

releases may result. To ensure the hydraulic capacity of the spillways, the spillways should be inspected for blockage **twice a month and after large storms**.

If a riser/barrel is used for the principal spillway, a trash rack is to be maintained on the riser. Vegetative growth in the riser should be removed promptly so that the design capacity of the spillway is maintained. Also, the outlet area where the barrel projects from the fill should be clear of tree limbs, sediment accumulation, etc.

SECTION 8: LEVEL SPREADER

The second paragraph in Section 8.3.3 in the State Manual states:

“One of the most important design criteria for the level spreader lip is that it must be constructed parallel to contour lines. Often, this will result in a level spreader that is curved, which is perfectly acceptable.”

However if the curvature of the contours is significant and is likely to result in convergent and concentrated flow downstream of the lip (e.g. in swales of draws), construct the lip as a straight one or with a gentler curvature.

8.3.5 Level Spreaders in Series

8.3.5.1 Stream Buffer Widths

Refer to Section 2.9.3.2 for required stream buffer widths according to watersupply watershed requirements.

8.3.6 Options Where Level Spreaders are Not Appropriate

The Randleman Watersupply Watershed does not allow the outfall to be routed directly through the riparian buffer.

8.3.12 Stabilization of BMP drainage area

The area draining to the level spreader should remain stabilized to prevent excessive sediment from entering the level spreader. When the bare soil is directly exposed to precipitation the sediment concentration in runoff is much higher than for soil that is stabilized. A stabilized area is covered by impervious surfaces (pavement, buildings), grass cover, landscaped cover (mulch, pine straw), etc.

Erosion Concerns

Level spreaders must be inspected to make sure that they are functioning as designed. Standing water could cause issues to the lining material of the level spreader and therefore proper drainage is required.

The inlet and outlet areas, side slopes (swales), and the rest of the conveyance area should be inspected for erosion problems.

Where water discharges from a pipe and where the stormwater runs off impervious area onto pervious area, there may be erosion problems. The BMP should have riprap protection at the end of pipes and a gravel trench at the edge of impervious areas to help prevent erosion. These devices should be inspected to ensure they are functioning properly. If erosion is noticed within the rip rap pad or along the edges of the pad, more rock may be needed or it may have been improperly placed (no geotextile liner or improper placement of liner, rip rap not well graded, etc.) If the rock or gravel is displaced downstream, a larger size rock or gravel should be used.

Rill erosion (small channels or gulleys in the ground) is a common problem found in these control devices where the water runoff is naturally trying to channelize. Rill erosion can be repaired by filling in the rills with suitable (clayey) soils and reseeding. It may be necessary to use a temporary erosion resistant matting or to use sod to repair these areas.

8.5 Maintenance

A Drainage, Maintenance and Utility Easement (DMUE) shall be placed over the Level Spreader and extend 15' beyond its perimeter, including up to any associated stream or riparian buffers. A 20' wide access easement will be required from the public street right-of-way to the Level Spreader.

See also Section 8.1 for additional information on outflow of a BMP through a Level Spreader.