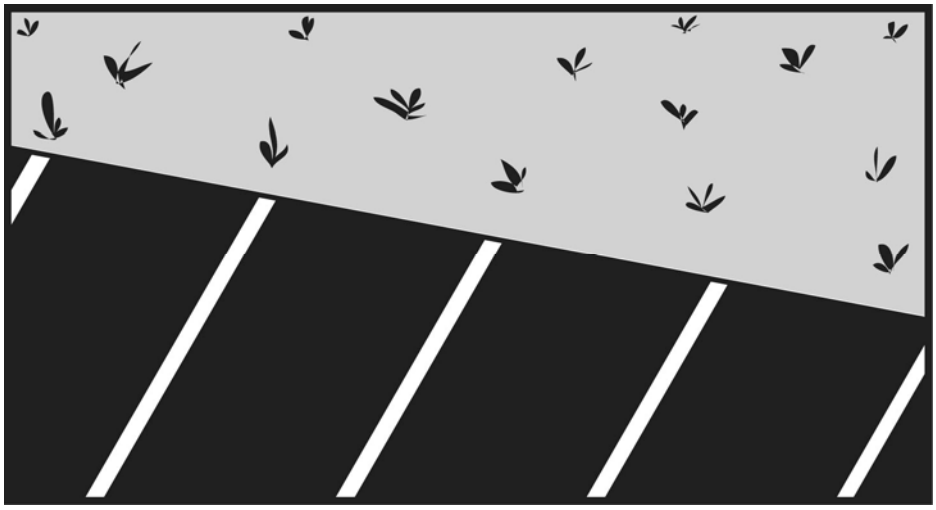
Vegetated Buffer Strips and Channels

SC-5



Source: Modified from Knoxville BMP Manual, 2003.

Description

Vegetative buffer strips and channels protect soil from erosion, increase infiltration, and remove sediment from surface runoff. Located adjacent to pollutant sources such as construction sites, vegetated buffer strips also provide protection to downstream receiving inlets or water bodies.

Applications

- Any site which is suitable for establishment of vegetation.
- Vegetated buffer strips are appropriate for uncurbed, paved areas; steep and potentially unstable slopes; and areas adjacent to sensitive water bodies.
- Vegetated channels are appropriate for surface runoff conveyed by channels to downstream inlets or receiving waters.

Installation and Implementation Requirements

- Refer to SM-16 (Preservation of Existing Vegetation) in this manual if existing vegetation will be used as a buffer strip.
- Installation of a buffer strip with new vegetation shall comply with the following:
  - Prior to cultivation of the designated buffer strip area, remove and dispose of all weeds and debris in accordance with *2005 Standard Specifications for Road and Bridge Construction;*
  - During construction, strip and stockpile good topsoil for surface preparation purposes prior to planting activities;
  - Plant the area upon completion of grading in the area;
  - Fine grade and roll areas to be planted after cultivating soil and, if applicable, installing the irrigation system;
  - Provide additional watering or irrigation of vegetation to supplement rainfall until vegetation has been established;
  - Fertilize vegetation in accordance with manufacturers' instructions and grass/soil requirements determined by testing of the soil;

Installation and Implementation Requirements (Continued)

- Vehicular traffic passing through vegetated buffer strips or channels shall be avoided to protect vegetation from damage and maximize its effectiveness;
- Comply with applicable regulations and manufacturers' instructions when applying fertilizers, pesticides, soil amendments, or chemicals;
- Comply with the following during seeding activities:
  - Add soil amendments such as fertilizer when preparing seedbed. Apply mulch after seeding to protect vegetation during establishment. Select an appropriate seed mixture based on site conditions. Dense grasses are more effective in reducing flow velocities and removing sediment. Thick root structures are necessary for erosion control,
  - Use proper equipment and methods to ensure uniform distribution and appropriate seed placement, and
  - Overseed, repair bare spots, and apply additional mulch as necessary; and
- Comply with the following during sodding activities:
  - Protect sod with tarps or other types of protective covering during delivery and do not allow sow to dry between harvesting and placement,
  - Any irregular or uneven areas observed prior to or during the plant establishment period shall be restored to a smooth and even appearance,
  - Prior to placing sod, ground surface shall be smooth and uniform,
  - Areas, which will be planted with sod and are adjacent to paved surfaces such as sidewalks and concrete headers, shall be 1.5±0.25 inches below the top grade of the paved surface after fine grading, rolling, and settlement of the soil.
  - Ends of adjacent strips of sod shall be staggered a minimum of 24 inches,
  - Edges and ends of sod shall be placed firmly against paved borders,
  - After placement of the sod, lightly roll sodded area to eliminate air pockets and ensure close contact with the soil,
  - After rolling, water the sodded area to moisten the soil to a depth of 4 inches,
  - Do not allow sod to dry,
  - Avoid planting sod during extremely hot or wet weather, and
  - Sod shall not be placed on slopes steeper than 3:1 (H:V) if the area will be mowed.

Limitations

- Site conditions such as availability of land.
- Flow depth and vegetative condition determine BMP effectiveness.
- May require irrigation to maintain vegetation.

Limitations (Continued)

- High maintenance requirements may exist depending on the design condition of the vegetation.
- Unless existing vegetation is used as a buffer strip, an area will need to be provided specifically for a buffer strip and vegetation will need to be established.
- Maintaining sheet flow in buffer strips may be difficult.
- Vegetated channels require a larger area than lined channels.
- Vegetated channels require gradual slopes since runoff with high flow velocity may flow over grass rather than through it.

Inspections and Maintenance

- Inspect weekly during dry periods as well as within 24 hours of any rainfall of 0.5 inch or greater which occurs in a 24-hour period and daily during periods of prolonged rainfall until vegetation is established. Repair eroded or damaged areas as necessary.
- Maintenance activities include mowing, weeding, and verification of a properly operating irrigation system, if applicable.
- Properly remove and dispose of clippings from mowing and trimming in accordance with *2005 Standard Specifications for Road and Bridge Construction.*

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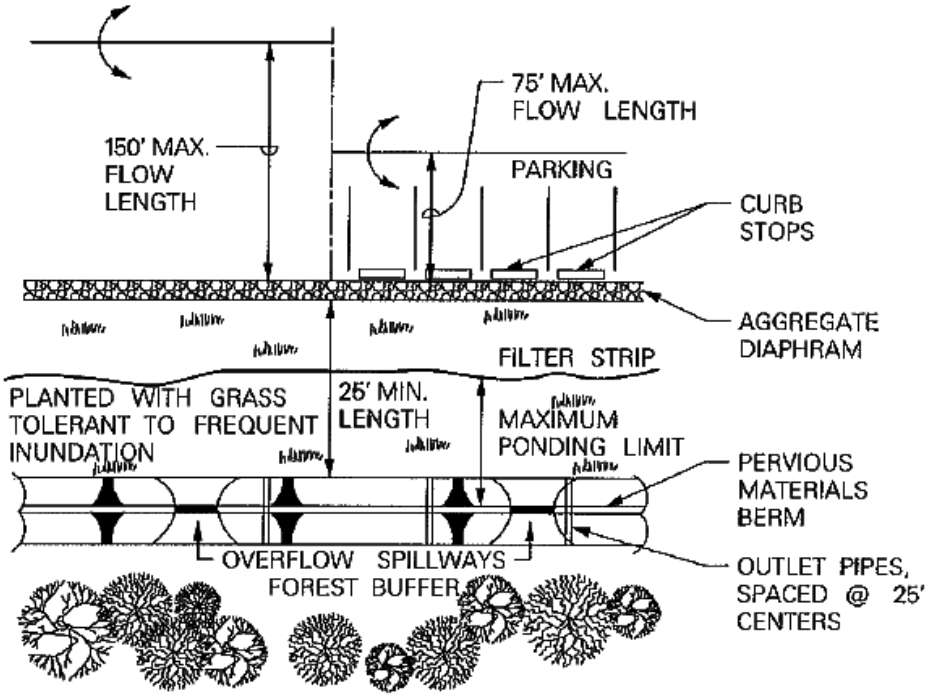

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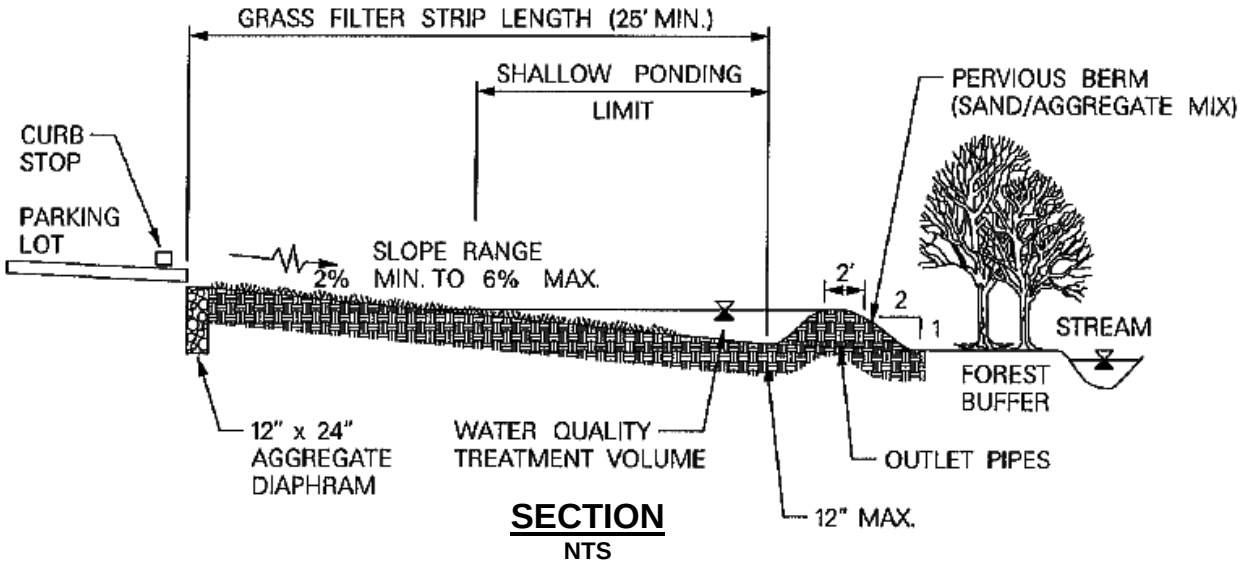

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TYPICAL VEGETATED BUFFER STRIP

Source: Prince George's County, Low-Impact Development Design Strategies:
An Integrated Environmental Design Approach, 1999.