

MASON COUNTY
DEPARTMENT OF COMMUNITY DEVELOPMENT

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BULKHEADS

Bulkheads are retaining wall-like structures whose primary purpose is to hold or prevent the sliding of soil caused by wave erosion. **Mason County issues bulkhead permits in areas where serious wave erosion threatens an established use or existing buildings on upland property.** In many areas, wave erosion is not a serious threat, and a bulkhead is not truly needed. Often times, property owners spend considerable time and money on constructing bulkheads where they are not necessary.

The Shoreline Master Program states, "Residential development along shorelines should be designed and sited to make shore protection measures unnecessary." In other words, the most long-term, preventative means of shoreline property protection is a construction setback in which the residence is built a safe distance (setback) from the shoreline. An adequate setback will prevent the residence from being threatened by storms and erosion. Setbacks also prevent the interruption of the natural erosion processes that support marine and riparian habitats.

ALTERNATIVES TO BULKHEADING

The modification of shorelines has resulted in adverse impacts to valuable biological, cultural, and social resources. Some types of bulkheads have more deleterious impacts than others and, therefore, are discouraged. Section 17.01.110 (g)(1) of the Mason County Resource Ordinance dictates that **“hard” methods (such as concrete) of bulkheading are only permitted when applicants have adequately shown that “softer” methods are infeasible.** The softer armoring methods listed below are preferred over concrete because they preserve some of the shoreline’s natural physical and biological processes as well as preserving the shoreline’s natural appearance.

Vegetation: Native plants help to reduce erosion by protecting soils from the erosive forces of the wind, rain, and waves. The roots of plants help to hold soils in place, reduce frost penetration, reduce the force and quantity of precipitation falling on and eroding the soil, reduce surface/storm water volumes by evapo-transpiration, and increase the absorptive capacity of the soil. Vegetation also serves as habitat and food for a variety of plant and animal species.

Setback: Another option is to construct a retaining wall at least 6 feet from (upland) the Ordinary High Water Mark of the shore. This minimizes impacts to the natural shoreline while protecting upland improvements and allows the property owner to enjoy a beach where there would have been a bulkhead. Retaining walls generally require less permitting review than shoreline bulkheads.

Beach Nourishment: Beach Nourishment is the placement of sand and/or gravel on the upper portion of a beach where historic supplies have been eliminated or reduced by shoreline bank modifications. Nourishment generally raises beach elevations, which reduces the vulnerability of landward structures to flooding and wave damage as well as enhancing the beach. Call the Planning Department for permitting requirements.

Bioengineering: Bioengineering involves using natural features like plantings and logs in place of, or in addition to, traditional structural protection. Most bioengineering methods are considered bulkheads and require permits. Below are some examples of bioengineering methods:

(Bioengineering continued)

Logs, Stumps/ Root Wads: The placement large logs and stumps or rootwads on the shoreline slows erosion by absorbing wave energy and increasing the deposition of fine sediment. Unique vegetation communities colonize these areas around the large wood, which can add to the stabilization of the shoreline. This method can also provide a refuge for migrating fish that forage upon prey species residing on or around the wood. The large wood is kept in place with cables or by partially burying them.

Live Stakes: Live stakes are often used in bioengineering projects. These are cuttings from plants such as willows and dogwoods that will grow roots when inserted into moist ground.

Fascines: Fascines are long, thin branches tightly bound into a bundle with twine. They are partially buried in trenches parallel to incoming waves and anchored into place with live stakes. Fascines provide structural support, catch sediments, and can root and grow quickly.

Live Revetment: Live revetment is used to stabilize steep banks by using geotextile fabric to hold earth-filled terraces in place. Live stakes are driven through the fabric to provide additional structural support.

MINIMUM REQUIREMENTS

Location

If a bulkhead is necessary to protect upland facilities or is necessary for the operation and location of water dependent and/or water related activities, one may be constructed as close to the toe of the bank as possible. The waterward face of a new bulkhead shall be located at or above the ordinary high water line. Where this is not practicable due to geological, engineering, or safety concerns, the waterward face of the new bulkhead shall be located only as far waterward of the ordinary high water line as necessary to excavate for footings or place base rock for the structure. Under no conditions shall the waterward face of the bulkhead be located more than six feet waterward of the ordinary high water line.

When an existing bulkhead is being replaced, construction shall occur no further waterward of the existing bulkhead than is necessary for construction of the new footing. Replacement of a failed bulkhead shall be permitted in the same location as the original bulkhead, if such replacement is commenced within five years of failure. The burden of proof of location of the original bulkhead shall be on the applicant.

Stairways shall be located landward of bulkheads except where proven not feasible.

Timing

Construction work on a bulkhead project under this section may be subject to the timing restrictions in Washington Administrative Code WAC 220-110-271.

Vegetation Preservation

Removal or destruction of overhanging bankline vegetation shall be limited to that necessary for construction of the bulkhead. A Mason Environmental Permit application along with a Habitat Management Plan (mitigation) shall be submitted for review prior to cutting or topping any tree greater than 6 inches in diameter and prior to clearing any shrubs or groundcover (aside from noxious weeds). For every tree cut down, the log/trunk shall remain on the ground to serve as nurse log habitat and six native trees shall be planted within the buffer.

Design

Bulkheads are subject to design requirements including, but not limited to, the following:

- 1) Bulkheads shall be sited and designed consistent with appropriate engineering principles. If a proposed bulkhead is greater than 4 feet in height and/or supporting a surcharge, Mason County requires that it be designed by a licensed civil engineer.
- 2) A Geological Assessment or Geotechnical Report may be required if steep slopes or other sensitive geological features exist within 300 feet.
- 3) Beach material may not be used for fill behind bulkheads.
- 4) Concrete bulkheads may only be installed or replaced when applicants have adequately shown in a report or letter prepared by an engineer with expertise in shoreline hydraulics explaining why “softer” methods of shoreline stabilization are not feasible.
- 5) Shoreline protection structures must include weep holes to allow ground and surface waters to pass into the main water body.
- 6) Deviations from these requirements will require a Shoreline Conditional Use Permit and or a Shoreline Variance Permit.

PERMITTING

* Before submitting permits for any shoreline development, it is recommended that you submit a Site Pre-Inspection (SPI) Application. This allows a Planner to visit the site to evaluate existing conditions and inform you of the requirements for proposed development.

* In addition to the permit applications below, a building permit is required for any bulkhead that receives a surcharge (from structures, land, lakes, tides, etc.), except for detached floats that are less than 120 square feet.

Repairs and Normal Maintenance

The repair of a conforming bulkhead requires the following permits shall be submitted to the County:

- State Environmental Protection Act (SEPA) Checklist
- Shoreline Exemption (JARPA)

Emergency Repair

An "emergency" is an unanticipated and imminent threat to public health, safety, or the environment, which requires immediate action within a time too short to allow full compliance with permitting requirements. Emergency construction does not include development of new permanent protective structures where none previously existed. Where new protective structures are deemed by the administrator to be the appropriate means to address the emergency situation, upon abatement of the emergency situation, the new structure shall be removed or any permit which would have been required, absent an emergency shall be obtained. All emergency construction shall be consistent with the policies of chapter 90.58 RCW and the local master program. As a general matter, flooding or other seasonal events that can be anticipated and may occur but that are not imminent are not an emergency.

The following shall be submitted to the County:

- State Environmental Protection Act (SEPA) Checklist
- Shoreline Exemption (JARPA)

Replacement

The replacement of a failed bulkhead shall be permitted in the same location as the original bulkhead (or landward), if such replacement is commenced within five years of its failure. The burden of proof of location of the original bulkhead shall be on the applicant. The bulkhead shall be in the same footprint (or smaller) as the original. In addition, the original bulkhead may only be replaced with a concrete one when applicants have adequately shown that “softer” methods of shoreline stabilization are infeasible.

The following shall be submitted to the County:

- State Environmental Protection Act (SEPA) Checklist
- Shoreline Exemption (use JARPA form)

New Bulkhead to Protect a Residence

If a bulkhead is to protect an existing, legal single-family residence, the following shall be submitted to the County:

- State Environmental Protection Act (SEPA) Checklist
- Shoreline Exemption (use JARPA form)

New Bulkhead - Without a Residence and Costing Less Than \$5,718

If the proposed bulkhead is on property that does not have a legal single-family residence and the cost of labor and materials is less than \$5718, the following shall be submitted to the County:

- State Environmental Protection Act (SEPA) Checklist
- Shoreline Exemption (use JARPA form)
- Mason Environmental Permit with Habitat Management Plan

New Bulkhead - Without a Residence and Costing More Than \$5,718

If the proposed bulkhead is on property that does not have a legal single-family residence and the cost of labor and materials is more than \$5718, the following shall be submitted to the County:

- State Environmental Protection Act (SEPA) Checklist
- Shoreline Substantial Development Permit (use JARPA form) – *A public hearing is required.*
- Mason Environmental Permit with Habitat Management Plan

New Non-Residential Bulkhead

For commercial, multi family, and other bulkhead proposals, the following shall be submitted to the County:

- State Environmental Protection Act (SEPA) Checklist
- Shoreline Substantial Development Permit (use JARPA form) – *A public hearing is required.*
- Mason Environmental Permit with Habitat Management Plan

Bluff Stabilization

Coastal bluffs are sensitive ecological areas and support endangered wildlife species. The natural erosion of coastal bluffs along the Puget Sound and Hood Canal shores provide the primary source of beach sediment, which is essential for maintaining beaches and associated nearshore habitats. Critical habitats such as coastal forests, spawning beaches for forage fish (such as surf smelt), eelgrass beds, and salt marshes depend on these functioning coastal systems.

Disturbing and artificially stabilizing bluffs is strongly discouraged and must undergo extensive permit review.

Non-Conforming Proposals

A Shoreline Variance application shall be submitted to apply to construct or modify a bulkhead that does not meet the Shoreline Master Program's bulk, dimensional, or performance standards.

A Shoreline Conditional Use application shall be submitted to apply to construct or modify a bulkhead that does not meet the Shoreline Master Program's use requirements.

State and Federal Permits

In addition to submitting permit applications to the County, you should submit a completed JARPA form to the agencies below. **The Army Corps of Engineers' review process could take several months.**

Section 10 or Section 404 Permit

US Army Corps of Engineers
Seattle District Regulatory Branch
PO Box 3755
Seattle WA 98124-3755
(206) 764-3495

Hydraulic Project Approval

WA Dept. of Fish and Wildlife
600 Capitol Way N
Olympia WA 98501-1091
Saltwater - (360) 902-2534
Freshwater - (360) 753-2600

401 Water Quality Certification

WA Dept. of Ecology – Headquarters
Federal Permit Unit
PO Box 47600
Olympia WA 98584-7600
(360) 407-6000

FEES AND VALUATION

See the Mason County Community Development Fee Ordinance and the Mason County Building Department Fees for permit, publication, and review costs. Valuation is determined by the total cost or fair market value of any donated, contributed or found labor, equipment, or materials (WAC 173-27-030 (8)).

TIMELINE

Those requiring SEPA review and a Mason County Building Permit take approximately six weeks.

Those requiring a Substantial Development Permit take approximately three to four months (see attachment A).*

Those requiring a Conditional Use and/or Variance Permit take approximately five months (see attachment A).*

** State and Federal Approvals may take longer.*

References:

Shoreline Exemptions - Washington Administrative Code 173-27-040
SEPA Categorical Exemptions - Washington Administrative Code 197-11-800
Mason County Shoreline Master Program - Use Regulations 17.50.060
Mason County Comprehensive Plan - Shoreline Policies – IX-2
Mason County Resource Ordinance - Landslide Hazard Areas 17.01.100
Mason County Resource Ordinance - Fish & Wildlife Habitat Conservation Areas 17.01.110

****The information in this brochure is provided only as a general guideline. You should not rely on the brochure to identify the specific requirements for your project. To identify these requirements, apply for a Site Pre-Inspection (\$255) or contact the Planning Department.****

GENERAL BULKHEAD APPLICATION REQUIREMENTS

Prior to submitting applications, it is recommended that you have a Site Pre-inspection (\$255) performed by a Planner to determine the requirements specific to your property and proposal.

In addition to the above applications, checklists, and/or reports, bulkhead proposals should include, at a minimum, the following:

- Site Plan(s) (on letter, legal, or 11" x 17") that clearly shows:
 - The location of the proposed bulkhead in relation to the property lines and the residence.
 - The dimensions of the proposed bulkhead.
 - The existing improvements (house, existing bulkhead, sidewalk, dock, gravel driveway, etc).
 - The location of the ordinary high water mark.
 - The proposed land contours at 5 foot intervals (height) for areas waterward of the bulkhead and at 10 foot intervals for areas landward of the bulkhead.
 - A delineation of any nearby wetland and/or marsh areas.
 - A general indication of vegetation on the site.
 - Areas proposed to be landscaped with native vegetation, etc (mitigation).
 - Parcel number and address.
 - The North arrow.
 - Scale.

- Cross Section(s) (on letter, legal, or 11" x 17") that clearly shows:
 - The dimensions of the proposed bulkhead, including the footings.
 - The existing bulkhead to be replaced (if applicable).
 - The ordinary high water mark.
 - The existing and proposed ground elevations.
 - Where applicable, a depiction of the existing and proposed impacts to views.
 - Scale.

- Documentation (dated photos, professional reports, etc) showing that the rate of erosion threatens existing upland improvements.

- If proposing a *concrete* bulkhead: A report or letter prepared by a licensed hydrologist or an engineer with expertise in shoreline hydraulics stating why a concrete bulkhead is necessary and alternatives are not feasible.

- Structural Drawings.

- A Geotechnical Report, if required.

- A Habitat Management Plan (mitigation), if required.

- For Shoreline Substantial Development Permits, Shoreline Variances, or Shoreline Conditional Uses, please provide the names and mailing addresses of all property owners within 300 feet of property where development is proposed. These property owners will be notified of the public hearing.

SUBSTANTIAL DEVELOPMENT PERMIT PROCESS

The following process applies to the shoreline development proposals that require a Shoreline Substantial Development Permit, a Shoreline Conditional Use Permit, or a Shoreline Variance:

- A legal notice is placed in the “Shelton-Mason County Journal” for two consecutive weeks. Publication cost is the responsibility of the applicant. Final permit processing will not occur until advertising fees have been paid to the newspaper.
- A thirty (30) day public comment period begins from the second legal notice publication date; notices are sent to all adjacent property owners within 300 feet of applicant’s property boundary lines. A notice is also posted at the subject property.
- A public hearing is scheduled on the first available (second or fourth) Tuesday following the 30 day public comment period. Hearings are held at 1 PM, but you may have one or more hearing that precedes yours. You are not required to attend the hearing, but it is recommended that you do attend to answer questions that the Hearing Examiner or the public may have.
- The Hearing Examiner issues a Decision within two weeks of the public hearing.
- The County approves, conditionally, approves, or denies the permit based on the Hearing Examiner’s Decision. **However, construction may not proceed until after the Washington Department of Ecology and the public has had 21 days to appeal the permit decision.**
- The County submits the permit and findings to the Department of Ecology, the Attorney General, and the applicant. A twenty-one (21) day comment period for Substantial Development Permits commences when the Department of Ecology receives the permit, during which appeals to local government decisions can be made. The twenty-one day comment period for Conditional Use and Variances commences when the County receives Ecology’s written decision.
- The Department of Ecology will render and transmit to the County and applicant its final decision approving, approving with conditions, or disapproving the permit within thirty (30) days of the date of submittal. Should there be an appeal, the project applied for may not begin until all appeals have been settled by the State of Washington Shorelines Hearings Board.
- If the permit decision has not been appealed, the local government’s approval of the project stands and construction pursuant to the permit can proceed (as long as no other permits are needed).
- No permit authorizing construction shall extend for a term of more than five (5) years. If actual construction of a development, for which a permit has been granted, has not begun within two years after the approval of the permit by the Hearing Examiner, the Hearing Examiner shall, at the expiration of the two year period, review the permit, and upon a showing of good cause, extend the permit for one year. Otherwise, the permit terminates. Provided, that no permit shall be extended unless the applicant has requested in writing such review and extension within two years of the permit approval.