BMP 104 Stake an wire fence should be modified to allow for **Stake and Clearing Limit Tape** clearing limit indicators. Basically just a stake every 10-15 feet with a durable "Clearing Limit" tape similar to "Caution" tape.

Currently they clear an area then put the fence up defeating the entire purpose of the limit fence. Allowing the tape would be an easy way to stake the limits in a woodland without a lot of labor preventing clearing limit violations.

![Clearing Limit Tape Diagram](image)

**Element #4: Install Sediment Controls**

Where feasible, design outlet structures that withdraw impounded stormwater from the surface to avoid discharging sediment that is still suspended lower in the water column.

Floating Pump Structure with stopper to prevent the pump basket from hitting bottom of pond.
Table 4.2.4 Contributing Drainage Area for Vegetated Strips below indicates that if the area is flatter you need a longer flow path. This is incorrect. If the area is steeper you need a longer flow path.

The only circumstance in which overland flow can be treated solely by a strip, rather than by a sediment pond, is when the following criteria are met (see Table 4.2.4):

<table>
<thead>
<tr>
<th>Average Contributing area Slope</th>
<th>Average Contributing area Percent Slope</th>
<th>Max Contributing area Flowpath Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5H:1V or flatter</td>
<td>67% or flatter</td>
<td>100–250 feet</td>
</tr>
<tr>
<td>2H:1V or flatter</td>
<td>50% or flatter</td>
<td>145 200 feet</td>
</tr>
<tr>
<td>4H:1V or flatter</td>
<td>25% or flatter</td>
<td>150 feet</td>
</tr>
<tr>
<td>6H:1V or flatter</td>
<td>16.7% or flatter</td>
<td>200 115 feet</td>
</tr>
<tr>
<td>10H:1V or flatter</td>
<td>10% or flatter</td>
<td>250 100 feet</td>
</tr>
</tbody>
</table>

BMP C 209

The following guidelines shall be used for riprap outlet protection:
1. If the discharge velocity at the outlet is less than 5 fps (pipe slope less than 1 percent), use 2-inch to 8-inch riprap. Minimum thickness is 1-foot.

2. For 5 to 10 fps discharge velocity at the outlet (pipe slope less than 3 percent), use 24-inch to 4-foot riprap. Minimum thickness is 2 feet. Where are you going to find 4 foot riprap? And how are you going to put a 4 foot boulder 2' thick?

3. For outlets at the base of steep slope pipes (pipe slope greater than 10 percent), an engineered energy dissipater shall be used.

### Table 4.1.8 Mulch Standards and Guidelines

<table>
<thead>
<tr>
<th>Mulch</th>
<th>Standards and Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straw 2&quot;-3&quot;</td>
<td>thick; 5 bales per 1000 sf or 2-3 tons per acre</td>
</tr>
</tbody>
</table>

#### Comments

The new application rates recommended will result is slides in unstable soils because of excessive moisture retention. More is not better.

2 - 3 " by hand can be applied with 500 to 1000 pounds per acre. Hand applications are loose and fluffy and appear thick on application by soon mat down with rain fall and provide inadequate cover.

Straw application at this thickness applied with a straw blower (which chops it a lays it flat) will exceed 4 tons per acre. If applied to a slope will hold excessive water and be more likely to cause slides.

It typically takes 1 1/2 - 2 tons per acre applied with a straw blower to provide 100% cover.

Hydromulch. 2" thick min.; approx. 25-30 lbs per 1000 sf or 1500 - 2000 lbs per acre

**1500 - 2000 pounds per acre is not 2" thick.** At 2000 pounds you bearly have enough fiber to provide 95% cover. Hydromulch application need to be 3500 - 4000 pounds per acre to provide 100% cover and is barely 1/4 inch thick.

I provided the hydroseeding applications tested by the UW in the WSDOT study WA-RD 200.1 1/1990 and in Federal Highway studies. I also provided the application rate guides used by Weyerhaeuser in marketing Silva Fiber in my former company Briargreen.

Briargreen was the largest Hydroseeding and erosion contractor in the Northwest. The first Bonded Fiber product on the market was introduced by Briargreen in 1994. I know what I am talking about.

### BMP C123 Plastic Covering

Plastic covering may be used on disturbed areas that require cover measures for less than 30 days, except as stated below.

You should remove the 30 days limits since you have an entire page of exceptions. Typically plastic is used over an entire winter on soils that cannot be stabilized with mulches, Roadways, building pads etc.

### BMP C126: Polyacrylamide (PAM) for Soil Erosion Protection
An Alternate Method:

PAM may also be applied as a powder at the rate of 5 lbs. per acre. This must be applied on a day that is dry. For areas less than 5-10 acres, a hand-held “organ grinder” fertilizer spreader set to the smallest setting will work. Tractor-mounted spreaders will work for larger areas.

Strike out this entire paragraph. **PAM cannot be applied by hand at 5# per acre, over application ALWAYS occur.** 5# of PAM is about the same size as a 5# bag of sugar. How would you spread that over an acre by hand? I have used this stuff since 1982 and tested different applications and methods. Hand applications always cause problems with excessive product being applied.

BMP 150

Add Straw Wattles. Typical Drain pipe used for pipe slope drains is 4" - 6". Delete Washed Gravel (what would you use it for?)

Wattles are easily stored and 1 roll will provide protection for 25 LF. If something goes wrong wattles with stand bags can be applied very quickly to prevent runoff from compacted areas like roadways.

Table 4.2.1 Runoff Conveyance and Treatment BMPs by SWPPP Element

Like the table. Nicely done.

Figure 4.2.5

Why have the notches in the 2 x 10? It works better if the water sheets over the entire length of the board.

A level 4" perforated PVC pipe capped on one end works great as a temporary spreader during construction.
Figure 4.18 would not work the way indicated. The water would simply run around the ends of the sand bags, which still provides the desired sediment trap.

BMP 231 Delete or modify for the use of Compost.

I have never seen this installed in 30 years

**BMP C236: Vegetated Spray Fields**

**Rename to Vegetative Filtration**

**Nice Job**
BMP C241: Temporary Sediment Pond

See WSDOT WA-RD 200.2 for improved pond designs using baffles.