nonnative or native trees and shrubs, including conifers, may be planted along the south property line to provide screening between the parcel and the property to the south. Potential tree and shrub species that provide screening and that may be suitable for the site conditions on MU-2 are listed in Appendix D, Planting List #2.

4.3 Wildlife Habitat Restoration and Management

The parcel provides habitat for species associated with mesic hardwood forest and wetland plant communities as well as transitional areas along the shoreline of Lake Minnesota. The quality, size and connectivity of these habitat within, and adjacent to the parcel impacts the number and diversity of wildlife species. The following are suggested landscape design and easement area maintenance practices:

4.3.1 Fencing at Property Line

No fence may be located or constructed within the Easement Area, except along the northern, eastern and southern boundaries of the protected property. Notwithstanding this limitation, the existing fencing may be repaired, maintained or replaced. When installing any new or replacement



financing, the owner will use reasonable efforts to not obstruct wildlife movement within or through the Easement Area; provided however, the primary consideration for the design, installation and function for any new or replacement fencing will be the safety and security of the owner, the owner's family, the "Permitted Users" (defined below), and any pets owned by the owner, the owner's family or a Permitted User. If there is a conflict between obstructing wildlife movement and the primary consideration of safety and security, the primary consideration of safety and security shall control. "Permitted User" means the owner's agents, employees, lessees, invitees, family members or contractors.

4.3.2 Snags and Woody Debris

Snags and woody debris provide critical nesting, roosting and feeding habitat for a variety of birds, mammals, reptiles and amphibians. Dead or dying trees may be left standing and woody debris left undisturbed on the forest floor where doing so does not conflict with safety issues, sound forest management practices, or otherwise conflict with uses of the property.

4.3.3 Basking/Loafing Logs and Rafts

Trees, logs and rock in shallow water provide important basking sites for turtles and loafing/feeding areas for waterfowl and fur-bearing mammals. Below the water surface, these features support plankton, macroinvertebrates, amphibians and fish. Where this habitat occurs within the easement, it may be retained if doing so does not conflict with uses shoreline areas or maintenance of constructed wetlands or ponds.

4.3.4 Pollinator Habitat and Wildlife Food Plants

Where appropriate, landscape plantings should include diverse plantings that provide forage and overwintering habitat for adult and larval stages of insects and other pollinators. Pollinator plantings with bloom times that extend through the entire growing season and that include a variety of wildflowers, shrubs and trees are recommended. Plantings should not be cut at the end of the growing season, since pollinators may overwinter in in the dead vegetation. When selecting woody plants, mast and berry producing shrubs and trees may be used to provide food for birds and mammals throughout the growing season.

4.3.5 Nest Boxes for Wood Ducks and Other Cavity Nesters

Where cavity trees or snags are lacking, nest boxes may be placed. These structures can be located along the shoreline of Lake Minnetonka and/or adjacent to wetlands. Nest boxes may be placed for cavity nesting waterfowl, bats and bluebirds. As described in Section 4.3.2, snags with cavities may be retained to provide this habitat within the easement where doing so does not conflict with safety issues, sound forest management practices, or otherwise conflict with uses of the property.

4.4 Restoration and Management

Restoration and management of the easement is detailed in the summary of management recommendations presented in Appendix C. The summary of restoration and management recommendations describes the sequencing and timing of management actions over the first six years of project implementation. The six year time line is an approximate schedule and could be



extended depending on weather and other factors. The initial two-year phase of project implementation will commence after all permits and approvals are granted and is assumed to coincide with site work, including construction of stormwater facilities, floodplain mitigation, and general grading and site preparation associated with redevelopment of the property. Construction work could potentially be completed during either summer or winter months during the initial two year phase; however, excavation work in wetlands or areas with wet soil or a high water table should be completed during winter months, if possible, to take advantage of frozen soil conditions. In contrast to excavation work, invasive species control, planting, seeding and monitoring generally need to be completed during specific months of the year. The actual timing of management actions should be determined as part of the site design and construction oversight, with the final schedule adapted to reflect local conditions in the year that management is being implemented.

Suggested tree, shrub and herbaceous species to plant or seed in each MU are referenced in Appendix C and listed in Appendix D. The Appendix D Planting and Seeding Lists are summarized in Table 4.2. Planting Lists (PL) 1-4 are custom mixes specific to site conditions of the easement. Board of Water and Soil Resources (BWSR) are State Seed Mixes that may be appropriate to use within or adjacent to the easement. Many of the species listed in the seed mixes are also available as plugs or container stock and can be planted rather than seeded. These recommended planting and seeding lists are suggested species and should be adjusted to match actual site conditions in the easement including amount of shade vs sun, frequency of inundation, depth to water table, soil texture, and the functional and aesthetic considerations of the overall landscape plan for the property.

Table 4.2 Planting and Seeding List

Plant and Seed Mix	Suggested Uses
PL #1-Wet Mesic Hardwood Forest	Oak woodland and maple-basswood forest edges, areas susceptible to occasional flooding and/or seasonal high water table
PL #2-Privacy Screen Trees and Shrubs	North, east and south boundary of property, includes both upland and wetland species.
PL #3-Wet Meadow-Vernal Pool	Seasonally flooded wetland at northeast corner of property
PL #4-Mesic Hardwood Forest	Maple-basswood forest and other upland forest areas
BWSR Forest Groundcover	Supplements PL#4, may also be used on more upland areas with PL #1
BWSR Riparian	Intermittent stream channel, rain gardens and wetland enhancement, partial shade
BWSR Stormwater	Intermittent stream channel, rain gardens, stormwater pond, full sun.
BWSR Pollinator	Can be integrated as pollinator patches within buffers adjacent to stormwater pond, intermittent channel and rain gardens, full sun
BWSR Mesic-Short-Urban Buffer	Stormwater pond, intermittent channel and rain garden buffer, full sun



The management actions detailed in the Appendix C include site preparation (SP), earthwork and construction (EC), revegetation actions (RA), short term management (STM) and perpetual management (PM). The following describes what each management action task includes.

4.4.1 Site Preparation

Site preparation includes pre-planting and seeding seedbed preparation and other work necessary to prepare the site to be restored or reclaimed. If initial weed control is necessary to prepare the site for seeding, tasks such as mowing, burning and herbicide application are included in this category.

4.4.2 Earthwork and Construction

Earthwork and construction includes clearing and grubbing, debris removal, excavation and grading, installation of hydraulic structures, sediment and erosion control.

4.4.3 Revegetation Actions

Revegetation actions include seeding, interseeding, planting of container seedlings (tree, shrub, herbaceous), native vegetated mats, donor soils and vegetative means (e.g. placement of stems or rhizomes) and other tasks that directly introduce native plant to the site.

4.4.4 Short Term Management

Short term management includes tasks that alter plant community succession to enable existing and/or reintroduced native species to increase in abundance and diversity. Short term management tasks are generally implemented within the first two to three years.

4.4.5 Perpetual Management

Perpetual management includes long term monitoring for encroachment by invasive species, spot control of weeds, controlled burns implemented on a rotational basis and ecological monitoring of restoration target progress. Monitoring of wildlife populations and compliance with restrictions of conservation easements may also fall under perpetual management.

4.5 Monitoring

Monitoring is critical to the protection and informed management of the easement. This is especially the case during the early years when efforts are concentrated on site preparation, initial invasive species control and planting and seeding work. As part of the monitoring, routine spot control of invasive plants (primarily garlic mustard, buckthorn and reed canary grass) should be completed annually. Within each MU, groundcover, shrub and tree vegetation should be recorded. The monitoring should include photographs, identification of management issues and presence of invasive species. The monitoring results should be compiled into an annual monitoring report and should include a summary of recommendations and corrective actions for the coming year.



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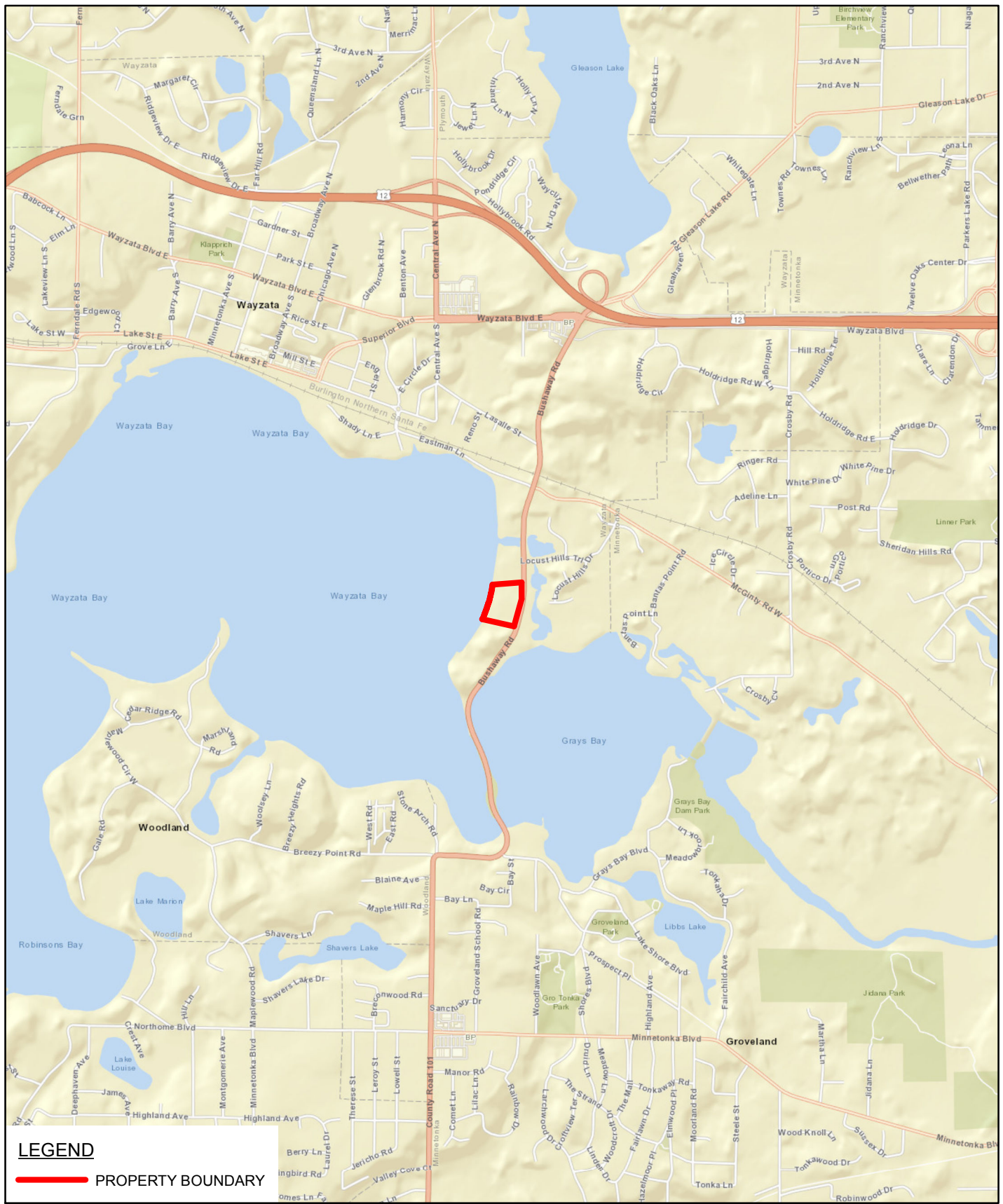
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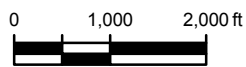
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Figures



Source: Esri Streets Basemap



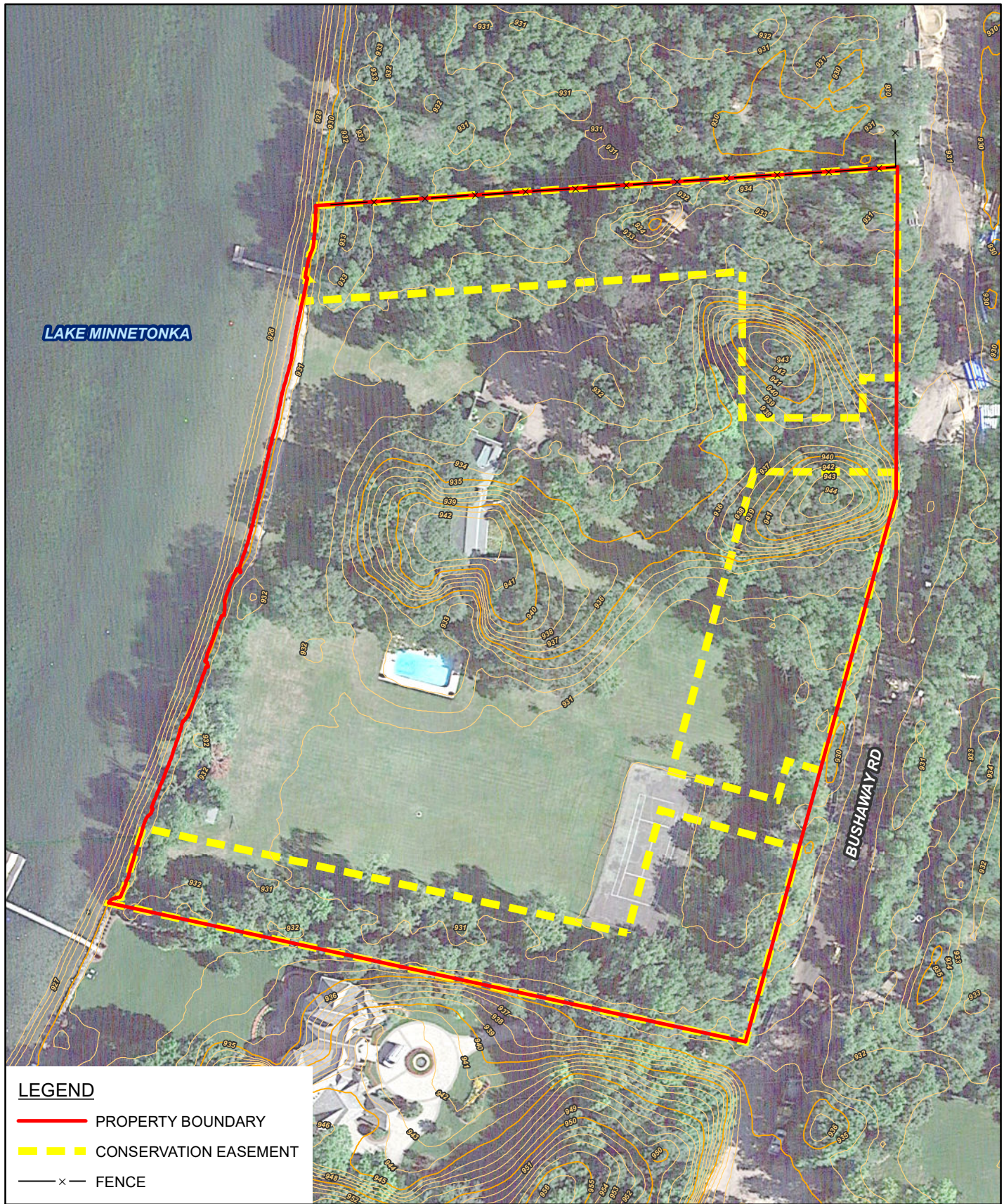
LAKE PROPERTIES, LLC
 555 BUSHAWAY RD, WAYZATA, MINNESOTA
 NATURAL RESOURCE MANAGEMENT PLAN

11185155-01

Jan 2, 2019

PROPERTY LOCATION MAP

FIGURE 1



Source: MN DNR; Google 8/11/2015

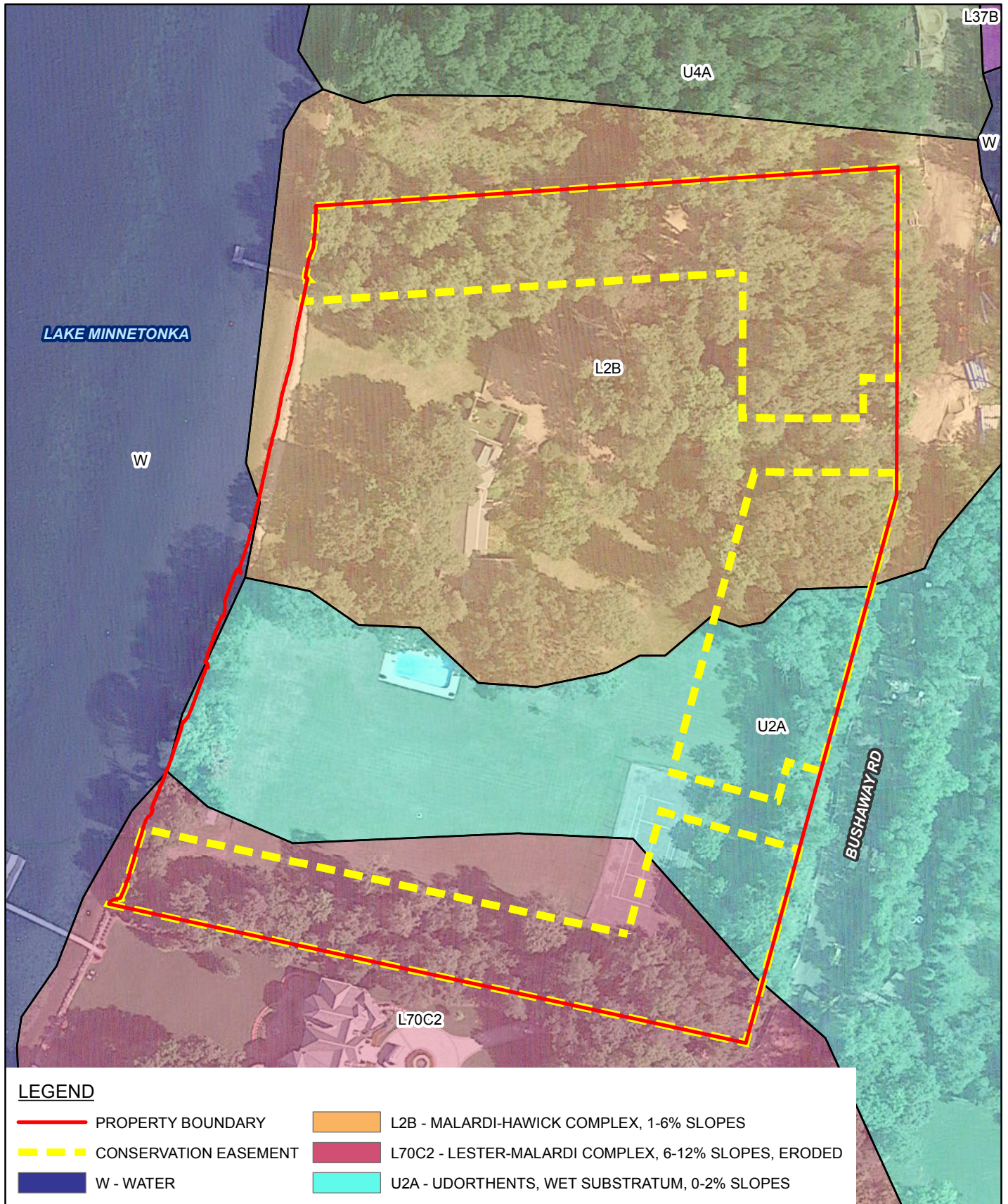


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11185155-01
May 16, 2019

TOPOGRAPHIC FEATURES

FIGURE 2



Source: USDA NRCS; Google 8/11/2015

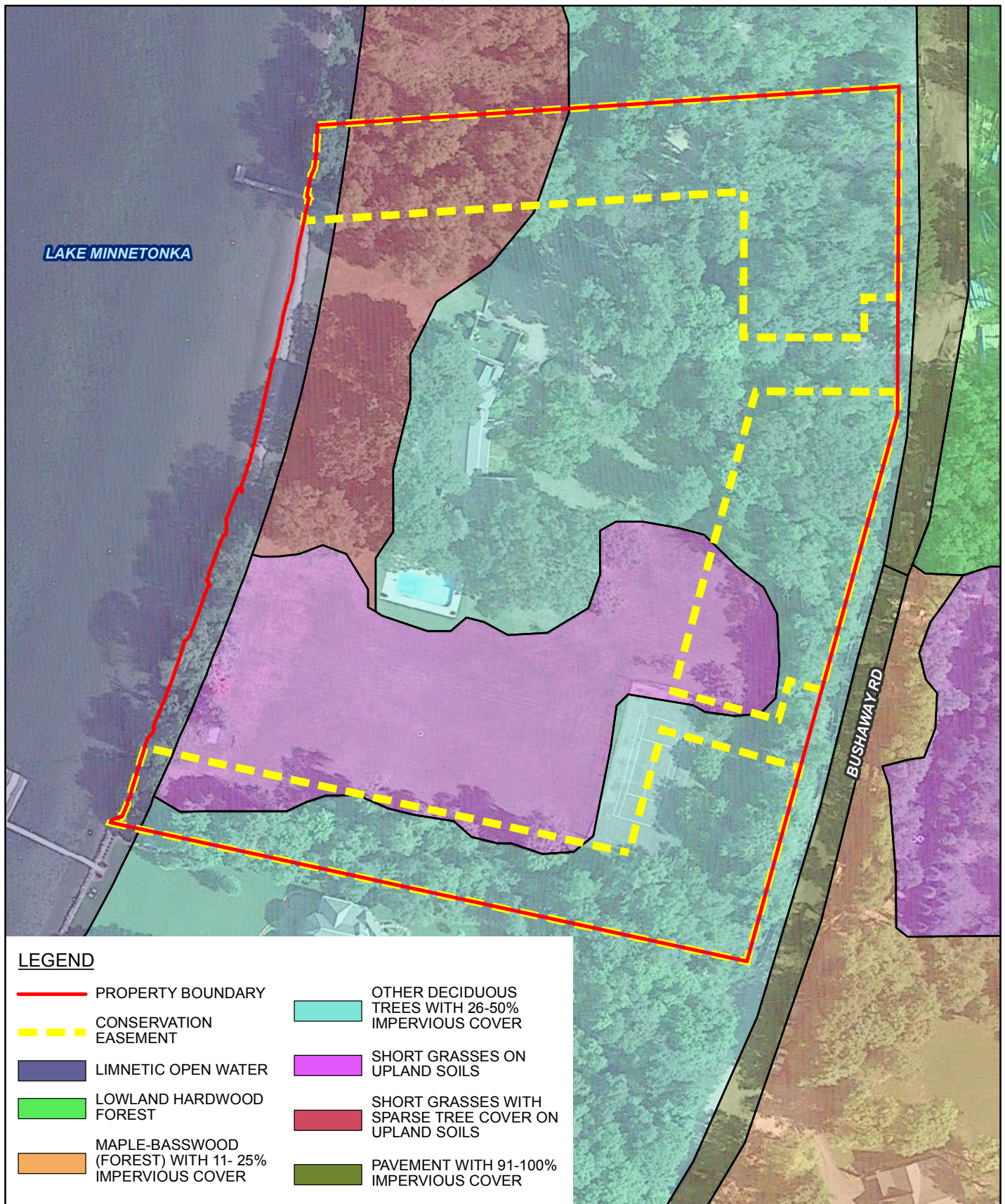


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SOIL MAP UNITS

FIGURE 3



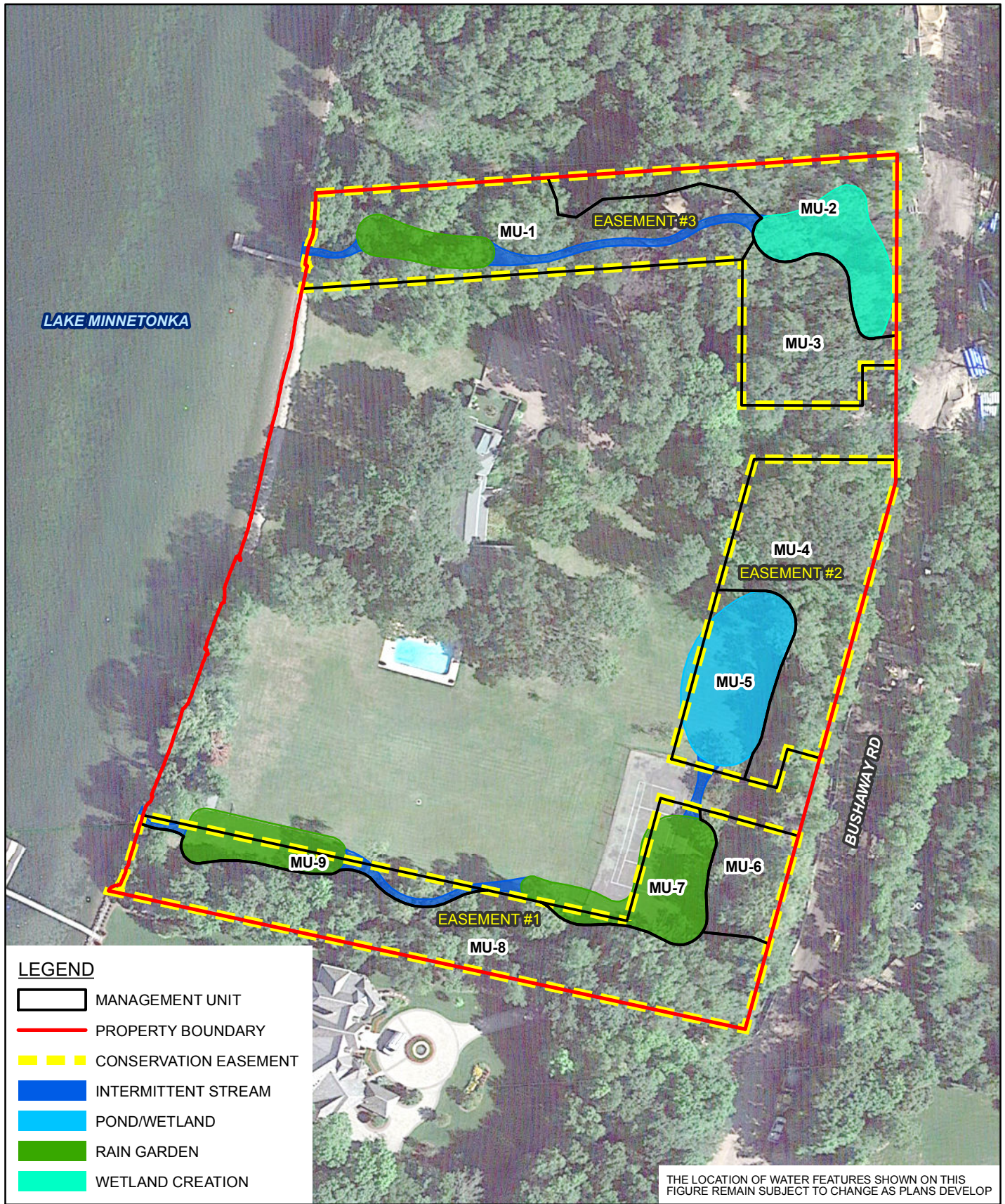
Source: MN DNR; Google 8/11/2015



LAKE PROPERTIES, LLC
 555 BUSHAWAY RD, WAYZATA, MINNESOTA
 NATURAL RESOURCE MANAGEMENT PLAN
 MINNESOTA LAND COVER
 CLASSIFICATION

11185155-01
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FIGURE 4



LAKE PROPERTIES, LLC
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 NATURAL RESOURCE MANAGEMENT PLAN

11185155-01
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MANAGEMENT UNITS

FIGURE 5

Appendices

Appendix A

Management Unit Species List

Appendix A

Management Unit Species List

MU	Native Status	Physiognomy	Scientific Name	Common Name	Stratum	Abundance	Distribution
MU-1		H	<i>Eupatorium rugosum</i>	white snakeroot	H	2	2
		D	<i>Fraxinus pennsylvanica</i>	green ash	C	1	2
	I	H	<i>Glechoma hederacea</i>	creeping charlie	H	2	2
		V	<i>Parthenogenesis inserta</i>	woodbine	V	2	1
	I	G	<i>Phalaris arundinacea</i>	reed canary grass	H	1	2
	I	G	<i>Poa compressa</i>	canada bluegrass	H	4	1
	I	G	<i>Poa pretensis</i>	kentucky bluegrass	H	4	1
		D	<i>Quercus macrocarpa</i>	bur oak	C	1	3
	I	D	<i>Rhamnus cathartica</i>	common buckthorn	H, S	3	2
		D	<i>Rubus idaeas</i>	red raspberry	S	1	3
		D	<i>Ulmas americana</i>	american elm	C/S	1	1
		H	<i>Urtica dioica</i>	stinging nettle	H	2	1
		C	<i>Vitis riparia</i>	Riverbank Grape	V	1	1
MU-2		D	<i>Acer negundo</i>	box elder	C	1	1
	I	H	<i>Alliaria petiolata</i>	garlic mustard	H	2	2
		D	<i>Celtis occidentalis</i>	hackberry	S	1	3
		H	<i>Eupatorium rugosum</i>	white snakeroot	H	2	1
		D	<i>Fraxinus pennsylvanica</i>	green ash	C	1	1
		H	<i>Laportea canadensis</i>	wood nettle	H	2	1
	I	G	<i>Phalaris arundinacea</i>	reed canary grass	H	1	3
		H	<i>Pilea pumila</i>	clearweed	H	3	1
	I	D	<i>Rhamnus cathartica</i>	common buckthorn	H, S	4	2
	I	G	<i>Setaria glauca</i>	yellow foxtail	G	2	2
		H/C	<i>Solanum dulcamara</i>	bittersweet nightshade	H	3	1
		H	<i>Symphotrichum lateriflorum</i>	aster species	H	1	2
		D	<i>Tilia americana</i>	basswood	C	1	3
	D	<i>Ulmas americana</i>	american elm	C	2	1	
	H	<i>Urtica dioica</i>	stinging nettle	H	1	2	

Appendix A

Management Unit Species List

MU	Native Status	Physiognomy	Scientific Name	Common Name	Stratum	Abundance	Distribution
MU-3/MU-4		D	<i>Acer saccharum</i>	sugar maple	H, C	4	1
		C	<i>Circaea lutetiana</i>	enchanger's nightshade	H	2	1
		H	<i>Eupatorium rugosum</i>	white snakeroot	H	1	1
		D	<i>Fraxinus pennsylvanica</i>	green ash	H, C	1	1
	I	H	<i>Glechoma hederacea</i>	creeping charlie	H	2	2
		V	<i>Parthenogenesis inserta</i>	woodbine	V	1	1
		D	<i>Prunus virginiana</i>	chokecherry	S	2	2
		D	<i>Quercus alba</i>	white oak	C	2	1
		D	<i>Quercus rubra</i>	red oak	C	1	1
	I	D	<i>Rhamnus cathartica</i>	common buckthorn	H, S	2	1
		D	<i>Ribes americanum</i>	black currant	S	2	2
		H	<i>Symphyotrichum lateriflorum</i>	aster species	H	1	1
	D	<i>Tilia americana</i>	basswood	C	3	1	
MU-6		D	<i>Acer negundo</i>	box elder	C	2	1
	I	H	<i>Cirsium arvense</i>	canada thistle	H	2	2
		D	<i>Fraxinus pennsylvanica</i>	green ash	C, H	2	1
	I	D	<i>Rhamnus cathartica</i>	common buckthorn	H, S	3	1
	I	D	<i>Salix babylonica</i>	weeping willow	C	4	Planted
		H	<i>Sonchus arvensis</i>	sow thistle	H	2	3
MU-8		D	<i>Acer saccharum</i>	sugar maple	H, C	1	1
	I	H	<i>Alliaria petiolata</i>	garlic mustard	H	3	3
		D	<i>Celtis occidentalis</i>	hackberry	S	1	1
		D	<i>Cornus alternifolia</i>	pagoda dogwood	S	1	3
		D	<i>Fraxinus pennsylvanica</i>	green ash	C	2	2
		D	<i>Quercus rubra</i>	red oak	C	1	1
	I	D	<i>Rhamnus cathartica</i>	common buckthorn	H, S	1	1
	I	D	<i>Salix babylonica</i>	weeping willow	C	3	Planted
		C	<i>Sicyos angulatus</i>	bur cucumber	V	3	3
	I	C	<i>Thuja occidentalis</i>	white cedar	S		Planted
		D	<i>Tilia americana</i>	basswood	C	3	1
		D	<i>Ulmus americana</i>	american elm	C	1	2
	C	<i>Vitis riparia</i>	riverbank grape	V	1	1	

Appendix A

Management Unit Species List

MU	Native Status	Physiognomy	Scientific Name	Common Name	Stratum	Abundance	Distribution
Wooded Mtka Shoreline		D	<i>Cornus alba</i>	red osier dogwood	S	4	1
	I	D	<i>Lonicera tatarica</i>	tatarian honeysuckle	S	3	1
	I	D	<i>Rhamnus cathartica</i>	common buckthorn	H, S	3	1
	I	D	<i>Salix babylonica</i>	weeping willow	C	2	1
		H	<i>Solidago canadensis</i>	canada goldenrod	H	2	1
		H	<i>Symphyotrichum ericoides</i>	heath aster	H	2	2
		D	<i>Tilia americana</i>	basswood	C	1	1
		D	<i>Ulmus americana</i>	american elm	C	2	1
Maintained Mtka Shoreline		H	<i>Asclepias incarnata</i>	swamp milkweed	H	2	2
	I	H	<i>Cirsium arvense</i>	canada thistle	H	2	2
		H	<i>Conyza canadensis</i>	horseweed	H	2	1
	I	D	<i>Glenditsia triacanthos</i>	honey locust	S	2	3
		H	<i>Lycopus americanus</i>	american bugleweed	H	3	1
		H	<i>Persicaria pennsylvanica</i>	pennsylvania smartweed	H	3	1
		H	<i>Pycnanthemum virginianum</i>	virginia mountainmint	H	3	1
		H	<i>Solidago canadensis</i>	canada goldenrod	H	3	1
	I	H	<i>Verbascum thapsus</i>	mullein	H	2	1

Appendix B Parcel Photographs



Photo 1 – MU-1A



Photo 2 – MU-2A (property boundary)



Site Photographs



Photo 3 – MU-2B



Photo 4 – MU-3A



Site Photographs



Photo 5 – MU-4A



Photo 6 – MU-4B



Site Photographs



Photo 7 – MU-6A



Photo 8 – MU-7A-South Line Easement #1



Site Photographs



Photo 9 – MU-7B



Photo 10 – MU-8A



Site Photographs



Photo 11 – MU-8B-Shoreline of Lake Minnetonka



Site Photographs

Appendix C

Summary of Restoration and Management Recommendations

Appendix C

Summary of Management and Restoration Recommendations*

MU	Task Cat.	Description/Subtask	Planting List Number (PL #) And BWSR Seed Mixes Other Notes	Year 1/2				Year 3				Year 4				Year 5				Year 6			
				Sprina	Summer	Fall	Winter	Sprina	Summer	Fall	Winter	Sprina	Summer	Fall	Winter	Sprina	Summer	Fall	Winter	Sprina	Summer	Fall	Winter
MU1	STM	Cut and treat buckthorn, apply basal application of triclopyr																					
	STM	Inspect for garlic mustard, and if necessary, hand pull or treat with triclopyr																					
	SP	Cut undesirable trees and dispose of outside easement area	Undesirable trees include boxelder, green ash and large buckthorn																				
	EC	Construct rain garden and intermittent channel																					
	RA	Seed native sedges, forbs and grasses in rain garden and intermittent channel	BWSR Riparian/BWSR Stormwater																				
	RA	Plant privacy screen trees and shrubs along property boundary	PL #2																				
	RA	Plant oak woodland trees and shrubs in openings created by buckthorn removal and along inside edge of easement boundary where space allows	PL #1, BSWR Forest Groundcover																				
	PM	Monitor and control buckthorn and garlic mustard																					
MU2	SP	Remove and dispose of compost pile to location outside easement area	Compost may be suitable for use elsewhere on property																				
	SP	Remove undesirable trees and woody debris within wetland enhancement area and dispose of outside easement area	Undesirable trees include boxelder, green ash and large buckthorn																				
	EC	Excavate (shallow scrape) wetland enhancement area with elevation of shallow scrape at elevation of existing wetland	Excavated material (which may contain buckthorn seeds and reed canary seed/rhizomes) should be disposed of outside easement area																				
	STM	Cut and treat buckthorn, apply basal application of triclopyr																					

*This Appendix is subject to modification based on the advice or instruction of the design or construction team based on best commercially reasonable practices under the circumstances, changes in technology or standards, or force majeure

Task Categories

- SP – Site Preparation
- EC – Earthwork and Construction
- RA – Revegetation Actions
- STM – Short Term Management
- PM – Perpetual Management

Appendix C

Summary of Management and Restoration Recommendations*

MU	Task Cat.	Description/Subtask	Planting List Number (PL #) And BWSR Seed Mixes Other Notes	Year 1/2		Year 3		Year 4		Year 5		Year 6	
				Sprina	Summer	Fall	Winter	Sprina	Summer	Fall	Winter	Sprina	Summer
MU2	STM	Inspect for garlic mustard, and if necessary, hand pull or treat with triclopyr											
	RA	Seed native sedges, forbs and grasses in wetland enhancement area and intermittent channel	PL #3, BSWR Riparian										
	RA	Plant native forested wetland/vernal pool trees and shrubs around perimeter of wetland enhancement area	PL #1										
	PM	Monitor and control buckthorn, reed canary grass and garlic mustard											
MU3	STM	Cut and treat buckthorn, apply basal application of triclopyr											
	RA	Plant native mesic hardwood trees and shrubs on edges opened up by removal of buckthorn and/or on transition zone of easement	PL #4										
	PM	Monitor and control garlic mustard and buckthorn											
MU4	STM	On portions of MU north of MU5 Pond, cut and treat buckthorn, apply basal application of triclopyr											
	RA	On portions of MU north of MU5 Pond, Plant native trees and shrubs on edges opened up by removal of buckthorn and/or on transition zone of easement	PL #4										
	SP	In conjunction with MU5 Pond construction, remove undesirable trees and buckthorn from south portion of MU along Bushaway Road and dispose of outside easement area	Remove all trees except for maple, basswood, oak, etc. which should be retained if doing so is consistent with construction of berm										
	EC	Construct earthen privacy berm between MU5 and Bushaway Road											
<p><i>*This Appendix is subject to modification based on the advice or instruction of the design or construction team based on best commercially reasonable practices under the circumstances, changes in technology or standards, or force majeure</i></p>													

Task Categories

- SP – Site Preparation
- EC – Earthwork and Construction
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Appendix C

Summary of Management and Restoration Recommendations*

MU	Task Cat.	Description/Subtask	Planting List Number (PL #) And BWSR Seed Mixes Other Notes	Year 1/2				Year 3				Year 4				Year 5				Year 6			
				Sprina	Summer	Fall	Winter	Sprina	Summer	Fall	Winter	Sprina	Summer	Fall	Winter	Sprina	Summer	Fall	Winter	Sprina	Summer	Fall	Winter
MU4	RA	Plant privacy screen trees and shrubs on privacy berm and plant native trees and shrubs on other areas as space permits	PL #2, PL #4																				
	RA	Seed or plant native (non-turf) groundcover species on constructed berm area of easement	PL #4, BWSR Forest Groundcover																				
	PM	Monitor and control invasive species																					
MU5	EC	Construct permanent pond with shallow bench extending around perimeter of pond. The shallow bench should extend from approximately 6 inches above the normal water level (NWL) to a depth of six inches below the NWL and be constructed to a maximum slope of 10:1 horizontal:vertical																					
	RA	Seed and/or plant native sedges and forbs on the shallow bench of the pond	BWSR Stormwater																				
	RA	Seed and/or plant native woodland edge grasses, forbs and shrubs on upland edges of the north and east sides of the pond	BWSR Mesic Short Urban Buffer, BWSR Forest Groundcover																				
	PM	Monitor and control invasive species																					
MU6	SP	Remove trees and shrubs and dispose of outside the easement area	Remove all trees except for maple, basswood, oak, etc. which should be retained if doing so is consistent with construction the berm																				
	EC	Construct earthen privacy berm along Bushaway Road																					
	RA	Plant privacy screen trees and shrubs on privacy berm and plant native oak woodland trees and shrubs on other areas as space permits	PL #2, PL #4																				
*This Appendix is subject to modification based on the advice or instruction of the design or construction team based on best commercially reasonable practices under the circumstances, changes in technology or standards, or force majeure																							

Task Categories

- SP – Site Preparation
- EC – Earthwork and Construction
- RA – Revegetation Actions
- STM – Short Term Management
- PM – Perpetual Management

Appendix C

Summary of Management and Restoration Recommendations*

MU	Task Cat.	Description/Subtask	Planting List Number (PL #) And BWSR Seed Mixes Other Notes	Year 1/2				Year 3				Year 4				Year 5				Year 6			
				Sprina	Summer	Fall	Winter	Sprina	Summer	Fall	Winter	Sprina	Summer	Fall	Winter	Sprina	Summer	Fall	Winter	Sprina	Summer	Fall	Winter
MU6	RA	Seed or plant native (non-turf) groundcover species on constructed berm area of easement and on other areas as space permits	PL #4, BWSR Forest Groundcover, BWSR Mesic Short Urban Buffer																				
	PM	Monitor and control invasive species																					
MU7	STM	Cut and treat buckthorn, apply basal application of triclopyr																					
	STM	Inspect for garlic mustard, and if necessary, hand pull or treat with triclopyr																					
	SP	Cut undesirable trees and dispose of outside easement area	Remove all trees except for maple, basswood, oak, etc. which should be retained if doing so is consistent with construction of the rain gardens and channel																				
	EC	Construct rain garden and intermittent channel																					
	RA	Seed native sedges, forbs and grasses in rain garden and intermittent channel, consider including prairie pollinator patch in this area	BWSR Stormwater, BWSR Pollinator																				
	RA	Plant oak woodland trees and shrubs in openings created by buckthorn removal and along inside edge of easement boundary where space allows	PL #1, BWSR Forest Ground Cover																				
	PM	Monitor and control buckthorn and garlic mustard																					
MU8	STM	Cut and treat buckthorn, apply basal application of triclopyr																					
	STM	Inspect for garlic mustard, and if necessary, hand pull or treat with triclopyr																					
*This Appendix is subject to modification based on the advice or instruction of the design or construction team based on best commercially reasonable practices under the circumstances, changes in technology or standards, or force majeure																							

Task Categories

- SP – Site Preparation
- EC – Earthwork and Construction
- RA – Revegetation Actions
- STM – Short Term Management
- PM – Perpetual Management

Appendix C

Summary of Management and Restoration Recommendations*

MU	Task Cat.	Description/Subtask	Planting List Number (PL #) And BWSR Seed Mixes Other Notes	Year 1/2		Year 3		Year 4		Year 5		Year 6					
				Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter		
MU8	SP	Cut undesirable trees and dispose of outside easement area	Remove all trees except for maple, basswood, oak, etc. which should be retained if doing so is consistent with construction of the rain gardens and channel														
	RA	Plant privacy screen trees and shrubs along property boundary	PL #2														
	RA	Plant oak woodland trees and shrubs in openings created by buckthorn removal and along inside edge of easement boundary adjacent to MU7 intermittent stream and rain gardens	PL #1, BWSR Forest Ground Cover														
	PM	Monitor and control buckthorn and garlic mustard															
*This Appendix is subject to modification based on the advice or instruction of the design or construction team based on best commercially reasonable practices under the circumstances, changes in technology or standards, or force majeure																	

Task Categories

- SP – Site Preparation
- EC – Earthwork and Construction
- RA – Revegetation Actions
- STM – Short Term Management
- PM – Perpetual Management

Appendix D
Planting and Seeding List

PLANTING LIST #1

Suggested Species for Wet-Mesic and Shady Wetland Edges

	Scientific Name	Common Name
Trees and Shrubs	<i>Acer rubrum</i>	red maple
	<i>Cornus alternifolia</i>	pagoda dogwood
	<i>Cornus racemosa</i>	gray dogwood
	<i>Ilex verticillata</i> var. <i>verticillata</i>	winterberry
	<i>Quercus macrocarpa</i>	bur oak
	<i>Quercus bicolor</i>	swamp white oak
	<i>Tilia americana</i>	basswood
	<i>Ulmus rubra</i>	red elm
	<i>Viburnum rafinesquianum</i>	downy arrowwood
Grasses, Sedges and Herbs	<i>Carex crinita</i> var. <i>crinite</i>	fringe sedge
	<i>Carex gracillima</i>	graceful sedge
	<i>Carex hystericina</i>	porcupine sedge
	<i>Carex lupulina</i>	hop umbrella sedge
	<i>Carex pedunculata</i>	long-stalked sedge
	<i>Carex stipata</i> var. <i>stipata</i>	awl-fruited sedge
	<i>Cinna latifolia</i>	drooping woodreed
	<i>Elymus virginicus</i> var. <i>virginicus</i>	Virginia wild rye
	<i>Glyceria striata</i>	fowl manna grass
	<i>Oryzopsis asperifolia</i>	moutain rice grass
	<i>Aralia nudicaulis</i>	wild sarsaparilla
	<i>Arisaema triphyllum</i>	Jack-in-the-pulpit
	<i>Athyrium filix-femina</i> var. <i>angustum</i>	lady fern
	<i>Geum canadense</i>	white avens
	<i>Impatiens capensis</i>	spotted touch-me-not
	<i>Iris versicolor</i>	northern blue flag
	<i>Maianthemum canadense</i>	Canada mayflower
	<i>Matteuccia struthiopteris</i> var. <i>pensylvanica</i>	ostrich fern
	<i>Osmunda cinnamomea</i>	cinnamon fern
	<i>Osmunda claytoniana</i>	interrupted fern
<i>Trientalis borealis</i>	starflower	

PLANTING LIST #2
Suggested Woody Species for Privacy Screening that
Provide Food and Cover for Wildlife

Scientific Name	Common Name	Location
<i>Aronia prunifolia</i>	purple chokeberry	All
<i>Cephalanthus occidentalis</i>	buttonbush	Wetland
<i>Cornus alternifolia</i>	pagoda dogwood	Upland
<i>Cornus sericea</i>	red osier dogwood	Wetland
<i>Corylus cornuta</i>	American hazel	Upland
<i>Crataegus spp</i>	hawthorn	Upland
<i>Juniperus communis</i>	common juniper	Upland
<i>Juniperus virginiana</i>	eastern red cedar	Upland
<i>Larix laricina</i>	tamarack	Wetland
<i>Picea glauca</i>	white spruce	Upland
<i>Picea mariana</i>	black spruce	Wetland
<i>Pinus strobus</i>	eastern white pine	Upland
<i>Taxus canadensis</i>	Canada yew	Upland
<i>Thuja occidentalis</i>	northern white cedar	All
<i>Tsuga canadensis</i>	eastern hemlock	All
<i>Viburnum trilobum</i>	highbush cranberry	Upland

PLANTING LIST #3

Suggested Herbaceous Species for Vernal Pool Edge/Wet Meadow (Partial Shade)

Scientific Name	Common Name
<i>Calamagrostis canadensis</i>	bluejoint
<i>Carex comosa</i>	bristly sedge
<i>Carex gracillima</i>	graceful sedge
<i>Carex lacustris</i>	lake sedge
<i>Carex lupulina</i>	hop umbrella sedge
<i>Carex stipata</i> var. <i>stipata</i>	awl-fruited sedge
<i>Carex vulpinoidea</i>	fox sedge
<i>Glyceria grandis</i> var. <i>grandis</i>	tall manna grass
<i>Glyceria striata</i>	fowl manna grass
<i>Asclepias incarnata</i> var. <i>incarnata</i>	swamp milkweed
<i>Campanula aparinoides</i> var. <i>aparinoides</i>	marsh bellflower
<i>Eupatorium perfoliatum</i>	common boneset
<i>Eutrochium maculatum</i> var. <i>maculatum</i>	spotted Joe pye weed
<i>Impatiens capensis</i>	spotted touch-me-not
<i>Iris versicolor</i>	northern blue flag
<i>Lycopus uniflorus</i>	northern bugleweed
<i>Onoclea sensibilis</i>	sensitive fern
<i>Osmunda cinnamomea</i>	cinnamon fern
<i>Scutellaria galericulata</i>	marsh skullcap
<i>Thelypteris palustris</i> var. <i>pubescens</i>	northern marsh fern

PLANTING LIST #4

Suggested Species for Maple-Basswood & Oak Forest Management Units

	Scientific Name	Common Name
Trees and Shrubs	<i>Acer saccharum</i>	sugar maple
	<i>Amelanchier interior</i>	inland juneberry
	<i>Carya cordiformis</i>	bitternut hickory
	<i>Cornus alternifolia</i>	pagoda dogwood
	<i>Corylus americana</i>	American hazelnut
	<i>Prunus serotina</i>	black cherry
	<i>Quercus alba</i>	white oak
	<i>Quercus rubra</i>	northern red oak
	<i>Ribes missouriense</i>	Missouri gooseberry
	<i>Tilia americana</i>	basswood
	<i>Ulmus rubra</i>	red elm
	<i>Viburnum lentago</i>	nannyberry
	Herbs	<i>Aralia nudicaulis</i>
<i>Arisaema triphyllum</i>		Jack-in-the-pulpit
<i>Asarum canadense</i>		wild ginger
<i>Athyrium filix-femina</i> var. <i>angustum</i>		lady fern
<i>Caulophyllum thalictroides</i>		blue cohosh
<i>Geranium maculatum</i>		wild geranium
<i>Hepatica acutiloba</i>		sharp-lobed hepatica
<i>Hydrophyllum virginianum</i> var. <i>virginianum</i>		Virginia waterleaf
<i>Maianthemum canadense</i>		Canada mayflower
<i>Osmorhiza claytonii</i>		Clayton's sweet cicely
<i>Osmunda claytoniana</i>		interrupted fern
<i>Sanguinaria canadensis</i>		bloodroot
<i>Sanicula marilandica</i>		maryland black snakeroot
<i>Smilacina racemosa</i>		false solomon's seal
<i>Solidago flexicaulis</i>		zigzag goldenrod
<i>Thalictrum dioicum</i>		early meadow-rue
<i>Uvularia grandiflora</i>		large-flowered bellwort
<i>Uvularia sessilifolia</i>		pale bellwort

BWSR Pilot Seed Mixes

PILOT SEED MIXES:

These new “Pilot” seed mixes have been developed for a variety of restoration, conservation and stormwater uses. Goals were to meet the needs of common project types and to create direction for emerging topics such as biofuels, buffers, conservation grazing, and pollinators. All of the mixes were developed for specific functions and incorporate pollinator habitat to the extent possible. The mixes will remain as pilot mixes for a couple years until we understand how they are performing before we work to make them official state mixes. In many cases these mixes should be considered starting points for developing site specific mixes.

Note: Oats cover crop is included as a component of these seed mixes with the exception of some wetland mixes where cover species are not necessary. Winter wheat (at a similar rate to oats) may be selected in some cases where germination is needed later in the fall, followed by further green-up the following spring (oats will not come back the follow spring unless it re-establishes from seed).

Finalized

Forest Groundcover East

Function: Woodland

Intent: Soil stabilizing in forests following invasive species removal and other disturbance

Planting Area: NE & E

Specialization:

	Scientific Name	Common Name	Seeds/ sq ft	Rate (lb/ac)	% Mix (by sqft)	% Mix (by wt)
Cover	Avena sativa	Oats* (See Cover crop note)	11.14	37.91		
	Total Guild:		11.14	37.91	66.43%	96.4%
Forb	Eurybia macrophylla	Large-leaved Aster	0.2	0.02		
	Geranium maculatum	Wild Geranium	0.1	0.05		
	Hydrophyllum virginianum	Virginia Waterleaf	0.1	0.10		
	Osmorhiza claytonii	Clayton's Sweet Cicely	0.1	0.11		
	Rudbeckia laciniata	Tall Coneflower	0.22	0.04		
	Smilacina racemosa	False Solomons Seal	0.01	0.07		
	Solidago flexicaulis	Zigzag Goldenrod	1.3	0.04		
	Total Guild:		2.03	0.43	12.10%	1.1%
Graminoid	Elymus hystrix	Bottlebrush Grass	0.5	0.18		
	Elymus villosus	Downy Wild Rye	1	0.50		
	Festuca subverticillata	Nodding Fescue	1.8	0.25		

Total Guild:	3.3	0.93	19.68%	2.3%
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Sedge

Total Guild:	0.3	0.08	1.79%	0.2%
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Total Seed Mix:	16.77	39.35
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BWSR Riparian

34-261

Common Name	Scientific Name	Rate (kg/ha)	Rate (lb/ac)	% of Mix (% by wt)	Seeds/sq ft
American slough grass	<i>Beckmannia syzigachne</i>	1.52	1.36	4.30%	24.90
riverbank wild rye	<i>Elymus riparius</i>	0.56	0.50	1.58%	0.53
Virginia wild rye	<i>Elymus virginicus</i>	1.96	1.75	5.56%	2.70
tall manna grass	<i>Glyceria grandis</i>	0.28	0.25	0.80%	6.50
fowl manna grass	<i>Glyceria striata</i>	0.10	0.09	0.29%	3.00
rice cut grass	<i>Leersia oryzoides</i>	0.18	0.16	0.51%	2.00
fowl bluegrass	<i>Poa palustris</i>	0.94	0.84	2.66%	40.00
prairie cordgrass	<i>Spartina pectinata</i>	0.34	0.30	0.96%	0.74
	Total Grasses	5.88	5.25	16.66%	80.37
tussock sedge	<i>Carex stricta</i>	0.04	0.04	0.13%	0.80
pointed broom sedge	<i>Carex scoparia</i>	0.07	0.06	0.21%	2.00
fox sedge	<i>Carex vulpinoidea</i>	0.22	0.20	0.65%	7.50
path rush	<i>Juncus tenuis</i>	0.03	0.03	0.09%	10.00
dark green bulrush	<i>Scirpus atrovirens</i>	0.13	0.12	0.38%	20.00
woolgrass	<i>Scirpus cyperinus</i>	0.06	0.05	0.15%	30.00
	Total Sedges and Rushes	0.56	0.50	1.61%	70.30
marsh milkweed	<i>Asclepias incarnata</i>	0.13	0.12	0.38%	0.21
common boneset	<i>Eupatorium perfoliatum</i>	0.03	0.03	0.11%	2.00
spotted Joe pye weed	<i>Eutrochium maculatum</i>	0.07	0.06	0.18%	2.00
autumn sneezeweed	<i>Helenium autumnale</i>	0.06	0.05	0.17%	2.50
giant sunflower	<i>Helianthus giganteus</i>	0.08	0.07	0.22%	0.25
spotted touch-me-not	<i>Impatiens capensis</i>	0.06	0.05	0.17%	0.08
great lobelia	<i>Lobelia siphilitica</i>	0.03	0.03	0.09%	5.00
blue monkey flower	<i>Mimulus ringens</i>	0.01	0.01	0.02%	5.07
Virginia mountain mint	<i>Pycnanthemum virginianum</i>	0.06	0.05	0.16%	4.00
tall coneflower	<i>Rudbeckia laciniata</i>	0.06	0.05	0.15%	0.25
giant goldenrod	<i>Solidago gigantea</i>	0.02	0.02	0.07%	2.00
blue vervain	<i>Verbena hastata</i>	0.17	0.15	0.46%	5.00
bunched ironweed	<i>Vernonia fasciculata</i>	0.07	0.06	0.18%	0.50
	Total Forbs	0.84	0.75	2.36%	28.86
Oats	<i>Avena sativa</i>	28.02	25.00	79.37%	11.14
	Total Cover Crop	28.02	25.00	79.37%	11.14
	Totals:	35.31	31.50	100.00%	190.66
Purpose:	Native riparian and floodplain plantings for wetland mitigation, ecological restoration, or general permanent cover after culvert or bridge work. Tolerates partial shade.				
Planting Area:	Tallgrass Aspen Parklands, Prairie Parkland, and Eastern Broadleaf Forest Provinces. Mn/DOT Districts 2(west), 3B, 4, Metro, 6, 7 & 8.				

BWSR Stormwater

33-261

Common Name	Scientific Name	Rate (kg/ha)	Rate (lb/ac)	% of Mix (% by wt)	Seeds/sq ft
big bluestem	<i>Andropogon gerardii</i>	2.24	2.00	5.72%	7.35
fringed brome	<i>Bromus ciliatus</i>	2.24	2.00	5.73%	8.10
bluejoint	<i>Calamagrostis canadensis</i>	0.07	0.06	0.18%	6.40
slender wheatgrass	<i>Elymus trachycaulus</i>	1.12	1.00	2.85%	2.53
Virginia wild rye	<i>Elymus virginicus</i>	1.68	1.50	4.28%	2.31
switchgrass	<i>Panicum virgatum</i>	0.43	0.38	1.07%	1.93
fowl bluegrass	<i>Poa palustris</i>	1.19	1.06	3.03%	50.70
Indian grass	<i>Sorghastrum nutans</i>	0.13	0.12	0.36%	0.55
prairie cordgrass	<i>Spartina pectinata</i>	0.43	0.38	1.07%	0.91
	Total Grasses	9.53	8.50	24.29%	80.78
awl-fruited sedge	<i>Carex stipata</i>	0.28	0.25	0.71%	3.10
dark green bulrush	<i>Scirpus atrovirens</i>	0.21	0.19	0.54%	31.70
woolgrass	<i>Scirpus cyperinus</i>	0.07	0.06	0.18%	39.00
	Total Sedges and Rushes	0.56	0.50	1.43%	73.80
Canada anemone	<i>Anemone canadensis</i>	0.08	0.07	0.19%	0.20
marsh milkweed	<i>Asclepias incarnata</i>	0.12	0.11	0.32%	0.20
leafy beggarticks	<i>Bidens frondosa</i>	0.12	0.11	0.31%	0.20
flat-topped aster	<i>Doellingeria umbellata</i>	0.07	0.06	0.17%	1.50
spotted Joe pye weed	<i>Eutrochium maculatum</i>	0.07	0.06	0.18%	2.19
autumn sneezeweed	<i>Helenium autumnale</i>	0.15	0.13	0.36%	5.97
obedient plant	<i>Physostegia virginiana</i>	0.08	0.07	0.21%	0.30
tall coneflower	<i>Rudbeckia laciniata</i>	0.08	0.07	0.21%	0.37
New England aster	<i>Symphotrichum novae-angliae</i>	0.08	0.07	0.19%	1.56
blue vervain	<i>Verbena hastata</i>	0.06	0.05	0.15%	1.85
golden alexanders	<i>Zizia aurea</i>	0.22	0.20	0.56%	0.79
	Total Forbs	1.12	1.00	2.85%	15.13
Oats	<i>Avena sativa</i>	28.02	25.00	71.43%	11.14
	Total Cover Crop	28.02	25.00	71.43%	11.14
	Totals:	39.23	35.00	100.00%	180.85
Purpose:	Stormwater pond edges, temporarily flooded dry ponds, and temporarily flooded ditch bottoms.				
Planting Area:	Tallgrass Aspen Parklands, Prairie Parkland, and Eastern Broadleaf Forest Provinces. Mn/DOT Districts 2(west), 3B, 4, Metro, 6, 7 & 8.				

BWSR Pilot Seed Mixes

PILOT SEED MIXES:

These new “Pilot” seed mixes have been developed for a variety of restoration, conservation and stormwater uses. Goals were to meet the needs of common project types and to create direction for emerging topics such as biofuels, buffers, conservation grazing, and pollinators. All of the mixes were developed for specific functions and incorporate pollinator habitat to the extent possible. The mixes will remain as pilot mixes for a couple years until we understand how they are performing before we work to make them official state mixes. In many cases these mixes should be considered starting points for developing site specific mixes.

Note: Oats cover crop is included as a component of these seed mixes with the exception of some wetland mixes where cover species are not necessary. Winter wheat (at a similar rate to oats) may be selected in some cases where germination is needed later in the fall, followed by further green-up the following spring (oats will not come back the follow spring unless it re-establishes from seed).

Finalized

Pollinator Plot Urban Southeast

Function: Pollinator Intent: Diverse pollinator habitat establishment for conservation plantings a few acres in size in urban areas
 Planting Area: SE
 Specialization: NRCS 327 Jobsheet #16

Scientific Name	Common Name	Seeds/ sq ft	Rate (lb/ac)	% Mix (by sqft)	% Mix (by wt)
Cover					
Avena sativa	Oats* (See Cover crop note)	11.13	37.88		
Total Guild:		11.13	37.88	17.82%	87.2%

Forb					
Scientific Name	Common Name	Seeds/ sq ft	Rate (lb/ac)	% Mix (by sqft)	% Mix (by wt)
Agastache foeniculum	Blue Giant Hyssop	0.4	0.02		
Allium stellatum	Prairie Wild Onion	0.2	0.06		
Amorpha canescens	Lead Plant	0.37	0.06		
Asclepias syriaca	Common Milkweed	0.16	0.11		
Asclepias tuberosa	Butterfly Milkweed	0.1	0.06		
Coreopsis palmata	Bird's Foot Coreopsis	0.2	0.06		
Echinacea angustifolia	Narrow-leaved Purple Conefl	0.16	0.06		
Helenium autumnale	Autumn Sneezeweed	2.98	0.06		
Helianthus maximilianii	Maximilian's Sunflower	0.3	0.08		
Helianthus pauciflorus	Stiff Sunflower	0.09	0.06		
Heliopsis helianthoides	Ox-eye	0.14	0.06		
Liatris aspera	Rough Blazing Star	0.37	0.06		

<i>Liatris ligulistylis</i>	Northern Plains Blazing Star	0.2	0.05
<i>Monarda fistulosa</i>	Wild Bergamot	1.61	0.06
<i>Monarda punctata</i>	Horsemint	1	0.03
<i>Oligoneuron rigidum</i>	Stiff Goldenrod	0.94	0.06
<i>Penstemon digitalis</i>	Foxglove Beardtongue	2.98	0.06
<i>Penstemon grandiflorus</i>	Large-flowered Beard Tongue	0.3	0.06
<i>Phlox pilosa</i>	Prairie Phlox	0.05	0.01
<i>Pycnanthemum virginianum</i>	Virginia Mountain Mint	0.9	0.01
<i>Rudbeckia hirta</i>	Black-eyed Susan	4	0.12
<i>Rudbeckia triloba</i>	Brown-eyed Susan	2	0.16
<i>Sisyrinchium campestre</i>	Field Blue-eyed Grass	0.17	0.01
<i>Solidago speciosa</i>	Showy Goldenrod	2.18	0.06
<i>Symphotrichum ericoides</i>	Heath Aster	1.8	0.02
<i>Symphotrichum laeve</i>	Smooth Aster	1.26	0.06
<i>Symphotrichum novae-angliae</i>	New England Aster	1	0.04
<i>Tradescantia bracteata</i>	Bracted Spiderwort	0.23	0.06
<i>Verbena stricta</i>	Hoary Vervain	1.45	0.14
<i>Veronicastrum virginicum</i>	Culver's Root	7	0.02
<i>Viola pedatifida</i>	Bearded Birdfoot Violet	0.14	0.01
<i>Zizia aurea</i>	Golden Alexanders	0.25	0.07

Total Guild:	34.93	1.86	55.92%	4.3%
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Graminoid

<i>Bouteloua curtipendula</i>	Side-oats Grama	2.25	1.02
<i>Elymus canadensis</i>	Canada Wild Rye	2	1.05
<i>Koeleria macrantha</i>	Junegrass	3.5	0.05
<i>Schizachyrium scoparium</i>	Little Bluestem	5.5	1.00
<i>Sporobolus heterolepis</i>	Prairie Dropseed	1.85	0.31

Total Guild:	15.1	3.43	24.18%	7.9%
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Legume

<i>Astragalus canadensis</i>	Canada Milk Vetch	0.39	0.06
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Chamaecrista fasciculata	Partridge Pea	0.06	0.06
Dalea candida	White Prairie Clover	0.44	0.06
Dalea purpurea	Purple Prairie Clover	0.41	0.07

Total Guild:	1.3	0.25	2.08%	0.6%
Total Seed Mix:	62.46	43.42		

BWSR Pilot Seed Mixes

PILOT SEED MIXES:

These new “Pilot” seed mixes have been developed for a variety of restoration, conservation and stormwater uses. Goals were to meet the needs of common project types and to create direction for emerging topics such as biofuels, buffers, conservation grazing, and pollinators. All of the mixes were developed for specific functions and incorporate pollinator habitat to the extent possible. The mixes will remain as pilot mixes for a couple years until we understand how they are performing before we work to make them official state mixes. In many cases these mixes should be considered starting points for developing site specific mixes.

Note: Oats cover crop is included as a component of these seed mixes with the exception of some wetland mixes where cover species are not necessary. Winter wheat (at a similar rate to oats) may be selected in some cases where germination is needed later in the fall, followed by further green-up the following spring (oats will not come back the follow spring unless it re-establishes from seed).

Finalized

Mesic Short Urban Buffer South & West

Function: Buffers

Intent: Showy prairie buffer establishment in urban areas

Planting Area: S & W

Specialization: NRCS 327

Scientific Name	Common Name	Seeds/ sq ft	Rate (lb/ac)	% Mix (by sqft)	% Mix (by wt)
Cover					
Avena sativa	Oats* (See Cover crop note)	11.13	37.88		
Total Guild:		11.13	37.88	16.91%	82.4%

Forb

Achillea millefolium	Common Yarrow	1	0.02		
Asclepias tuberosa	Butterfly Milkweed	0.071	0.04		
Asclepias verticillata	Whorled Milkweed	0.1	0.02		
Coreopsis palmata	Bird's Foot Coreopsis	0.15	0.04		
Helianthus pauciflorus	Stiff Sunflower	0.07	0.05		
Liatris aspera	Rough Blazing Star	0.25	0.04		
Phlox pilosa	Prairie Phlox	0.08	0.01		
Rudbeckia hirta	Black-eyed Susan	9	0.27		
Sisyrinchium campestre	Field Blue-eyed Grass	0.17	0.01		
Solidago speciosa	Showy Goldenrod	2	0.06		
Symphotrichum ericoides	Heath Aster	2	0.03		
Symphotrichum laeve	Smooth Aster	1.26	0.06		

Tradescantia ohiensis	Ohio Spiderwort	0.1	0.03
Verbena stricta	Hoary Vervain	1.29	0.13
Viola pedatifida	Bearded Birdfoot Violet	0.14	0.01
Zizia aurea	Golden Alexanders	0.8	0.20

Total Guild:	18.481	1.02	28.08%	2.2%
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Graminoid

Bouteloua curtipendula	Side-oats Grama	3.4	1.54
Bouteloua gracilis	Blue Grama	8	0.54
Bromus kalmii	Kalm's Brome	2	0.68
Elymus riparius	Riverbank Wild Rye	0.22	0.21
Schizachyrium scoparium	Little Bluestem	20	3.63
Sporobolus heterolepis	Prairie Dropseed	1.1	0.19

Total Guild:	34.72	6.79	52.75%	14.8%
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Legume

Dalea candida	White Prairie Clover	0.39	0.06
Dalea purpurea	Purple Prairie Clover	1.1	0.20

Total Guild:	1.49	0.26	2.26%	0.6%
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Total Seed Mix:	65.821	45.95
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about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

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