

Meadowbrook Pond Dredging & Improvements

Tree Removal & Replacement, Habitat Improvements

The purpose of the Meadowbrook Pond Dredging & Improvement Project is to remove sediment in the Pond and to modify structures to make it safer and easier to clean and maintain the facility in the future.

We will improve the ease and efficiency of maintenance of Meadowbrook Pond by:

- Implementing dredging methods that reduce impacts to fish and use soil presses to remove dredge materials quickly from the site thereby reducing the amount of materials requiring on-site storage management
- modifying trash rack structures to better manage trash and allow for the safe removal of debris
- providing direct, safe access to structures and the creek for staff & equipment
- adding flood storage volume
- providing a hydrologic connection to the Thornton Creek Confluence floodplain (Phase II, 2013)

As part of SPU's overall commitment to improve the environment of Meadowbrook Pond and Thornton Creek, our aim is ultimately to improve aquatic and upland habitat features at the pond while restoring its sediment loading capacity. It is unfortunate but unavoidable that some mature trees will need to be removed in order to achieve our goals. That said, the new, restored landscape will be comprised of several native plant palates, including emergent wetlands – a feature now lacking at the pond.

Attached (linked) are several design documents that illustrate the areas of impact and restoration; these are indicated by the letters "A" through "E". The following reflects the improvements being made and the vegetation to be removed or restored at those locations.

A) **South Trash Rack Improvements & Ramp** – The existing trash rack on the upstream side of pedestrian bridge will remain. A three-foot-wide platform will be added for workers to remove debris safely. A new 15-foot access road and ramp will be added to allow access for crews and equipment to remove debris safely during storm events.

Vegetation removed: Approximately 1600 square feet (SF) of trees – small willows (4), shrubs (twinberry & ninebark) and grass.

Vegetation restored: This area will be reseeded and some small native shrubs added to the embankment for shading.

B) **Grading of existing berm to accommodate service road and eliminate recessed areas.** The existing berms and mounds at the Pond block site lines and creating hiding spots, which can attract unwanted activity and create unsafe conditions for the public, staff and adjacent property owners. These areas will be lowered and replanted with low vegetation and trees that can be limbed up.

Vegetation removed: A few young black cottonwoods (clones of the adjacent mature trees), some larger shrubs, and wildflowers.

Vegetation restored: This area will be replanted with native conifers and small shrubs and/or groundcovers.

- C) **New/Modified Access Path for Utility Vehicles** - Several landscaped edges are highlighted where a small portion of the slope will be modified. The wider path is necessary to accommodate the vector truck and utility vehicles used to remove sediment and debris at or near the diversion structure. A new trash rack will be added to deflect large materials down to the main trash rack for safer collection. This site is also used for staging when the creek is bypassed for maintenance.

Vegetation removed: Consists mostly of perennial wildflowers. Some small native plants may be removed.

Vegetation restored: Similar vegetation will be replaced.

- D) **New Permanent Access Ramp to Forebay** – The forebay and first cell of the pond are routinely dredged every 3 to 5 years to remove coarse sediments that collect here because of the weir and dike separating these areas from the pond proper. To dredge this area in the past, the existing rockery had to be dismantled and a road constructed into the forebay for excavator access. Afterwards, the entire area required full restoration. In the event that access to the forebay was required at other times, that access was limited and costly. A permanent access ramp will allow easier and quicker maintenance and reduce the costs of such needed work.

Vegetation removed: Approximately 2000 SF of shrubs (twinberry & ninebark) will be removed.

Vegetation restored: Approximately 600 SF of new scrub-shrub habitat (mostly willow & dogwood) will be planted along with 2400 SF of new upland vegetation, primarily native conifers.

- E) **Pond Expansion & Hydrologic Connection to new Floodplain (Phase II - 2013)** – In the northwest corner of the pond, a large area will be excavated to create greater pond storage and create a more formal high-flow connection to the floodplain area of the Confluence Improvement project area. A complex gravel zone (subsurface to connect groundwater to surface water), a new ramp for safe maintenance access to the pond and an emergent wetland fringe and other special features for additional habitat benefit will be created.

Vegetation removed: In order to accommodate the pond expansion, a total of 28 trees will be removed. The larger of these trees are called out on the plans. They are:

1. Pin Oak (18" diam.)
2. A clump of 3 small trees (1 Douglas Fir, 1 Western Red Cedar, and 1 Western Juniper)
3. A clump of six Leyland cypress, one of which was determined to have a structural flaw and classified as a hazard tree
4. Sugar Maple (12" diam.)
5. Sugar Maple (2), (18" diam. each)
6. Honey locust (14" diam.)
7. Little Leaf Linden (10" diam.)
8. Black Cottonwood (22" diam.)
9. Sweetgum (12" diam.)
10. Leyland Cypress
11. White Birch (8" diam.)

12. Thundercloud Plum (2), (6" and 8" diam.)

The remainder of the trees to be removed are mostly small vine maples or red alder interspersed among the larger trees and at the water's edge.

Vegetation restored: The new tapered shoreline in this portion of the pond will be planted with emergent wetland plants. Upland of the edge will be a thin band of riparian forest (mostly willow and alder species), followed by a large upland band consisting primarily of native Northwest conifers and a mixed native shrub layer. Interspersed along this edge are several large woody debris and standing dead trees for habitat/refuge/resting sites.

Annie's Trees: The small clump of flowering dogwoods commonly known as "Annie's" trees will be relocated to a more visible location and spaced to allow proper growth. A small reflection area with seating has been proposed to accommodate them.

While SPU will unfortunately have to remove trees as part of the Meadowbrook and Confluence projects, overall, we plan to at minimum replace at the City's standard of 2 to1 and overall hope to provide substantial improvements in tree canopy and habitat throughout the MBP/Confluence sites.