Erosion and Sediment Control Measures

2.2 Cut-outs

A cut-out (also known as water bar) is a constructed drain that takes stormwater from a road surface or water table and allows the water to discharge to an area of stable ground. Cut-outs are also used to decommission roads or tracks after an operation is completed, to control stormwater run-off.

They are simple to construct, effective, and easily maintained. They may be used to divert stormwater into stormwater or sediment control measures like flumes or sediment traps. Cut-outs are one of a family of stormwater control measures that increase the life of the road or track and road water table by reducing erosion and maintenance costs. They can also reduce the likelihood of sediment delivery to rivers.

Effective cut-out on harvesting extraction track.
Erosion and Sediment Control Measures

2.2 Cut-outs

A Where and when to use
1. Use cut-outs to direct stormwater:
   a. Off all roads and tracks which have water channelled in water tables or along the road edges and where it is not diverted by road drainage culverts.
   b. Onto stable ground (this may be via additional stormwater control measures such as culverts or flumes).
   c. To sediment control measures such as through slash bunds, sediment traps and sediment retention ponds, or over stable ground, where necessary.

B Where not to use
Not applicable for this FPG.

C Design
1. Consider cut-out location as part of road or landing sediment and/or stormwater control measures.
2. Where there are highly erodible soils, consider additional measures (e.g. armour the water table or berm) if cut-off spacing is restricted by the terrain.

D Construction
1. Construct sufficient cut-outs to reduce the volume and velocity of run-off to reduce the erosive power of the water.
2. Locate cut-outs where the outlet would not cause additional erosion.

E Maintenance
1. Prepare a routine maintenance plan including heavy rainfall response measures.
2. Cut-outs need regular maintenance, especially on new construction.
3. Check cut-outs to ensure they are functioning after a heavy rain event.

F Other methods
1. Water tables and road drainage culverts, flumes and berms.
2. Cut-outs also complement sediment control measures such as sediment traps, soak holes, sediment ponds and slash bunds.
Technical specification guidelines

The following table is for recommended culvert spacing and can be used as a guide for cut-outs.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Soil or rock erodibility – separation distance in metres</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
</tr>
<tr>
<td>18% (1 in 6)</td>
<td>40</td>
</tr>
<tr>
<td>14% (1 in 7)</td>
<td>50</td>
</tr>
<tr>
<td>12% (1 in 8)</td>
<td>55</td>
</tr>
<tr>
<td>11% (1 in 9)</td>
<td>60</td>
</tr>
<tr>
<td>10% (1 in 10)</td>
<td>65</td>
</tr>
<tr>
<td>8% (1 in 12)</td>
<td>80</td>
</tr>
</tbody>
</table>

National Environmental Standards for Plantation Forestry

Relevant regulations for sedimentation are 26, 27, 31, 33, 56.

Contact

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Other Practice Guides in this series

2.1 Water Tables
2.2 Cut-outs
2.3 Berms
2.4 Road Drainage (Stormwater) Culverts
2.5 Flumes
2.6 Sediment Traps and Soak Holes
2.7 Silt Fences
2.8 Sediment Retention Ponds