**Rip-Rap Sills and Revetments**

Please respond to each question. Questions left blank may result in the application being returned as incomplete. In addition, the answers to all of the questions in this Appendix must correspond accurately to the information on the plan and section view drawings for the project.

1. Will the project be:
   \_\_\_\_\_ New Construction (un-stabilized shoreline)
   \_\_\_\_\_ Repair or Replacement of an Existing Rip-Rap Structure or Rubble
   \_\_\_\_\_ Repair or Replacement of an Existing Bulkhead
   (If repair or replacement, submit photographs of the entire existing structure).

2. How many linear feet of shoreline are proposed to be stabilized? _____

3. Is the project a:      \_\_\_   Standard rip-rap revetment                \_\_\_   Free-standing sill

4. Describe the existing shoreline:
   _____
   _____
   _____
   _____

5. What is the total number of cubic yards of rip-rap that will be used? _____

6. What is the number of cubic yards of rip-rap per running foot of shoreline? _____
   (See page 4 for a guide to calculating total cubic yards and cubic yards per running foot).

7. What will be the average weight of the stone used for the:
   Armor stone: _____            Core stone: _____
   [If material other than stone, such as prefab geo-grid or other similar product is proposed, please describe here and include photographs or a brochure. The Department strongly discourages the use of broken concrete, cinderblocks or other materials that are less dense than stone, more apt to move off site due to currents or wave action, and/or are not aesthetically pleasing or in keeping with the natural environment.]
   Describe:
   _____
   _____
   _____

8.  For Standard Revetments answer A–F, below:   (for Sill projects, skip to Question #9)

   A.   How many linear feet will the structure extend channelward of:

   Mean High Water: _____Mean Low Water: _____

   Ordinary High Water: _____ (for non-tidal waters)

   B.   How many square feet of the structure will be located:

   Channelward of Mean High Water: _____Channelward of Mean Low Water: _____

   Channelward of Ordinary High Water: _____ (for non-tidal waters)

   On vegetated wetlands: _____

   C.   Will the revetment be backfilled?      ____ Yes       ____ No

   If yes, complete Appendix H and include it in your application.

   D.   Will filter cloth be used behind the rip-rap structure?     ____ Yes        ____ No

   E.   What is the average slope of the existing bank?  _____

   F.   What is the proposed slope of the rip-rap revetment? _____
           (See page 3 for a guide to calculating slopes).

9.  Sill Projects:

   A.   What is the base width of the proposed structure: _____

   B.   What is the top width of the proposed structure: _____

   C.   How many square feet of the structure will be located:

           Channelward of Mean High Water: _____ Channelward of Mean Low Water: _____

           Channelward of Ordinary High Water: _____ (for non-tidal waters)

           On vegetated wetlands: _____

   D.   What will be the average height of the structure: _____

   E.   How much of the structure (in inches) will extend vertically above:

   Mean High Water: _____          Ordinary High Water: _____ (for non-tidal waters)

   F.   Are breaks or notches proposed in the sill to allow for greater flushing?  ____ Yes____ No

   G.   Will fill material be placed behind the sill? ____ Yes  ____ No If yes, complete appropriate appendix.

   H.   Will wetland vegetation be planted behind the sill?      ____ Yes        ____ No
           If yes, complete Appendix H and include it in your application.

10. Construction Techniques (Complete for both Revetment and Sill Projects):

A. Will any dredging be required? ___ Yes ___ No

If yes, please include appropriate dredging Appendix with your application).

B. Please describe the sequence of construction and any techniques that will be utilized to minimize adverse impacts on the aquatic environment, and to preserve existing vegetation (particularly woody vegetation) along the shoreline:

_____

_____

_____

_____

CALCULATIONS

RUN = Base width of the structure (in feet)   RISE = Vertical height of the structure (in feet)

I. How to calculate total cubic yards:

  0.5 * RUN * RISE * Linear feet of shoreline stabilized/27  = Total Cubic Yards

II. How to calculate cubic yards per running foot of shoreline:

   Total # Cubic Yards/ Linear feet of shoreline = Cubic yards per running foot

III. How to calculate slope:   Slope = RUN/RISE

EXAMPLE:

If we propose to stabilize 100 linear feet of shoreline with a rip-rap revetment that has a basewidth of 6 feet and a height of 3 feet:

0.5 * 6 * 3 * 100/27 = 33.33 Total Cubic Yards

II.        33.33/ 100= 0.333 Cubic Yards per running foot

III.       6/3= Slope of 2