Vegetated Filter Strip

What It Is
Vegetation planted as a buffer along the water's edge to filter stormwater runoff and remove contaminants and soil particles before they reach surface waters. Filter strips can be particularly effective at removing pollutants that are in the form of large particles, such as paint chips.

How It Works
Runoff carrying sediments, chemicals and nutrients is slowed by the vegetation, which allows particles carrying pollutants to settle out before reaching the surface water. Some rainwater may filter into the vegetation strip before it can run into the marina basin. In some cases, nutrients or chemicals in the runoff may be taken up by the vegetation, rather than going into the surface water.

Potential Benefits

- Helps prevent pollutants from entering waterways, protecting water quality and keeping sediments in the marina basin free from contaminants that may impact future dredging operations.
- Can help reduce sediment deposition in the marina basin, reducing the need for dredging.
- Creatively landscaped strips can provide aesthetic and recreational amenities, such as a picnic area, at a marina if allowed activities do not disturb the vegetation.

Planning and Technical Considerations
Filter strips must be a minimum of 20 feet wide to be effective. Wider strips are better in terms of filtering sediment and pollutants.

Filter strips are most effective on slopes of 5 percent or less and will not function well on slopes greater than 15 percent. Steeper slopes require wider strips. As a rule of thumb, an additional 4 feet of width should be added for each additional one percent of slope.

Filter strips can only handle runoff from relatively small areas (1 to 5 acres). Care must be taken to ensure that all of the water from the upland area passes through the strip and cannot bypass it.
Since water has to flow evenly over the strip for it to be effective, the landward edge of the strip must be at a constant elevation (no dips, depressions or gullies).

A shallow stone trench can be used to spread the flow evenly at the edge of the strip.

Plants suitable for the particular area and climate must be used. In marine areas, salt-tolerant species such as salt meadow cordgrass (Spartina patens) or "salty alkaligrass" (Puccinellia distans) should be considered. Your local U.S.D.A. Natural Resources Conservation Service office can provide information on the best species for your location.

Strips require regular maintenance. Reseeding, watering, fertilization and some mowing may be required to maintain the necessary dense growth of vegetation. Annual inspections should be conducted and rills, gullies and channels repaired as soon as possible.

Costs

Filter strips are one of the least expensive stormwater runoff control measures you can implement. Seeding costs can range from $20 to $100 per 1,000 square feet with sod costing $125 per 1,000 square feet ($0.40 to $6.25 per linear foot for a 20- to 50-foot wide strip) depending on site conditions.