

Land Alterations Innovative Standards

Part of a series highlighting innovative local government standards intended to encourage adoption of more protective shoreland standards.



Benefits

- Prevents sedimentation and flow of nutrients into surface waters.
- Reduces risk of bank, slope, and bluff failure.
- Protects natural shoreline habitat and vegetation and their benefits including slowing, storing and filtering runoff and providing animal habitat and visual screening.

Types of Approaches

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The ordinance language used in these examples varies significantly depending on complexity of the issue and method of implementation. In straightforward cases, actual ordinance language is provided. In complex examples, the key provisions are summarized. Please contact the local planning and zoning staff with the relevant community if you have questions about the specific ordinance provisions.

1. Land Alteration Limits

Pope County

A conditional use permit is required for land alteration of more than 50 cubic yards anywhere in shoreland or for any alteration of natural topography on any shoreland sloping towards a public water or watercourse leading to a public water. This includes retaining walls adjacent to the OHWL, landscaping or any activity such as irrigation or drainage which might impact public waters, and the construction or reconstruction of any road which has not been reviewed through the subdivision controls process. Conditions of approval require that fill does not restrict

a floodway or remove floodplain storage capacity and an erosion control plan for alterations greater than 1,400 square feet.

Land alterations of less than 50 cubic yards and rock riprap installations require an administrative permit. Alterations affecting a shoreline or steep slope adjacent to a shoreline are limited to a working face width of 25 feet.

Ordinance Citation: Section 4.6.10

Aitkin County

A land alteration permit is required for any excavation and/or placement of material affecting more than 240 square feet in the shore and bluff impact zones and on steep slopes. Excavation or placement of up to 30 cubic yards of material in these areas is allowed only for recreational use areas or access paths and then no more than twice.

Ordinance Citation: Section 5.32 D. (1)

Morrison County

No alteration of the natural shoreline is allowed. Alteration of more than ten cubic yards of material in the shore and bluff impact zone and on steep slopes requires a variance.

Ordinance Citation: Section 714.3.b.

Hubbard County

A grading and filling permit is required for moving five to 10 cubic yards of material per 150 feet of shoreline. A variance is required for moving material exceeding these amounts.

Ordinance Citation: Section 902.1.

2. Riprap & Retaining Walls

Beltrami County

Riprap is only allowed where erosion problems exist (not for aesthetic reasons). Installation of riprap also requires establishing a 10 ft. native vegetation buffer parallel to the shoreline for the entire length of the riprap, except for an approved shoreland alteration (recreation) area. Buffer plans must be approved by the SWCD.

Ordinance Citation: Section 1104.3. F.

Communities with similar standards: Cass County (Section 1106.4. D.)

Aitkin County

Riprap requires a permit and is only allowed in areas with established erosion problems that cannot be corrected through bioengineering measures. Installation of riprap requires a vegetative buffer to a depth

determined by the county for the entire width of the lot, except for access areas. Riprap/walls for ornamental or terracing purposes are prohibited in the BIZ/SIZ.

Ordinance Citation: Section 5.32 D. (6)

Morrison County

Retaining walls are allowed only to correct an existing erosion hazard that cannot be addressed with vegetative erosion controls or riprap. Retaining walls must be the minimum size necessary to control erosion and any walls of five feet or more in height must be designed by a registered professional engineer or landscape architect.

Ordinance Citation: Section 714.2

State of Minnesota

Riprap and retaining walls in the shore impact zone and the water quality impact zone are allowed by local permit provided that the structures are used only to correct an established erosion problem determined by the local government and walls are no higher than five feet in height and placed at least ten feet apart and riprap is no higher than the regulatory flood protection elevation. Structures may be larger if a professional engineer determines that a larger structure is needed to correct the erosion problem. For projects that include work below the OHWL, the local permit is not issued until the DNR approves the project.

Citation: Mississippi River Corridor Critical Area Rules - Minnesota Rules 6106.0160 Subp. 4.

3. Ice Ridges

Cass County

Annual ice ridges may be regraded to the original shoreline contour as long as no material is deposited in the water and work is completed by July 1 after the winter season in which the ice ridge was created with a shoreland alteration permit. If work is not completed by this deadline, the ridge becomes a historic ice ridge and then alterations must comply with specifications for grading width and slope. This alteration area must be either graded landward or removed from the site and be protected from runoff from upland areas by either a 12 inch berm or grass swale. An erosion and sediment control plan must be approved before beginning work.

Ordinance Citation: 1106.4. A. and B.

Communities with similar standards: Aitkin County (Section 5.32 D. (5))

4. Special Purpose Ordinances Dealing with High Water

Morrison County

This special purpose limited-duration ordinance allows property owners to undertake flood protection measures (e.g. raising structures on higher foundations and fill) for **principal structures** without variances to some shoreland provisions. This ordinance applies to only two lakes experiencing high water. This ordinance is effective from 12/11/18 to 12/10/20 and is administered through a land use permit.

Highlights include:

- **Applications to increase height of nonconforming structures:** A variance is not needed to increase the height of nonconforming principal structures. Increases to building height over 25 feet require a native buffer to be installed along the shoreline equal to 15 feet per foot that the principal structure exceeds 25 feet. Buffer design must be submitted with the permit application.
- **Applications for topographic alterations, grading and filling, and elevations on fill:** These activities require a land use permit and must meet the following provisions:
 - Designs must be prepared by a registered engineer and must include:
 - Grade and fill quantities in and out of the shore impact zone.
 - Existing and finished slopes.
 - An analysis of water movement on the lot including impacts to neighboring properties and stormwater controls.
 - A vegetation management plan.
 - Existing and proposed elevations of the lowest floor above the OHWL or highest known water level, whichever is greater.
 - Existing and proposed height of the structure.
 - An erosion control plan.
 - Requirements or standards include:
 - Elevating structures on fill is only allowed if the structure is at least 50 feet from the OHWL.
 - The elevations of the lowest floor of structures placed on fill must be at least three feet above the OHWL or the highest known water level, whichever is greater.
 - Fill shall be a minimum 3:1 slope beyond the limits of the structure.
 - A variance is not needed to exceed 10 cubic yards of grading and filling in the shore impact zone (the county's regular shoreland ordinance otherwise prohibits the grading and filling of more than 10 cubic yards within the shore impact zone).
 - Grading and filling of any wetland must receive approval from the soil and water conservation district.
 - Technical evaluations governing the management of floodplains must be done by a qualified engineer or hydrologist.
- **Applications to relocate structures:** These activities require a land use permit and must meet the following provisions:
 - Structures may be relocated on the same parcel or a contiguous parcel under common ownership.
 - Structures not meeting the OHWL setback can be relocated further away from the OHWL, not meeting the OHWL setback, without a variance.
 - Relocated structure encroachment on any other setbacks requires a variance.
 - The original structure location must be restored according to an approved vegetation restoration plan.

Ordinance Citation: Lake Shamineau and Crookneck Lake Flood Protection Ordinance. Available upon request.