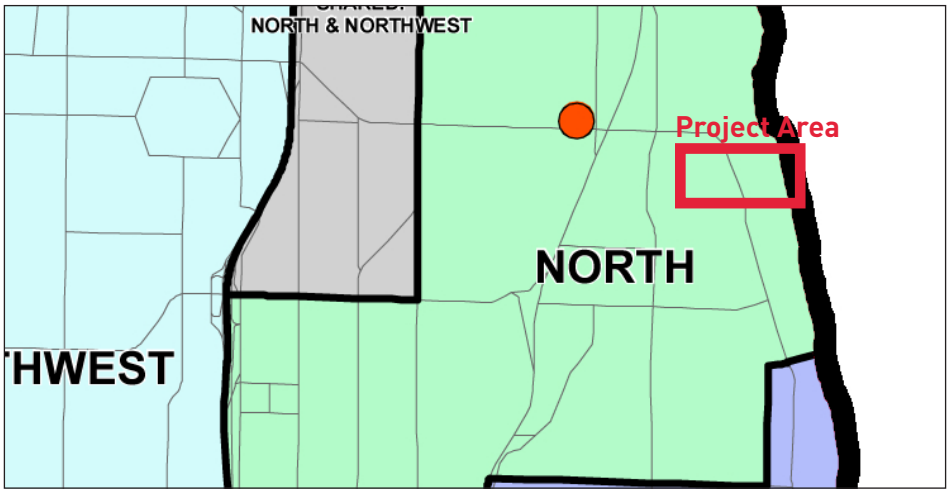
Lakeside Place NE Street Edge & Storm Drainage Restoration

From 4205 NE 123rd St, going east to Lakeside P NE, to the Burke Gilman Trail (BGT)

Applicant Problem

Problem A. Inadequate maintenance of parking apron and drainage channel has resulted in ever-increasing deterioration of road edges, forcing on-pavement parking on the paved portion of the roadway (which is less than 20 feet wide). During heavy use (e.g., construction, BGT access), this portion of the street becomes so narrow that it is impassible for cars, trucks, and emergency vehicles. SPU reestablished drainage ditches last fall. SDOT's solution was to sign the south side of Lakeside Place NE as No Parking earlier this year. With more cars parking on the north, the street apron on the north has further eroded. Off-street parking on the north and this winter's exceptionally heavy rains have destroyed the reestablished ditch.

Problem B. Increased storm water flows, potential flooding, and potential ice over roadway: There are ever-increasing problems with erosion, flooding and heavy ice accumulation due to (1) inadequate maintenance of existing drainage channels; (2) lack of channelization of driveway storm water flows into existing drainage ditches; (3) the obliteration of drainage channels due to increased heavy parking use on the north side of Lakeside Place NE; and (4) a jurisdictional maintenance issue between SDOT, SPU and Parks of the inflow site of the creek into a pipe under the BGT.



PROJECT TYPE
Corridor

APPROXIMATE LENGTH
200 LF

COST ESTIMATE
$873,000

Applicant Solution

Problem A. The restoration of the north 100 feet of Lakeside Place NE (from the BGT to the shared driveway of 11900 and 11910) The affected area would be signed for parking only on the apron rather than on the paved roadway, thus allowing the parking restrictions on the opposite side of Lakeside Place NE to be removed. Two types of restoration of the south side of Lakeside Place NE are requested.

1. The easterly 130 lineal feet from the BGT to 15 feet west of the mailboxes serving 11900/11910 would involve street edge restoration only, along with installation of a durable and maintainable drainage channel that would not encroach on the toe of the edge of the steep slope.
2. The remaining restoration of 100 feet of the north side of Lakeside Place NE from the 11900/11910 mailboxes to the "sandbox" structure (installed and maintained by SPU) located at 11771 would involve the removal of 3-4 feet of unsuitable material and installation of filter fabric, quarry spalls for stabilization, gravel and the installation of some form of permeable asphalt or concrete material that would also be used to form a durable and maintainable drainage channel next to the restored parking apron.

Problem B.

1. Repair or replace existing open drainage ditches along the north side of 123rd Avenue NE and the west side of Lakeside Place NE with pervious material.
2. Install grates, asphalt berms or other approved methods of directing storm water from existing driveways into open storm-drain ditches or buried pipes.
3. Restore and improve as needed the asphalt channel along the roadway edge of NE 123rd Street and Lakeside Place NE and the major channelization of those street edge drainage swales into the sandbox structure located on the south side of Lakeside Place NE at 11771 and the intake pipe on the west side of the 11900/11910 Lakeside Place NE driveway.
4. Create a joint use/maintenance agreement, if one does not exist, between SDOT, SPU and Parks related to restoring and maintaining the creek pond area on the west side of the intake pipe running under the BGT.

Existing conditions at the intersection of Lakeside NE Pl and the BGT.

Seattle Department of Transportation (SDOT) Review

Project Description
Lakeside Pl NE is a connection down to the Burke-Gilman Trail and homes the Lake Washington shoreline. Some drainage inlets are located up the hill from the applicant's property. One on each side of the street. Inlets discharge to a creek that direct discharges to the Lake Washington North Drainage Basin. There are two wetland areas on the west side of the Burke-Gilman Trail that appear to be hydrologically connected to the creek.

Up the hill on Lakeside Pl NE, a berm was recently added on the south side of the street. This berm limits the stormwater runoff from entering the existing drainage structure, allowing the runoff to flow down the street into the wetland area.

This project includes the following proposed improvements:

- Pave the existing shoulders (approximately 2,000 square feet) to delineate parking along Lakeside Place. Parking setbacks will be required at Burke-Gilman Trail crossing, 30 feet on south side, 20 feet on north side of Lakeside Pl. Existing signs will be replaced.
- Install catch basins to collect the street runoff and culverts to convey and discharge the water into the adjacent wetlands.
- Adjust the existing berm to the west of the improvements to allow runoff to enter the existing drainage structure.
- Remark the crosswalk at the intersection with the Burke-Gilman Trail.

There are several environmentally critical areas adjacent to this project site which will result in additional design and permitting processes, and may result in mitigation. This area is also adjacent to a potential slide area. The south side of the street is adjacent to a steep slope and may require geotechnical analysis. The culverts would discharge into a designated wetland area and may require wetland mitigation. Permits may be reviewed by the following agencies:

- Army Corps of Engineers
- WA State Department of Fish & Wildlife
- WA State Department of Ecology
- Seattle Department of Construction and Inspection

Existing asphalt berm blocking road runoff from entering the drainage inlet on the south side of Lakeside Pl

Constructability

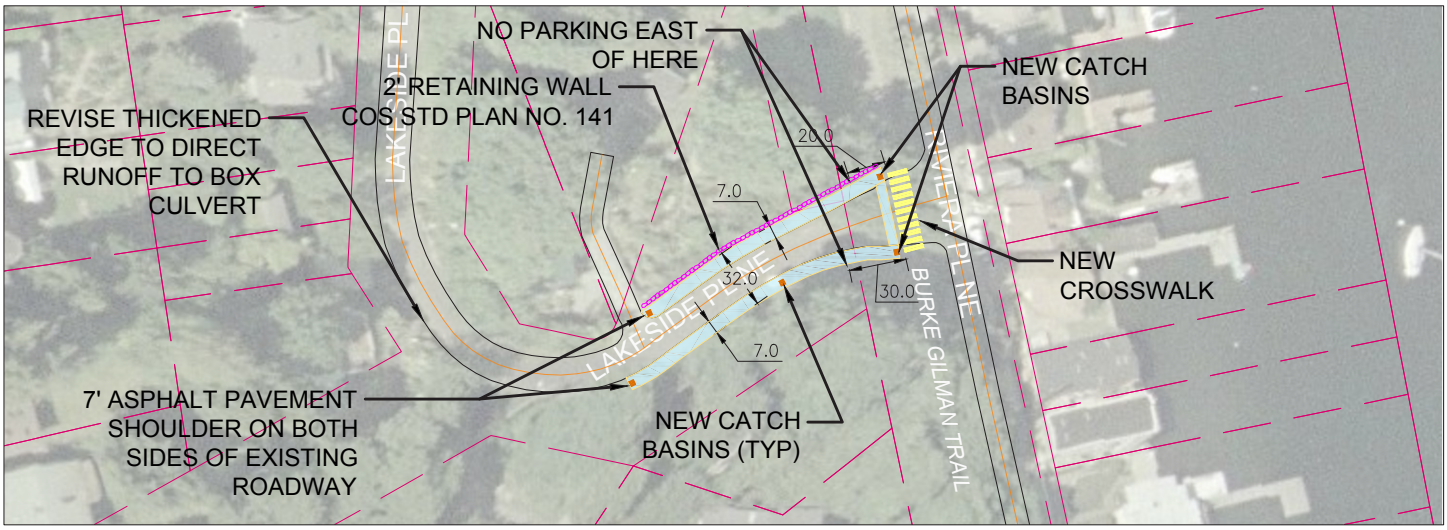
- This project is located adjacent to wetlands and a stream and would have to follow the City of Seattle Environmentally Critical Areas (ECA) code. Existing ditches and culverts may need to be adjusted as part of this project. Delineation and survey may be needed to complete this project.
- Adjacent steep slopes and slide areas do not allow for the use of permeable pavements.
- Environmental permitting may be required to complete this project, including wetland analysis and slope stabilization.
- Coordination will be needed with Seattle Public Utilities.

Impacts

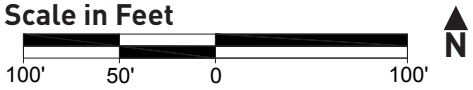
- Parking at the intersection to the Burke-Gilman Trail will be restricted. While this parking is not legal, it may be perceived as parking loss.

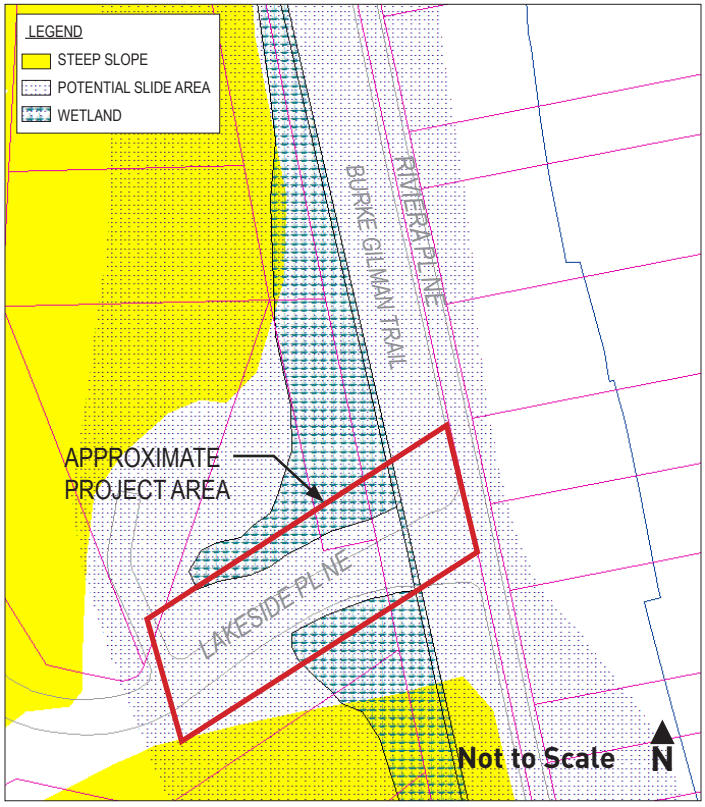
Benefits

- Paved shoulders will help to delineate parking areas and prevent vehicles from parking in gravel ditches.
- Long-term solution to erosion of shoulder area within a Wetland.
- Increased visibility at the intersection of the Burke-Gilman Trail Crossing and Lakeside Place.

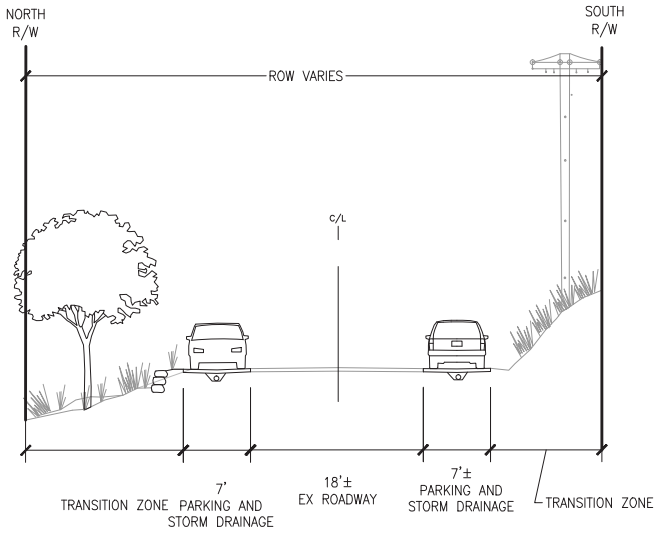


Proposed improvements at Lakeside Pl NE and BGT





Critical Areas near project site



Proposed Lakeside Place NE cross section