

Adopt-a-Downspout I-5 Ship Canal Bridge Pilot Project

Section 1: Location and Site Description

The pilot project will take place at two primary downspouts, with a third planned as a backup/alternate. The first two selected sites (Site 1 and Site 2) are the two downspouts immediately North of the Ship Canal beneath the I-5 Ship Canal Bridge, located in North Passage Park (600 NE Northlake Way, Seattle, WA 98105). These downspouts receive runoff from a total area of 1.38 acres, with each downspout receiving approximately half of that runoff (0.69 acres per downspout). North Passage Park is closed to the public and fenced off, and access will be limited to authorized personnel with proper personal protective equipment, including hardhats.

The third site (Site 3) is located one bridge support column North, on the West side of 6th Ave, next to the Seattle City Light University substation (3829 6th Ave NE, Seattle WA 98105). The downspouts on this column drain a total area of 1 acre, with the specified downspout receiving approximately half of that runoff (0.5 acres). The downspout and catch basin are unfenced.

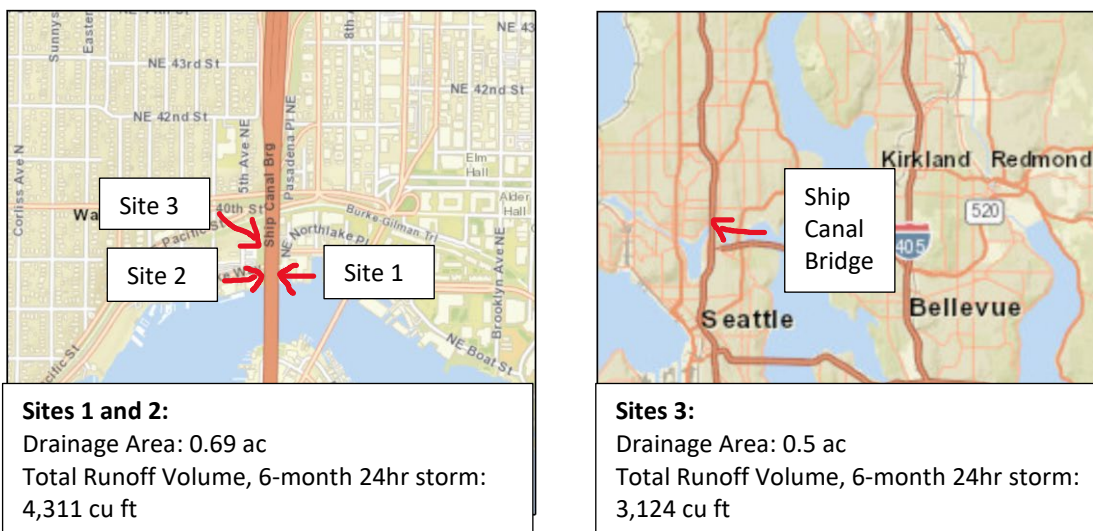


Image 1. Approximate locations of installation sites beneath the I-5 Ship Canal Bridge.

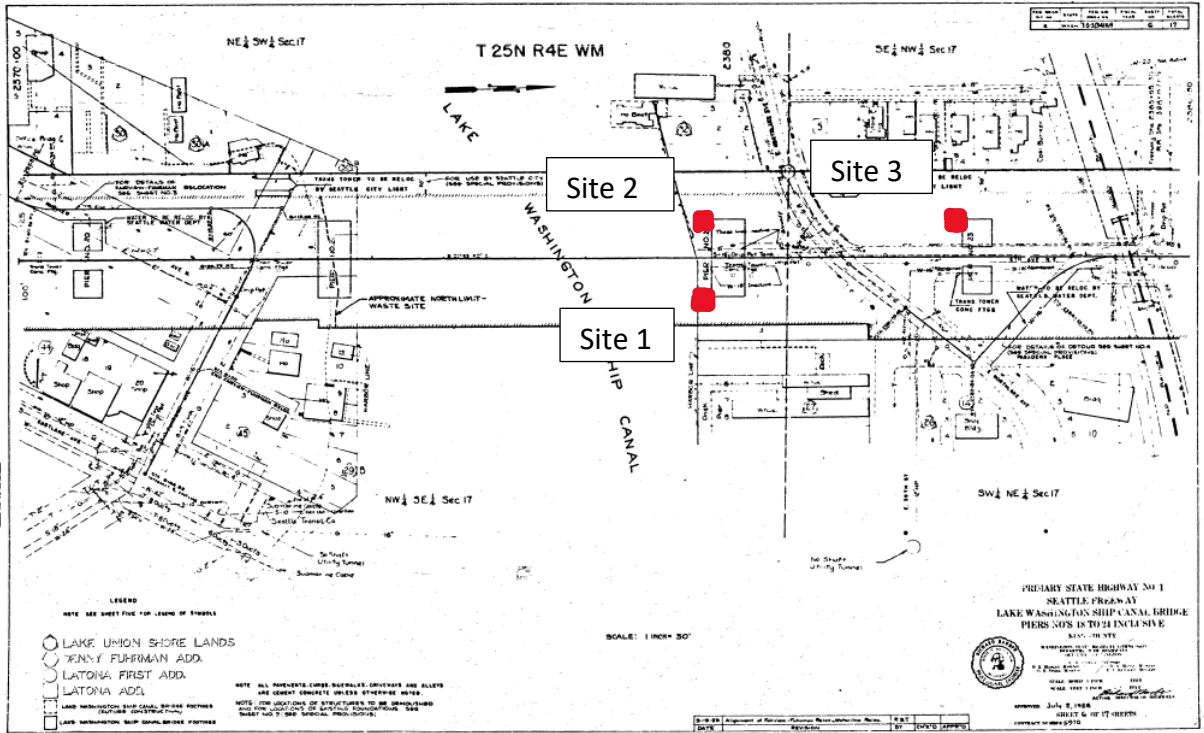


Image 2. Plan view of locations of installation sites.

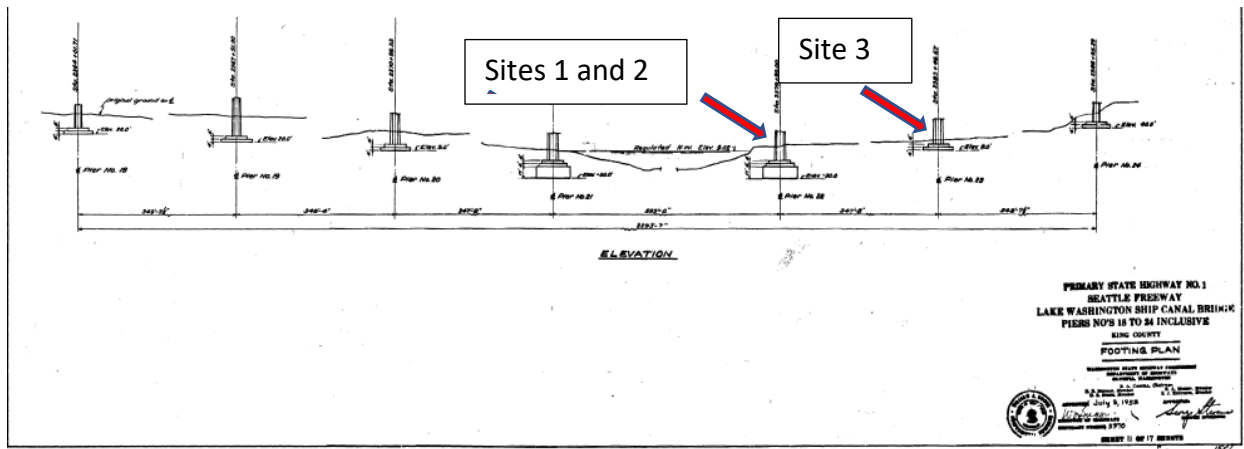


Image 3. Side view of locations of installation sites.

Diagrams of Described Sites

All boxes will be placed a minimum of 3 feet away from bridge support columns.

Existing downspouts will be cut 6 feet above the ground. A PVC pipe of the same diameter will be connected at an angle and redirected to the rain box (330-gallon IBC tote with soil/filtration media). All pipes will have a slope greater than 1 inch per foot. The water will enter a forebay

with baffle to slow the velocity and collect sediment, and then drain to the rain box. After draining through the soil, water will drain through a drain set at least 2 inches above the bottom of the container into a 2-inch PVC pipe that drains directly to the catch basin the downspout originally discharged into. Each rain box will have a bypass/overflow pipe at the top of the box, above soil and filtration media, that matches the diameter of the downspout, and drains directly to the catch basin the downspout originally discharged into.

Site 1 will have two boxes connected to each other. Box 1 will receive water from the highway downspout, its overflow will drain to box 2, and its bottom drain will drain to the original catch basin. Box 2 will receive water only from Box 1, its overflow will drain to the original catch basin, and its bottom drain will drain to the original catch basin. Both boxes will be placed on the paved area near the catch basin (Image 4 and 5).

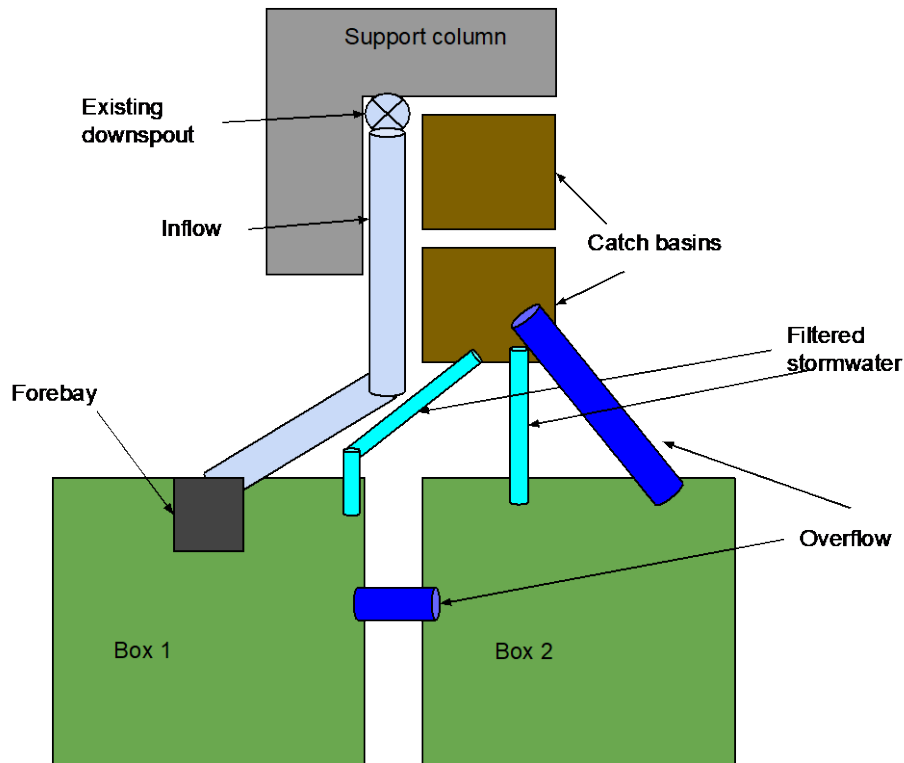


Image 4. Plan view of Site 1, connected box layout (not to scale).

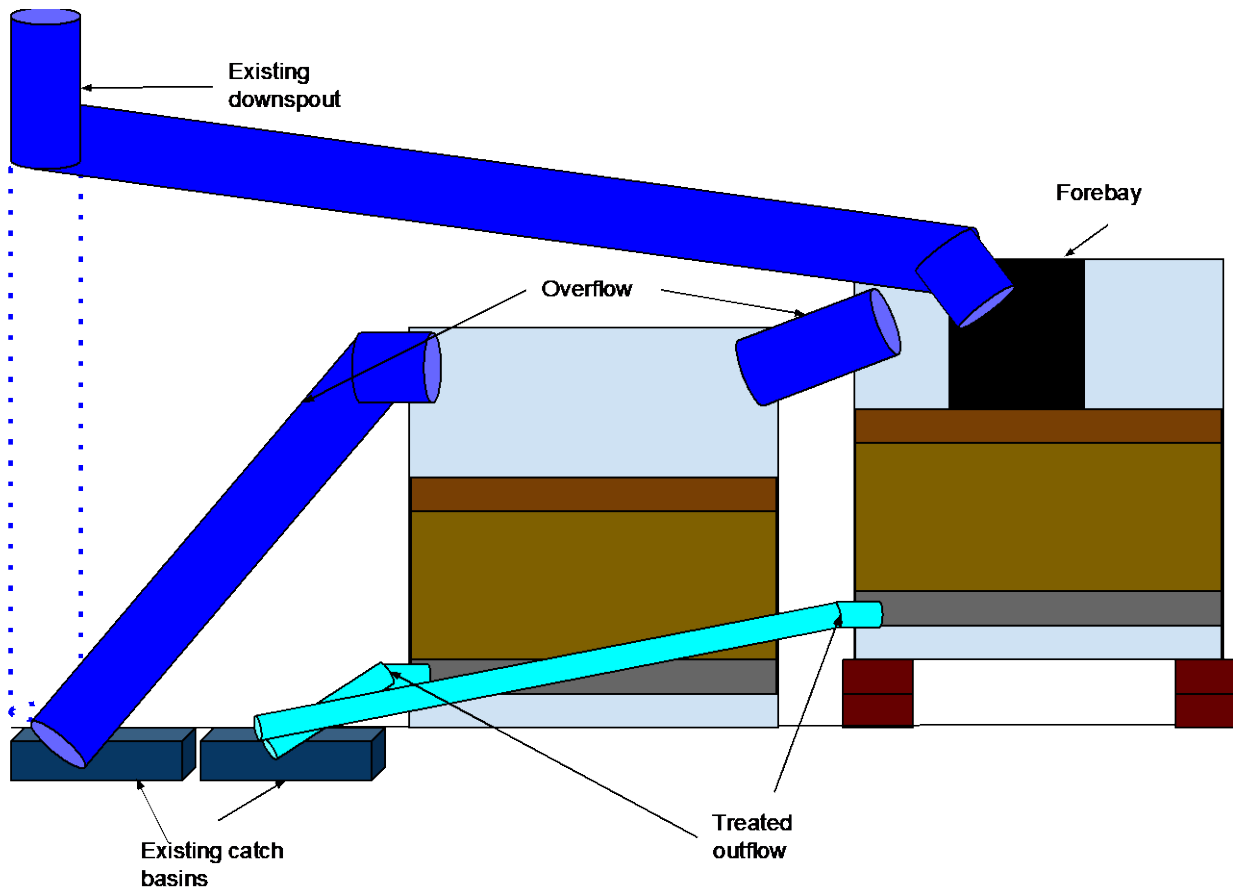


Image 5. Side view of Site 1 configuration, connected box layout (not to scale).

Site 2 will have just one box. The ground adjacent to the catch basin is sloped, so the North edge of the rain box will be placed on the paved area that the storm drain is located in, and the South edge will be placed on two 2"x4" lengths of lumber to level the box (Image 6).

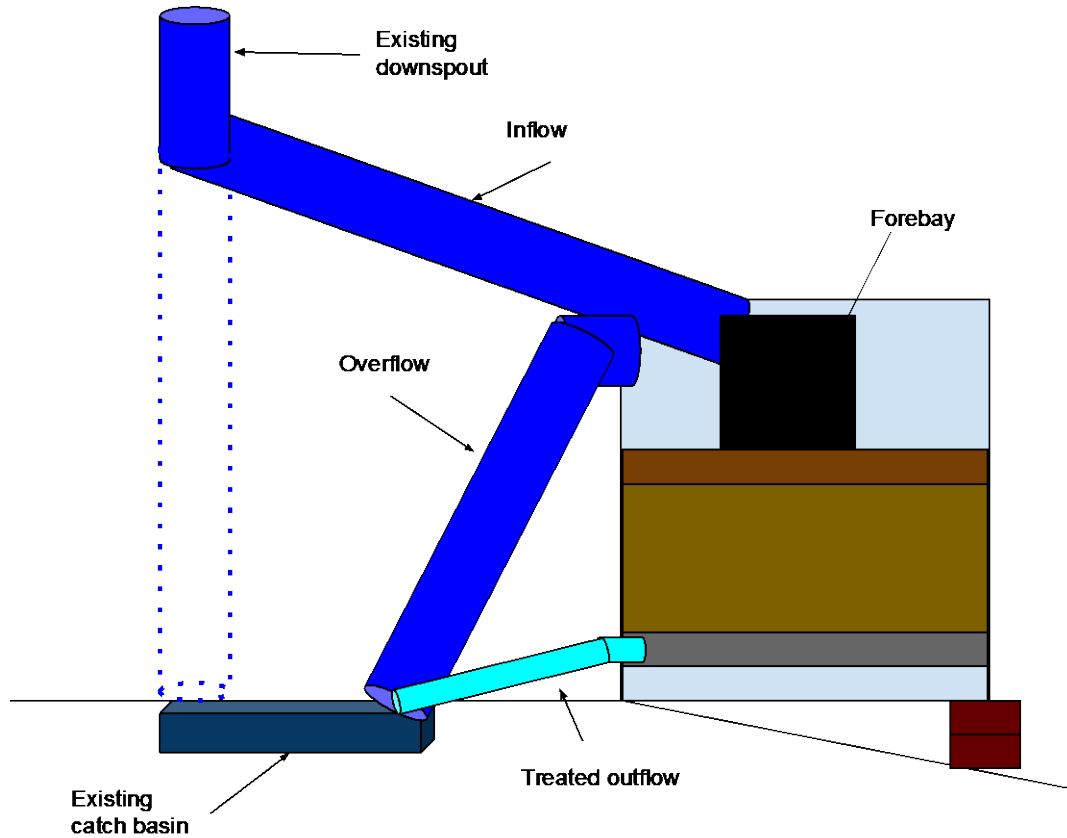


Image 6. Side view of site 2 configuration, single box (not to scale).

If used, Site 3 will have one of the configurations described above (one box or two connected boxes). Box(es) will be placed on the level ground adjacent to the catch basin, and drain directly to the catch basin, as described above.

Water quality and velocity monitoring sensors (if used) will be placed in-flow in the inflow, overflow, and treated outflow pipes. Grab samples will be taken from the inflow and outflow pipes without additional infrastructure needed.