



DRAFT SHORELINE STABILIZATION REGULATIONS



Impacts of Hard Shoreline Stabilization (Bulkheads, Rip Rap or Concrete Walls):

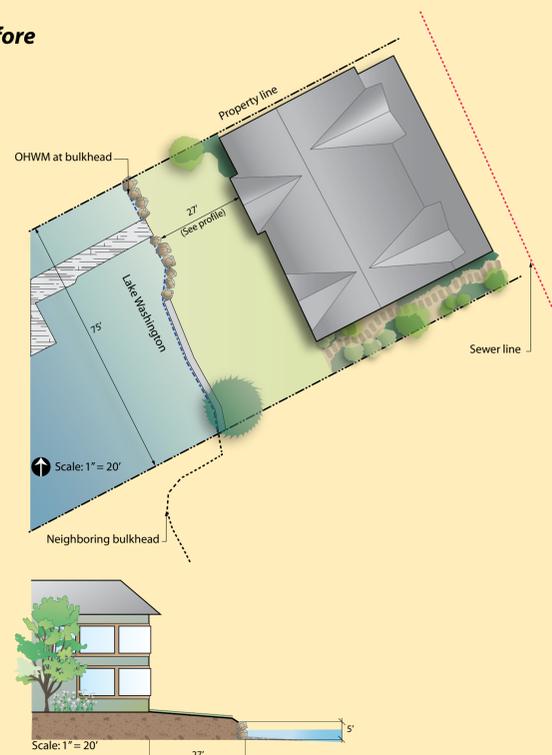
- Reduces natural gravel recruitment from erosion
- Causes excessive erosion on neighboring unarmored properties
- Can increase water depth by transporting nearshore sediment to deeper water and produces “wave bashing” effect – very turbulent nearshore
- Decreases habitat complexity
- Increases predator habitat (bass, sculpin)

Juvenile Chinook Salmon Habitat needs:

- Shoreline areas with shallow depths (<1m)
- Gentle slope
- Fine substrates, such as sand and gravel
- Overhanging vegetation/small woody debris

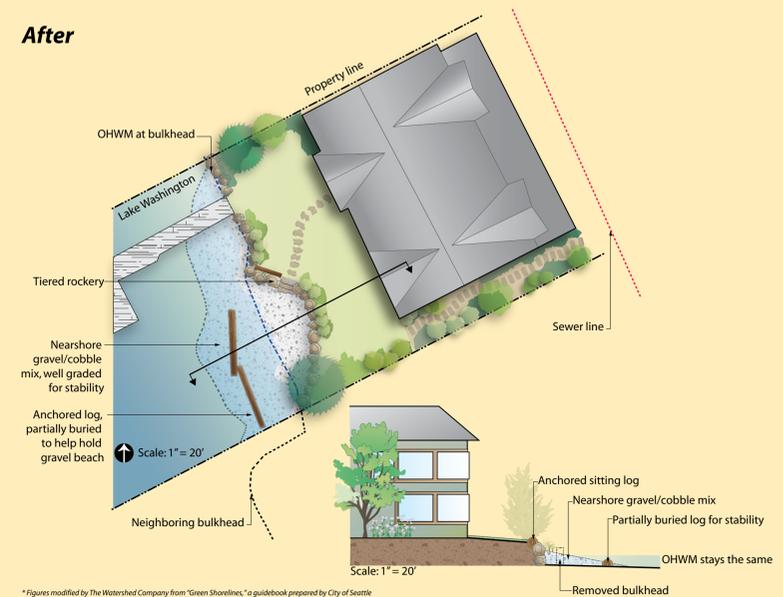
Shoreline Stabilization Measures	Requirements
Soft Shoreline versus Hard Shoreline	Natural shoreline preferred, but if stabilization measure is demonstrated to be needed to protect primary structure, then soft stabilization must be considered prior to hard stabilization.
New or Enlargement	-Requires geotechnical report, except when existing primary structure is 10 feet or less from OHWM. -Requires evaluation of feasibility of soft shoreline stabilization measures in lieu of hard structural shoreline stabilization measures and design recommendations for minimizing structural shoreline measures. -Enlargement includes additions to increases in size (such as height, width, length, or depth) to existing shoreline stabilization measures.
Major Repair or Replacement	-Threshold Determination: <ul style="list-style-type: none"> • Repair for collapsed or eroded away stabilization structure or demonstrate loss of structural integrity of stabilization of structure; or • Repair of toe rock or footings; and • Greater than 15 feet in continuous linear length; or • Repair to more than 75 percent of the linear length of the existing hard structural shoreline stabilization measure where repair work involves replacement of top or middle course rocks or other similar repair activities. -Shall be regulated as new stabilization measure. -Requires a needs assessment (not geotechnical report), except not when existing primary structure is 10 feet or less from the OHWM or when replaced with soft stabilization measure.
Minor Repair	-Does not meet threshold of new, enlarged, major repair or replacement measurement. -No geotechnical report or needs assessment required.

Before



Example of Soft Shoreline Stabilization in Kirkland

After



* Figures modified by The Watershed Company from "Green Shorelines," a guidebook prepared by City of Seattle

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