

Categorical Permission Alteration Description – 9. Erosion Control

The categorical permission covers a variety of erosion control activities including bank stabilization, erosion control features, and actions that are similar in nature. Alterations proposed for erosion control should be designed to withstand the velocity and stresses created by the flow of water at the DWSE. The maximum area of construction is 500 linear feet of bank. Rock slope protection (e.g., riprap) is the most common type of erosion control; however, other types of erosion control and bank stabilization methods and materials may be used.

The following list illustrates some of the factors that must be taken into consideration when determining the rock type and quality for proposed erosion control:

- Asphalt and other petroleum-based products, floatable and refuse material must not be used for erosion control on a levee or within a floodway.
- Riprap should be sound and durable, free from cracks, seams, shale parting, and soil material. The rocks should be blocky and angular and be relatively free from thin slab-like pieces. Deleterious substances which include soft, friable particles, gravels (3 inches and smaller), inappropriate materials, such as vegetation, and other foreign matter should not exceed 5% of the total material placed for erosion control.
- Riprap should be obtained from appropriate sources.
- Other types of erosion control, such as bioengineering, may be considered.

The following list illustrates some of the factors that must be taken into consideration regarding the method for placing riprap:

- Rocks should be placed to full layer thickness measured normal to the slope by any method that will avoid segregation by rock size and avoid displacing the underlying material.
- The finished revetment should be free of pockets of small or large rocks. Larger rocks should be well distributed throughout.
- All rocks should be contained reasonably well within the riprap layer to provide maximum resistance against erosion.
- Abrupt bank line changes should be avoided.
- Rocks must not be grouted.

If erosion control is intended for the invert of the channel, the final profile of the material should be identical to the profile of the adjacent channel invert.

When needed to stabilize underlying soils, proper bedding should be provided under the riprap. Vegetation and other organic material must be removed before placing bedding. Geotextiles should not be used as filter layers; instead, a minimum 6-inch layer of sand-sized aggregate should be used.

Maintenance of erosion control is required when:

- Minor rock displacement or degradation is threatening the integrity of the erosion protection
- Significant displacement is exposing the bedding or seriously degrading the rocks
- Erosion control material has been displaced by vegetation

Vegetation is interfering with inspection of the erosion control

Categorical Permission Alteration Checklist – 9. Erosion Control

Please note, the following checklist is intended for planning purposes only and reflects information that USACE reviewers will look for when considering a Section 408 request for erosion control under the Categorical Permission. To be reviewed under the Categorical Permission, the proposed project must adhere to all requirements of the Categorical Permission, including the full alteration description (see previous page). The plans and narrative project description should reflect this information.

Maximum total area of construction is 500 linear feet of bank:

No asphalt or other petroleum-based products, floatable, or refuse material used for erosion control:

No grouting of rocks:

If bedding is to be placed under riprap, vegetation and other organic material will be removed before bedding placement: Yes NA

Any work within the levee embankment? Yes No

Hydraulic blockage calculation $\geq 1\%$? Yes No

Hydraulic model used for hydraulic analysis? Yes No