Figure 1. California U.S. Army Corps of Engineers District Regulatory Boundaries. Specifically depicting the San Francisco District as it pertains to coverage of RGP-12.

Attachment A

The Following figures are from the California Salmonid Stream Restoration Manual (http://www.dfg.ca.gov/fish/Resources/HabitatManual.asp)

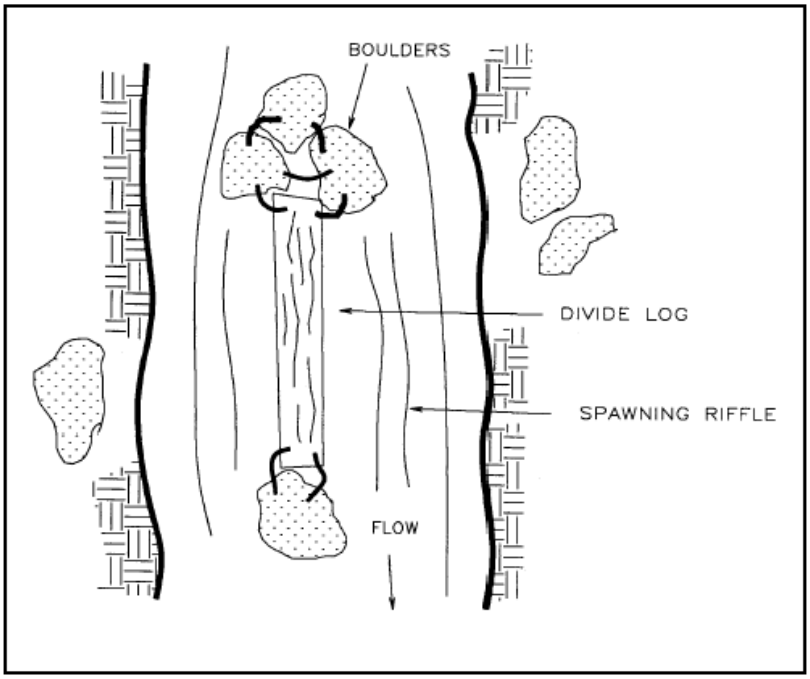


Figure VII-17. Divide log.

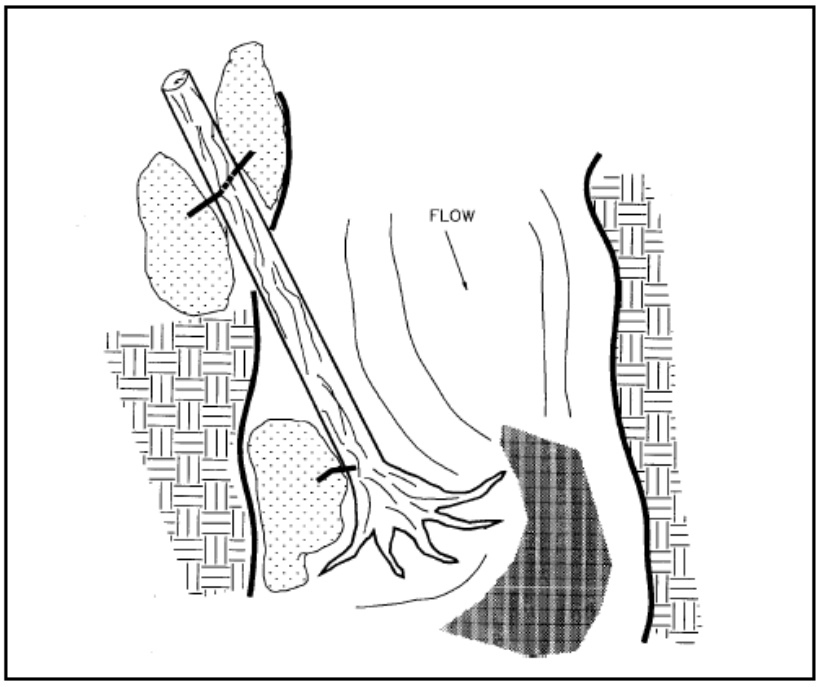


Figure VII-18. Digger log.

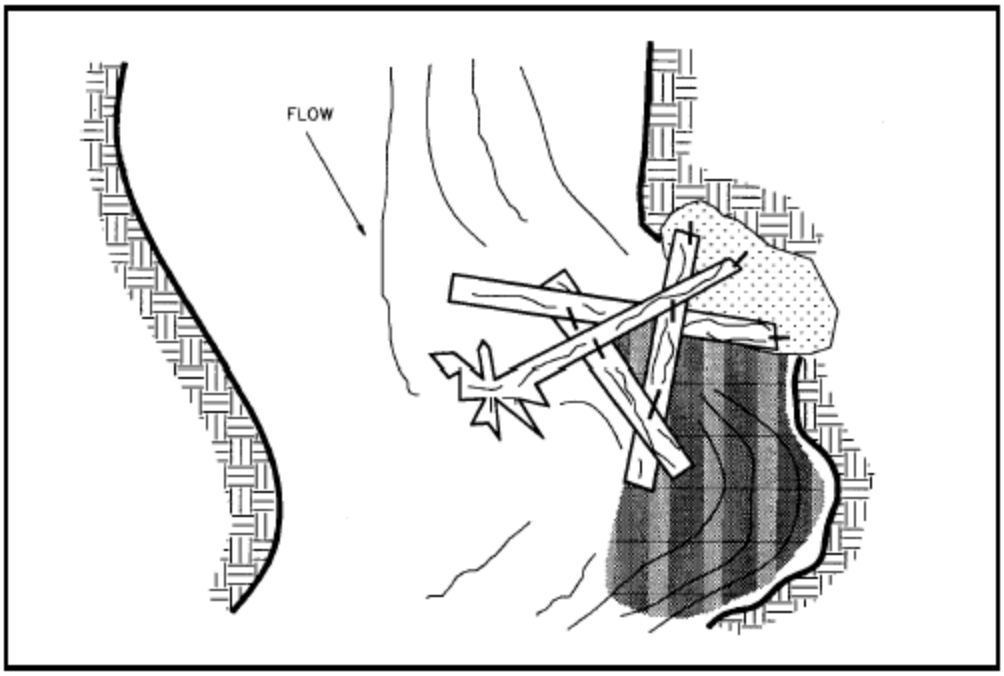


Figure VII-19. Spider logs.

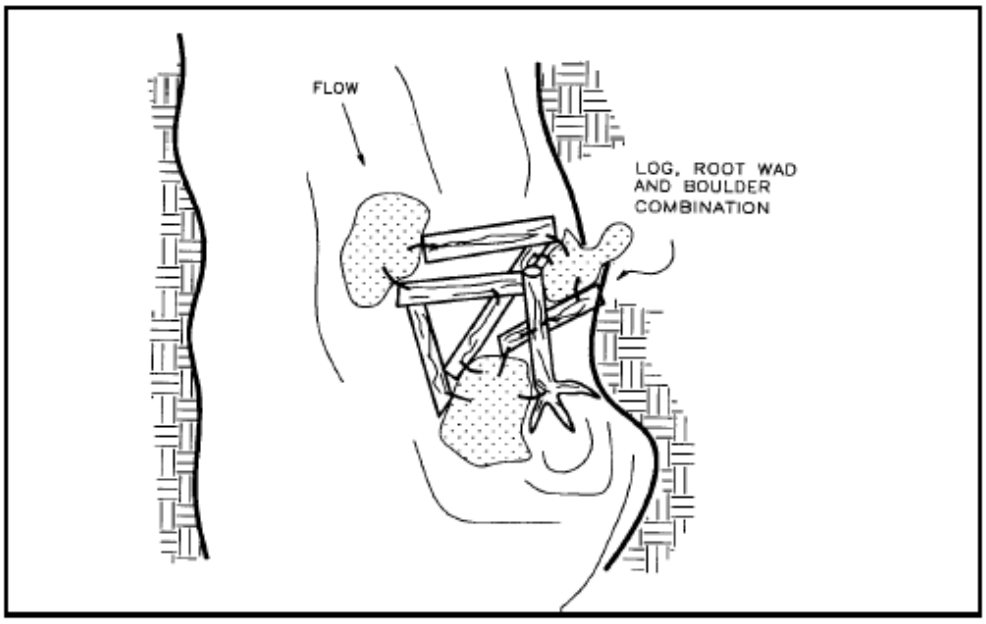


Figure VII-20. Log, root wad, and boulder combination.

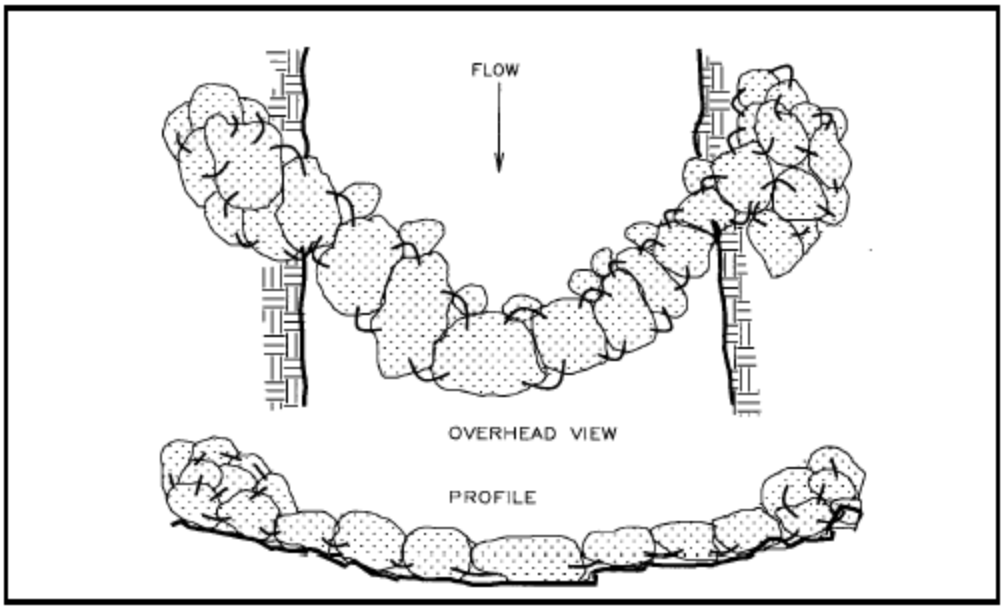


Figure VII-21. Downstream-V boulder weir.

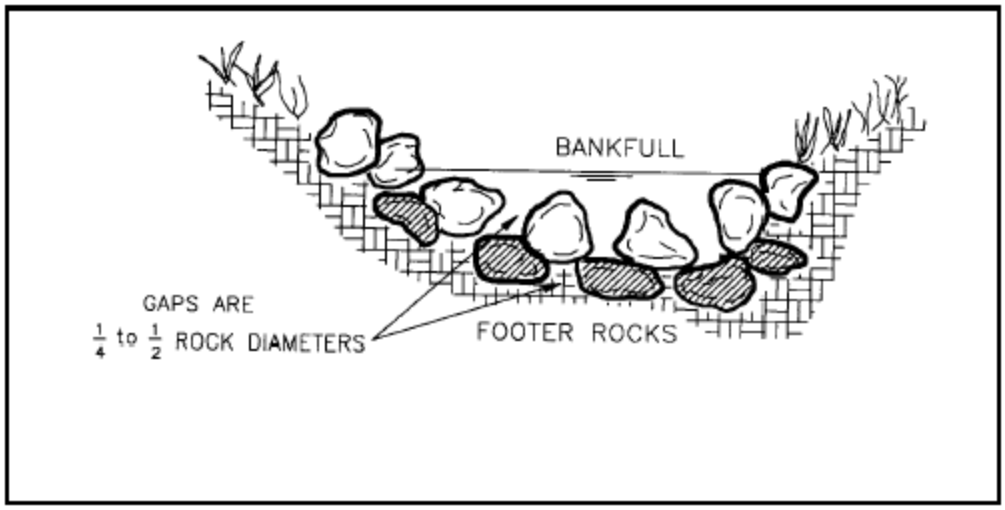


Figure VII-22. Vortex boulder weir, cross section view (Rosgen, 1993).

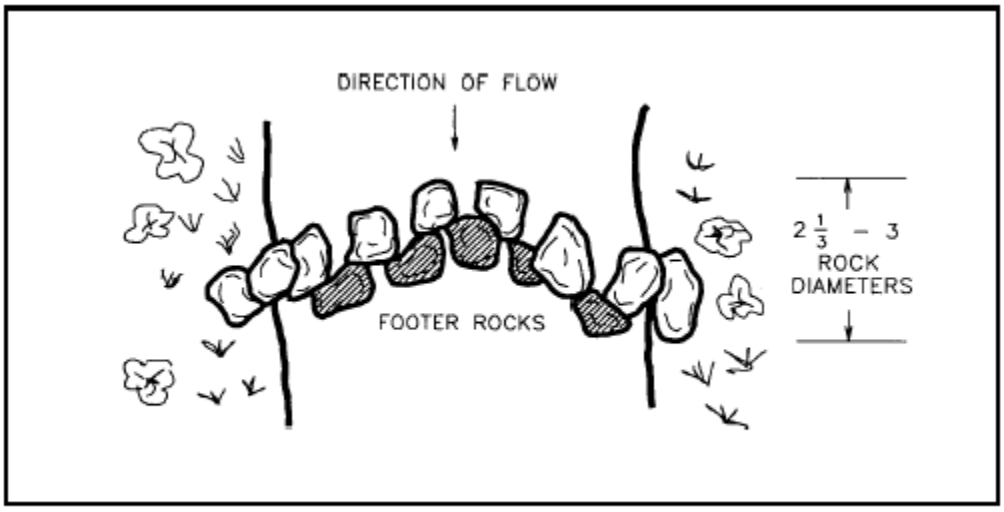


Figure VII-23. Vortex boulder weir, plan view (Rosgen, 1993).

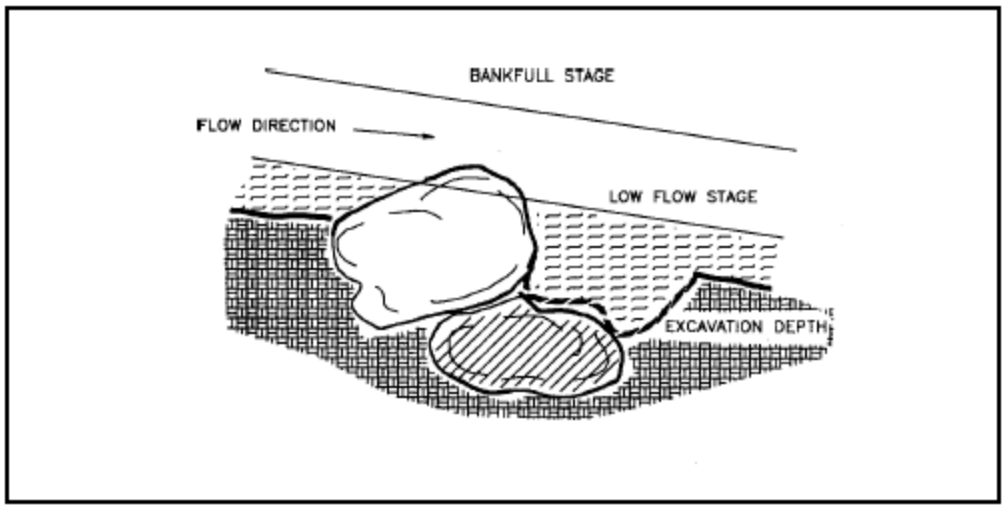


Figure VII-24. Vortex boulder weir, profile view (Rosgen, 1993).

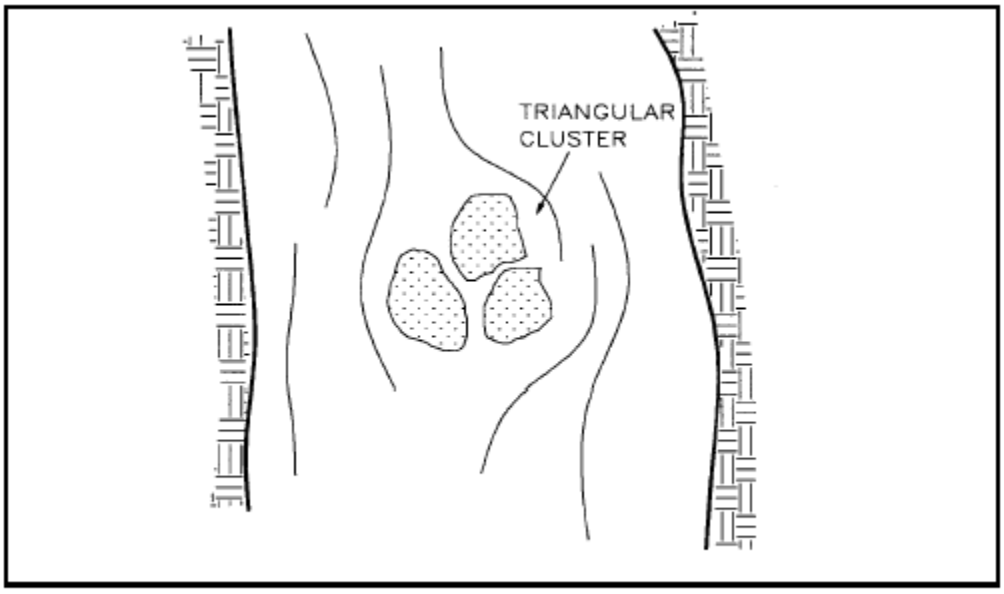


Figure VII-25. Boulder cluster.

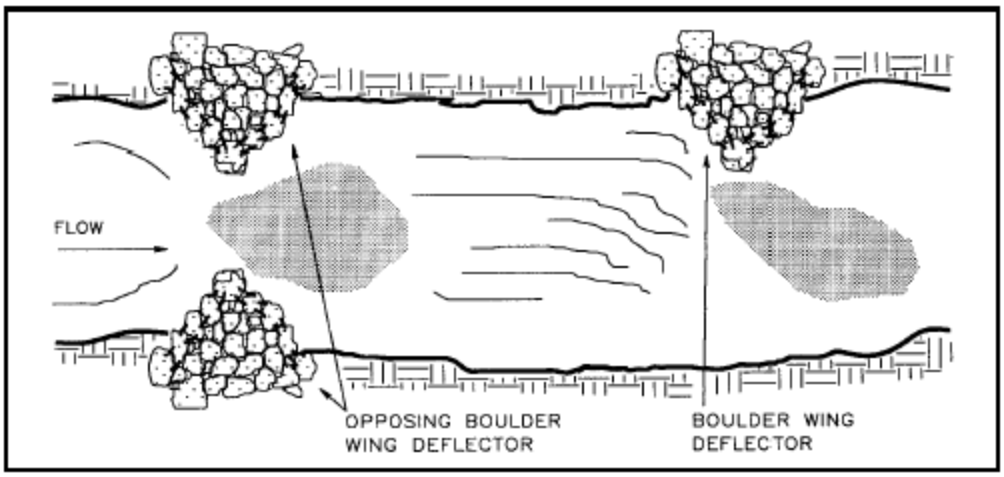


Figure VII-26. Single and opposing boulder wing-deflectors.

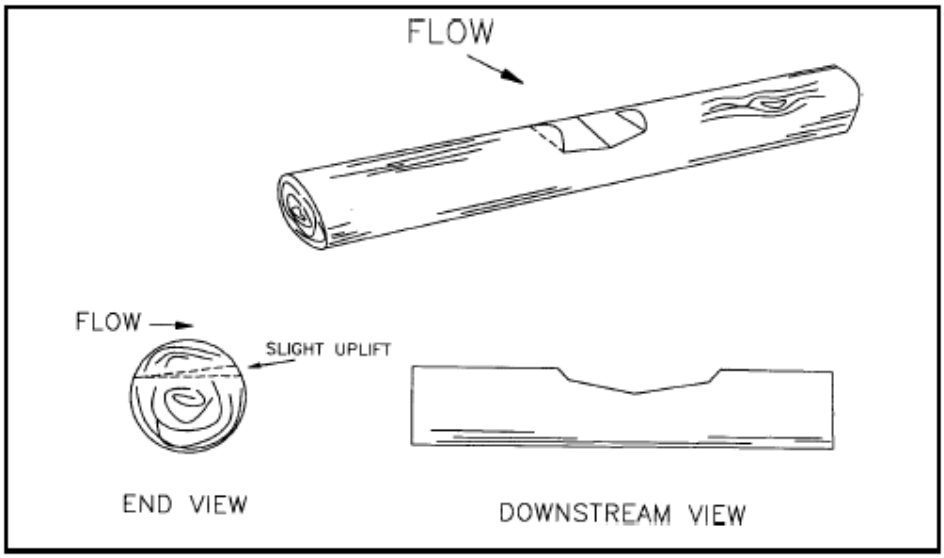


Figure VII-27. Straight log weir with low-flow notch.

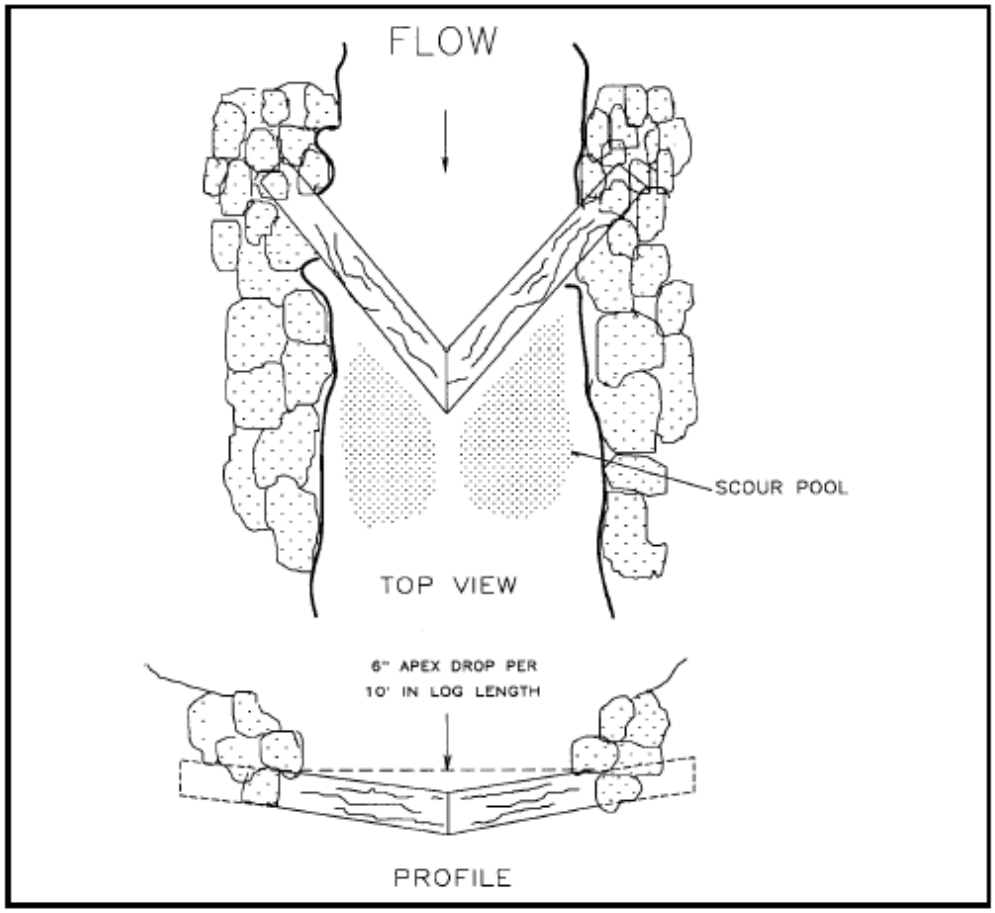


Figure VII-28. Downstream-V log weir.

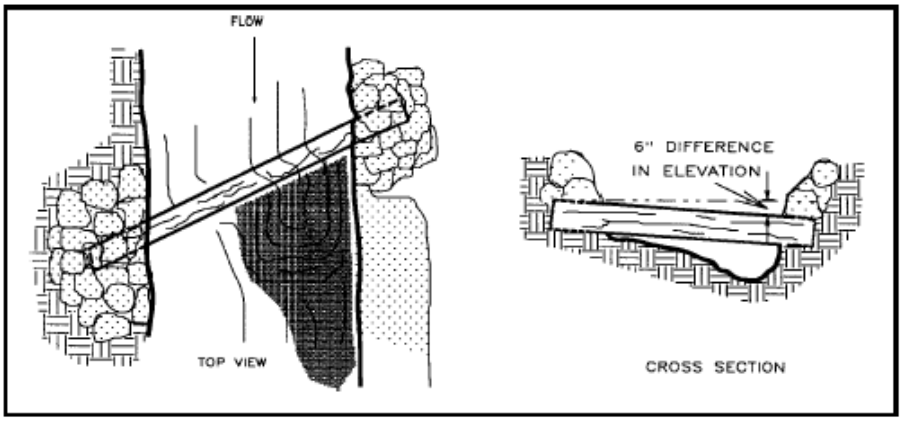


Figure VII-29. Diagonal log weir.

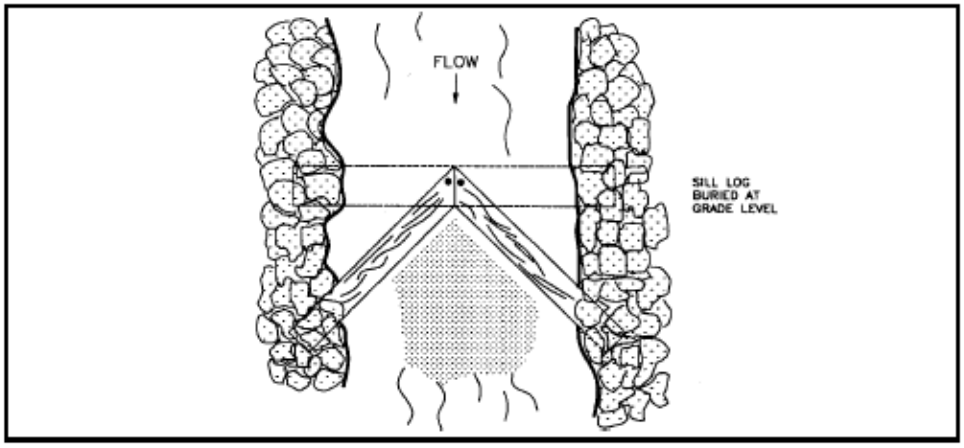


Figure VII-30. Upstream-V log weir.

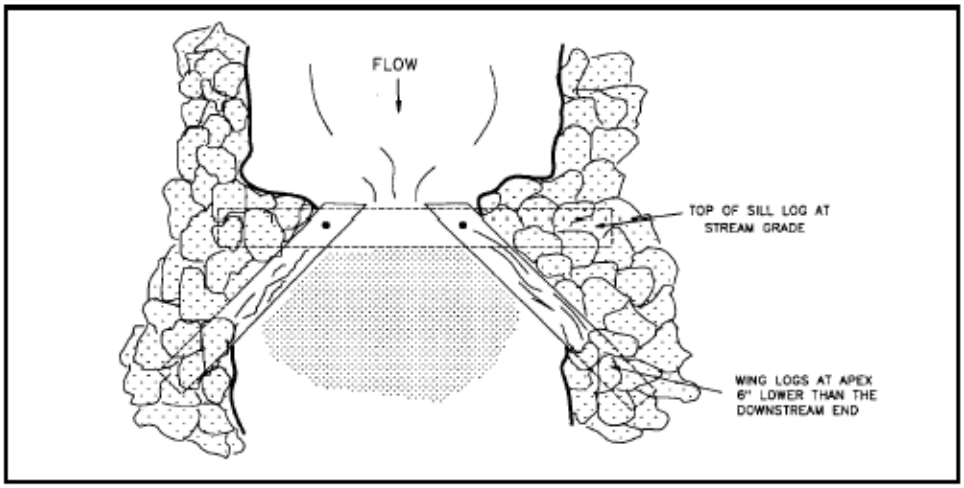


Figure VII-31. Upstream-V log weir with a low-flow notch.

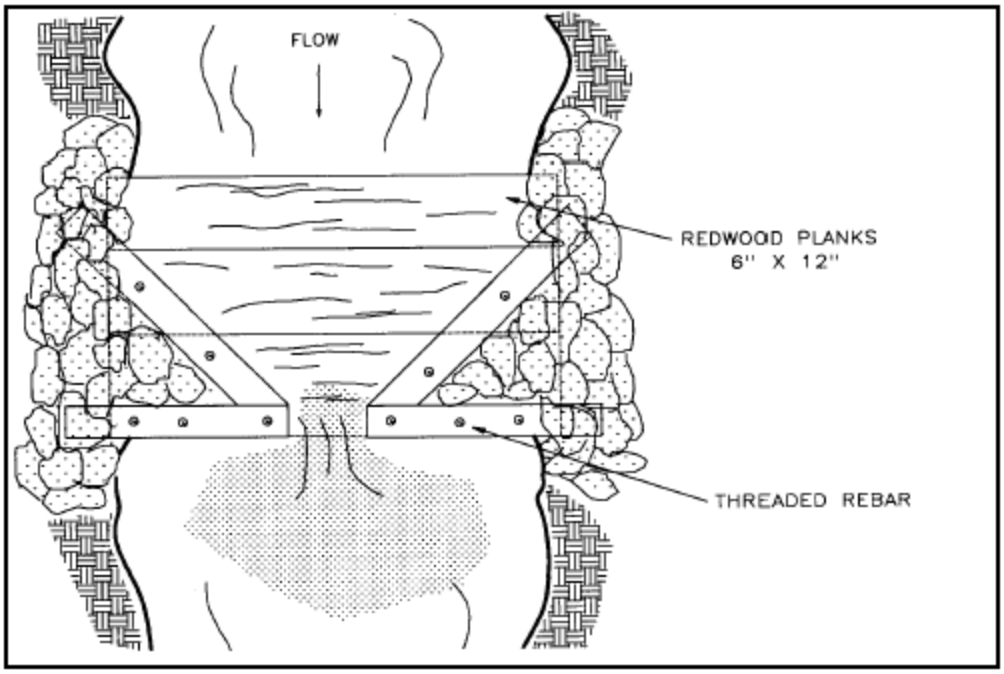


Figure VII-33. Log constrictors over planks.

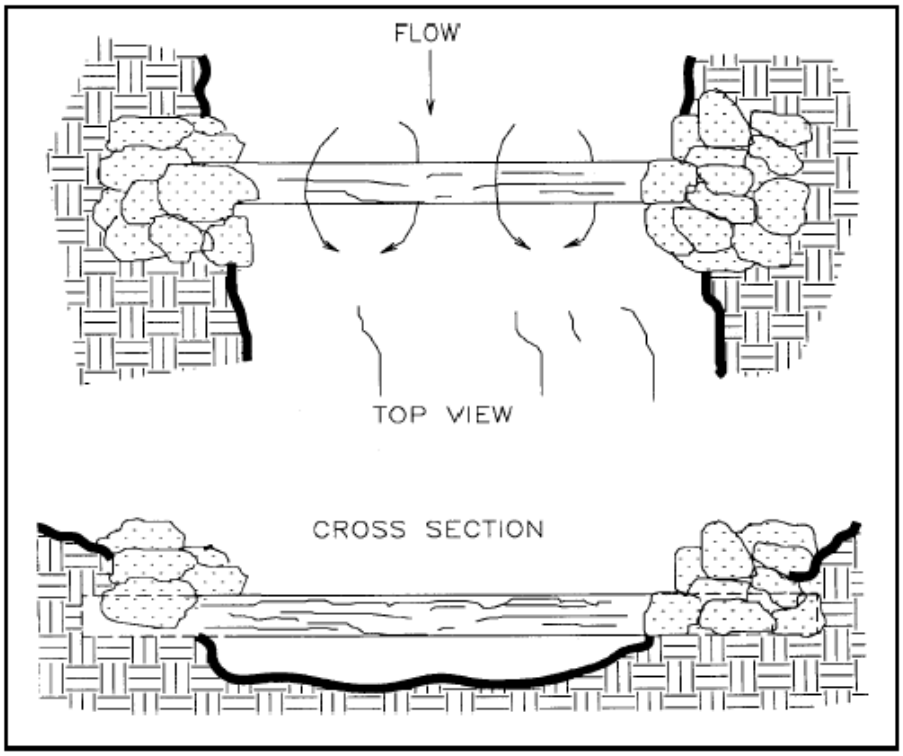


Figure VII-34. Upsurge weir.

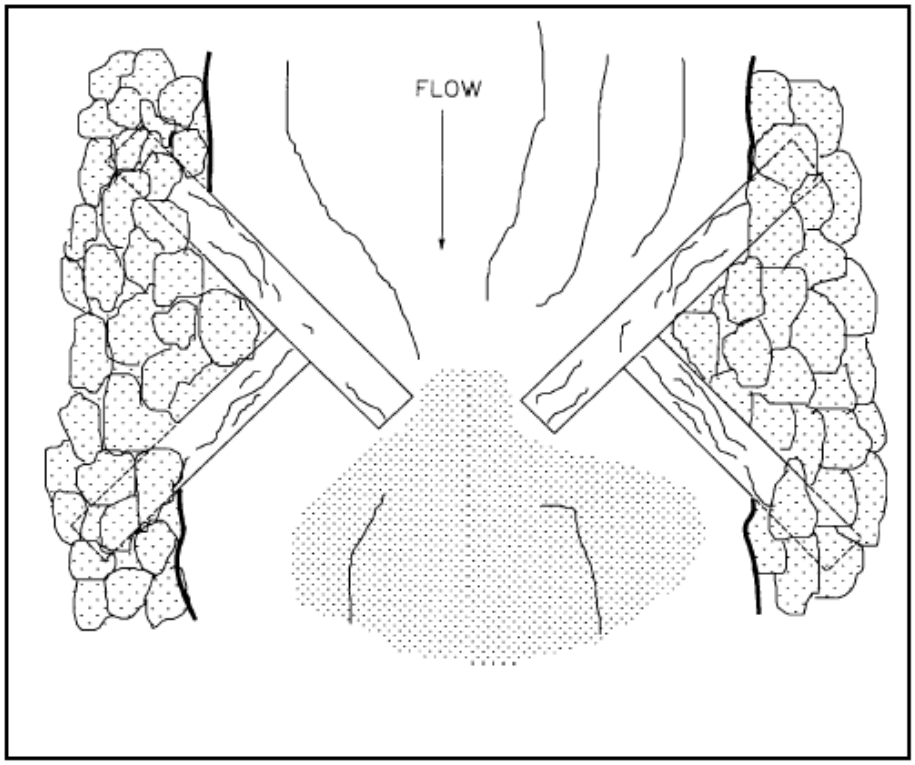


Figure VII-35. Opposing log wing-deflector.

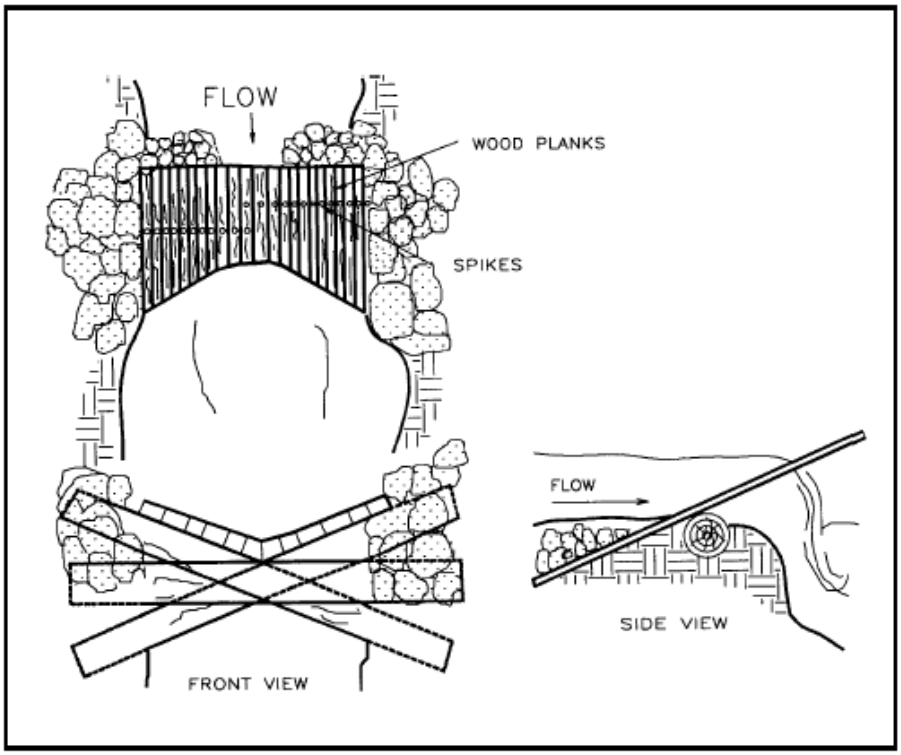


Figure VII-36. Hewitt ramp.

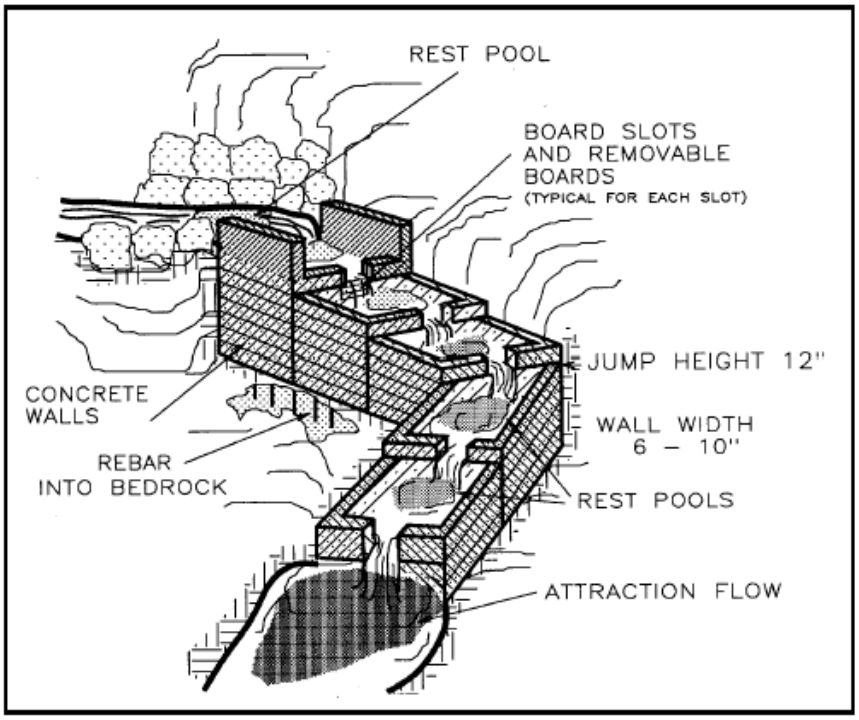
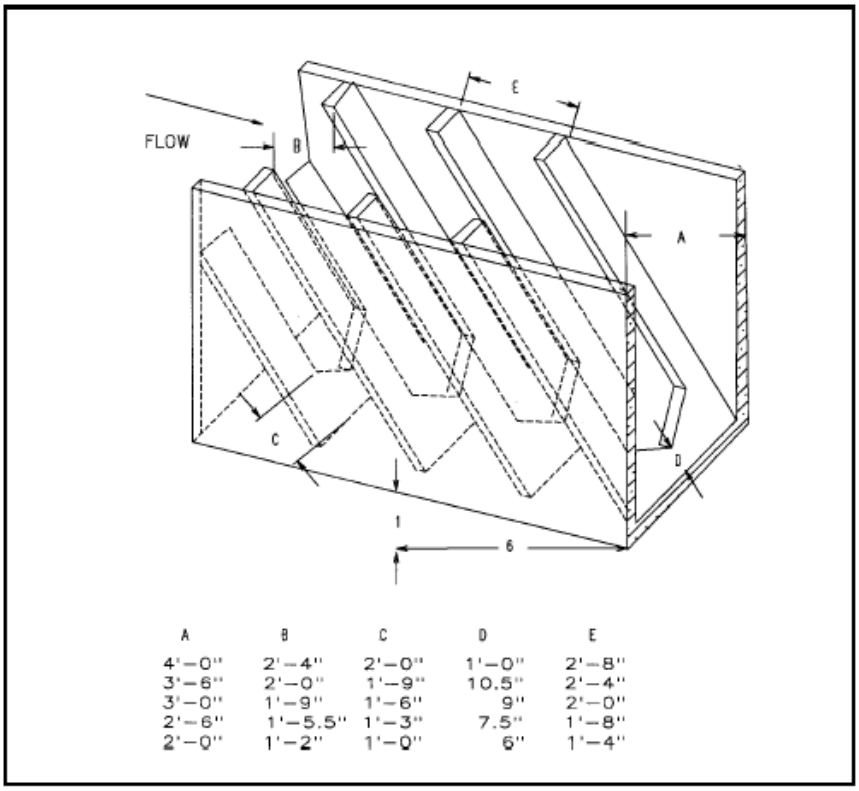


Figure VII-39. Step-and-pool fishway.



A	B	C	D	E
4'–0"	2'–4"	2'–0"	1'–0"	2'–8"
3'–6"	2'–0"	1'–9"	10.5"	2'–4"
3'–0"	1'–9"	1'–6"	9"	2'–0"
2'–6"	1'–5.5"	1'–3"	7.5"	1'–8"
2'–0"	1'–2"	1'–0"	6"	1'–4"

Figure VII-40. Denil fishway.

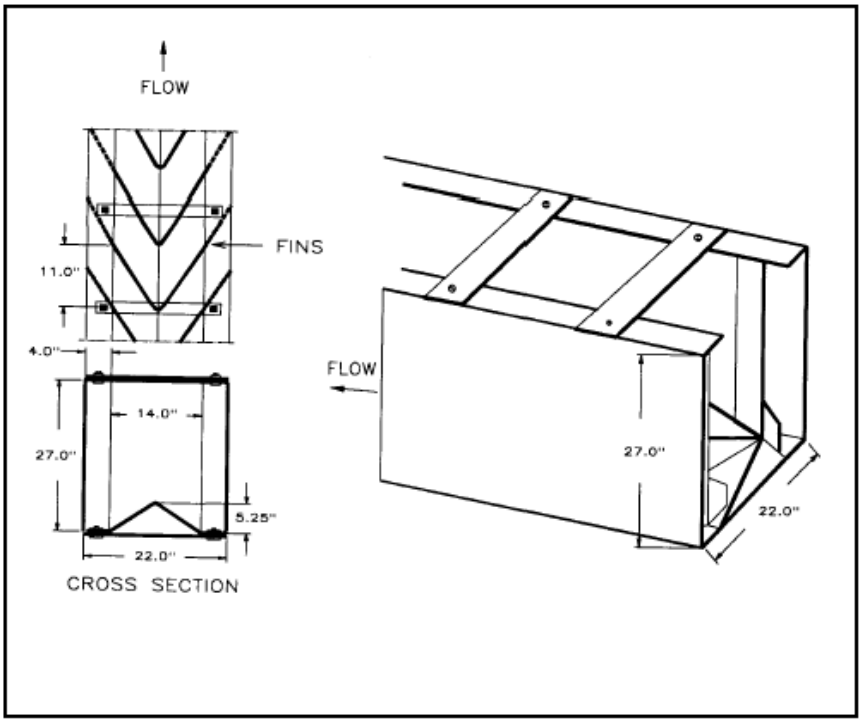


Figure VII-41. Alaskan steep-pass.

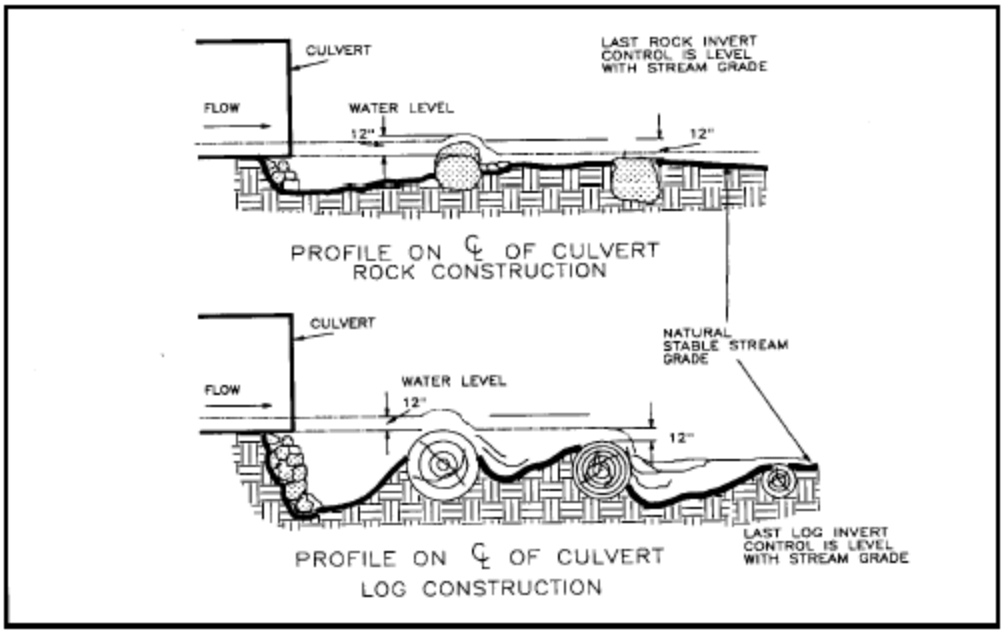


Figure VII-42. Back-flooding weirs.

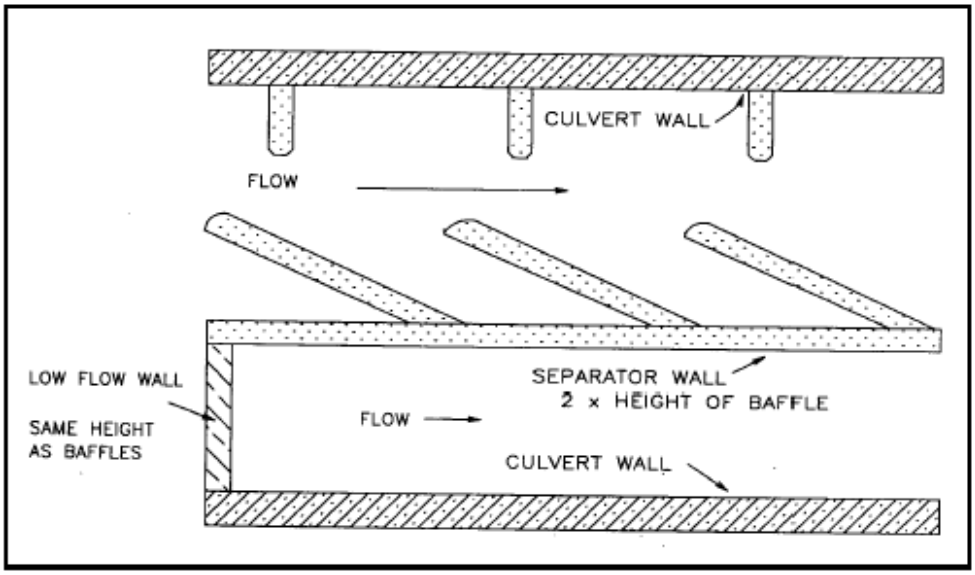


Figure VII-43. Washington baffles with a separator wall. (*Stream Enhancement Guide*, British Columbia Ministry of Environment, 1980, p. 42).

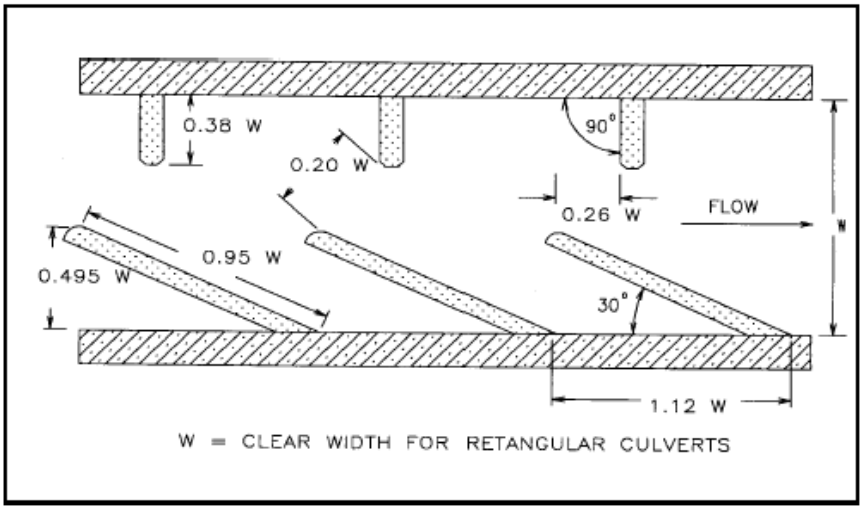


Figure VII-44. Washington baffles. (*Stream Enhancement Guide*, British Columbia Ministry of Environment, 1980, p.42).

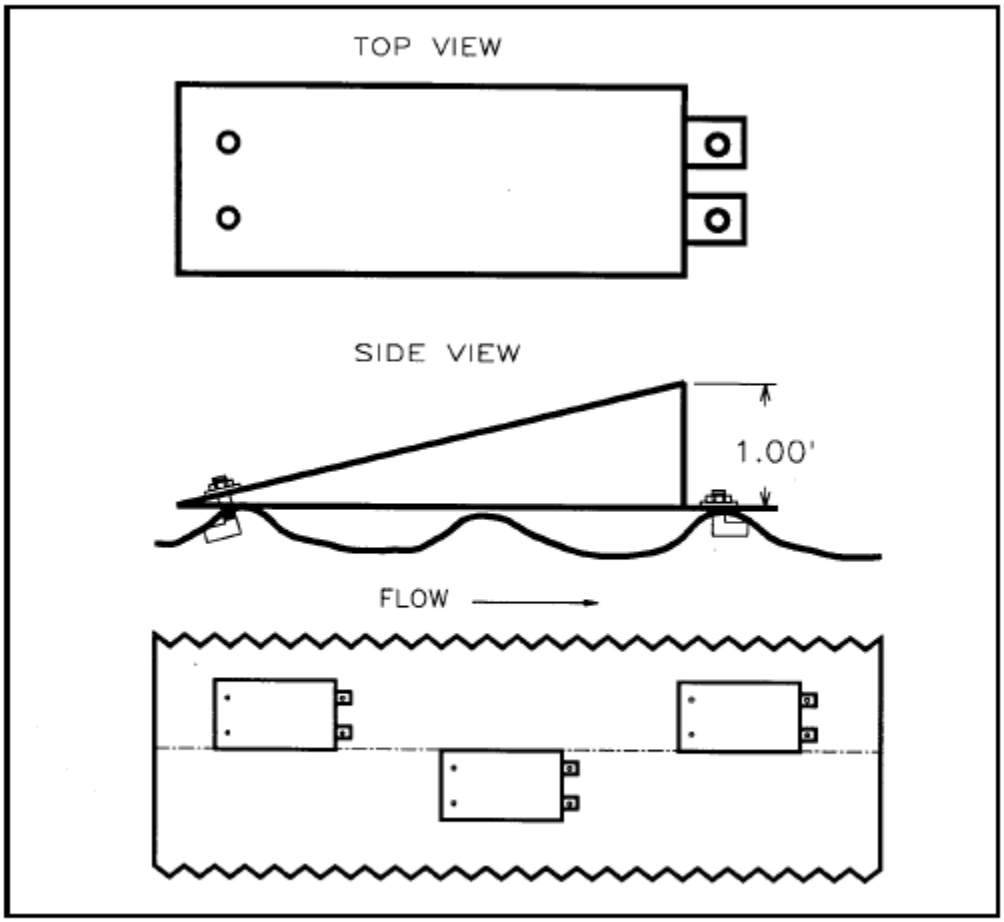


Figure VII-47. Corrugated metal pipe steel ramp baffles.

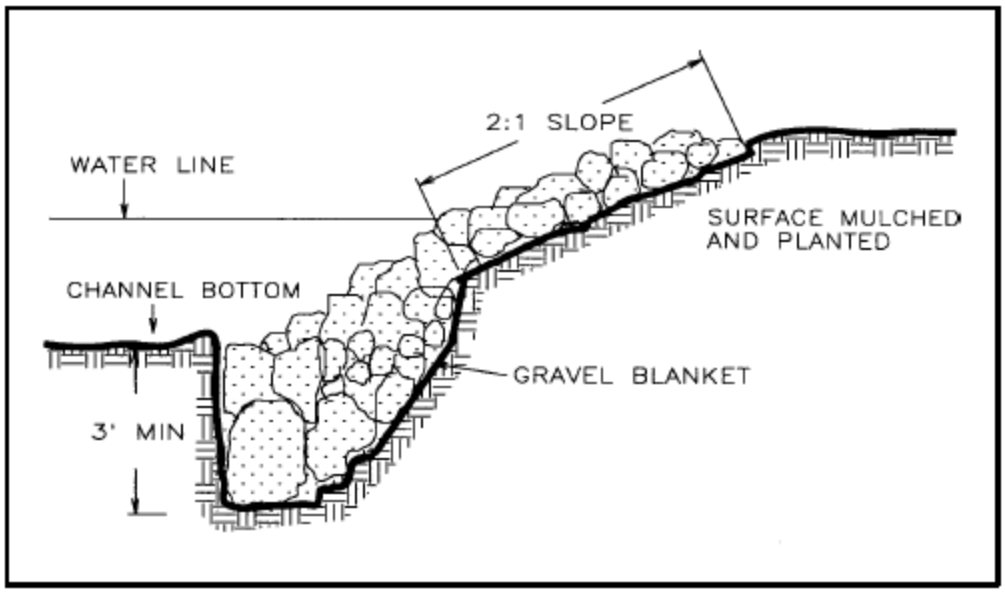


Figure VII-48. Riprap.

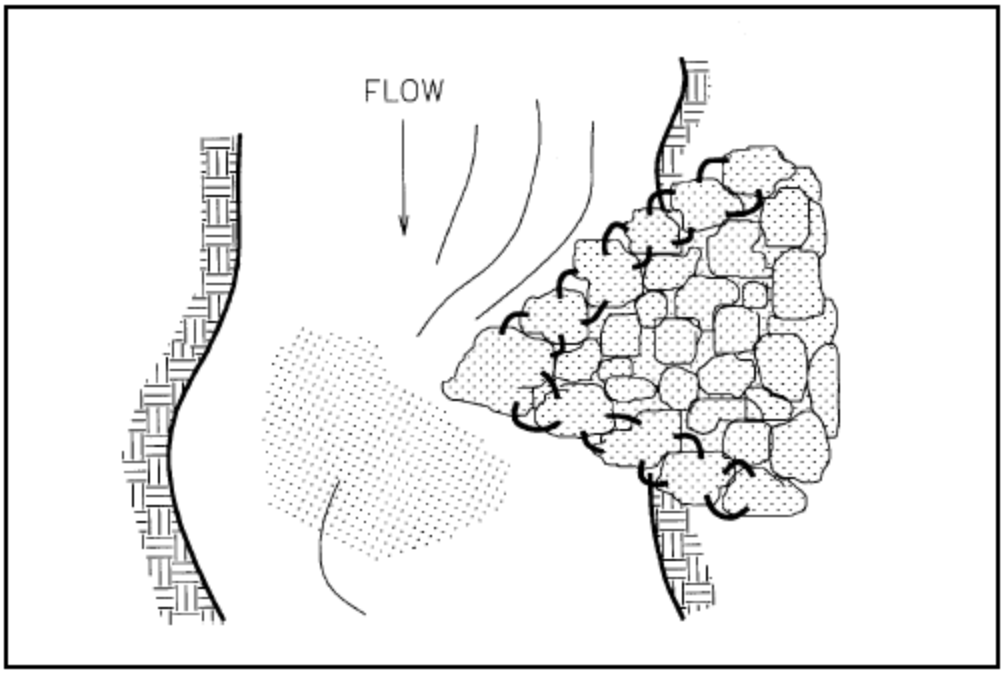


Figure VII-49. Boulder wing-deflector.

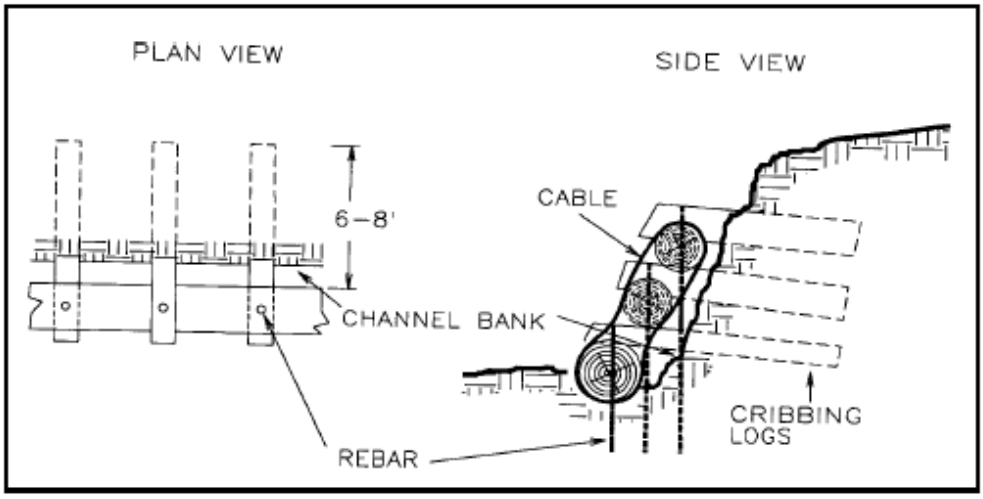
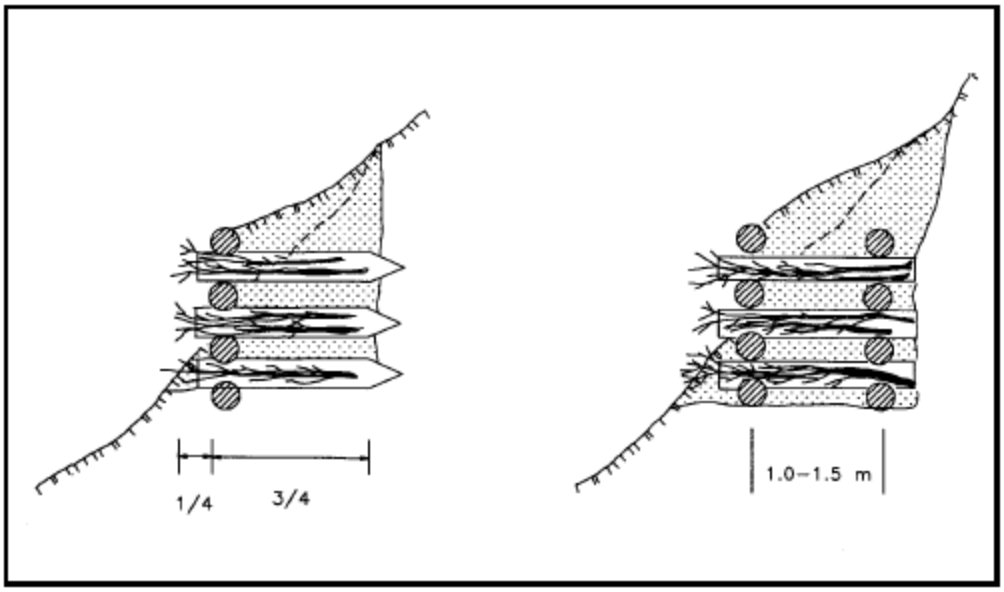


Figure VII-50. Log cribbing.



FigureVII-51. Live Vegetated Crib Wall (Schiechtl and Stern, 1996)

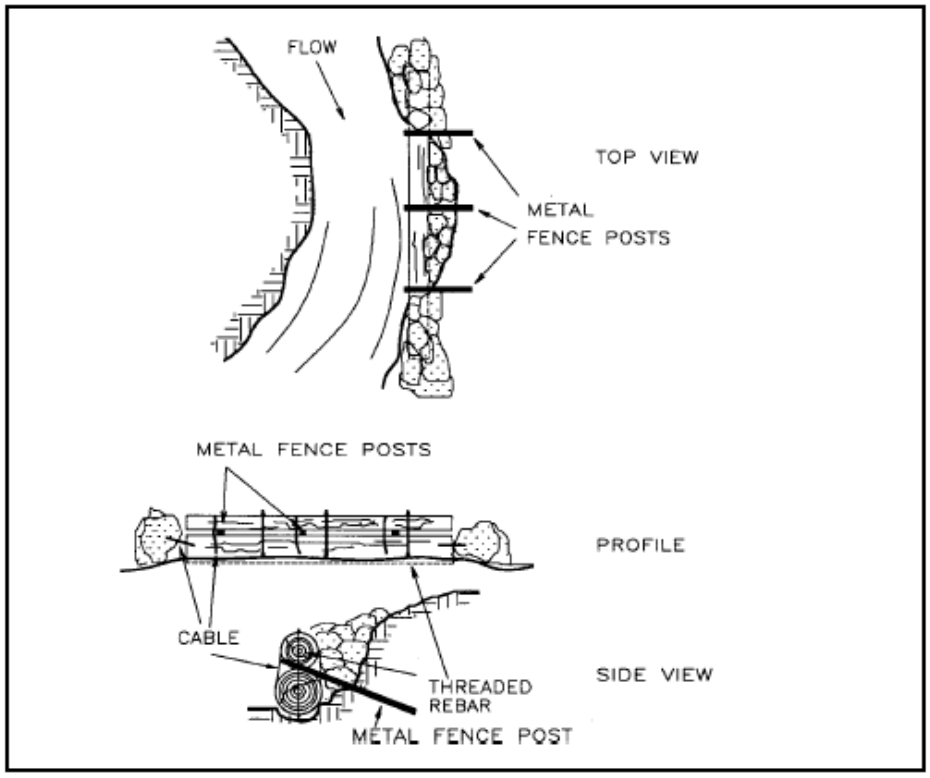


Figure VII-52. Log bank armor.

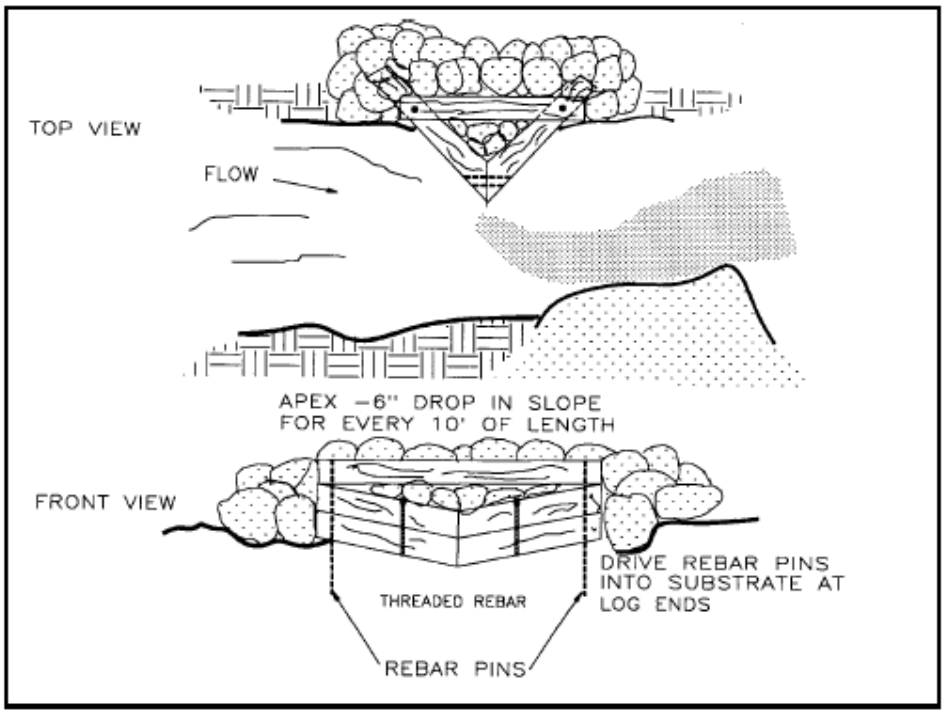


Figure VII-53. Log wing-deflector.

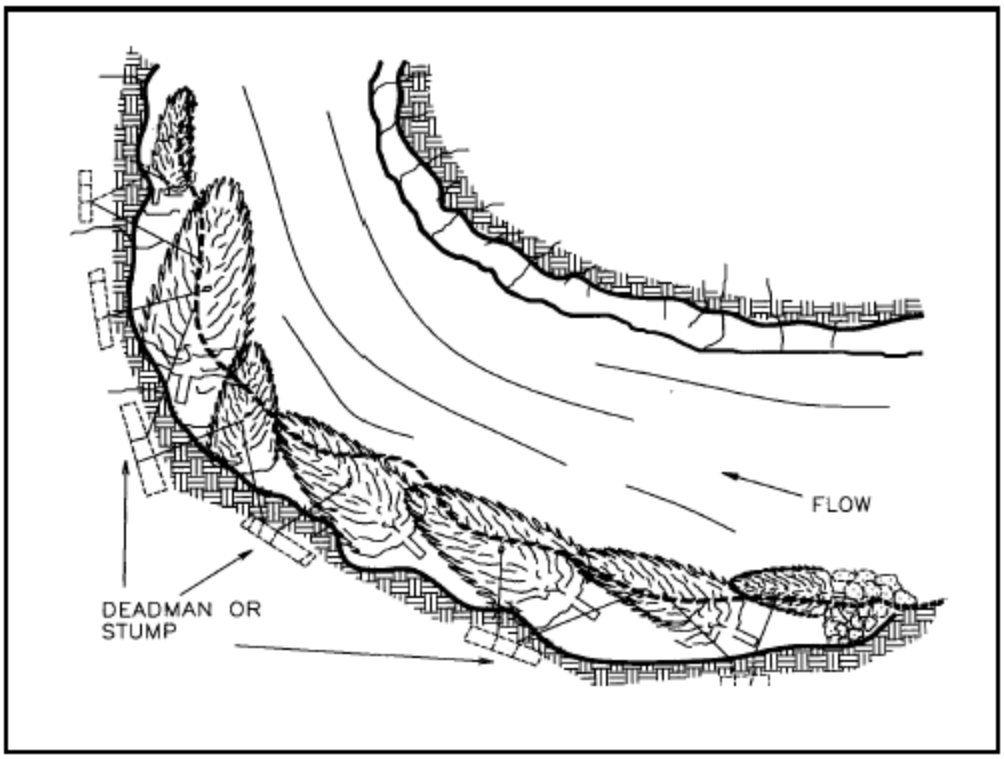


Figure VII-54. Tree revetment.

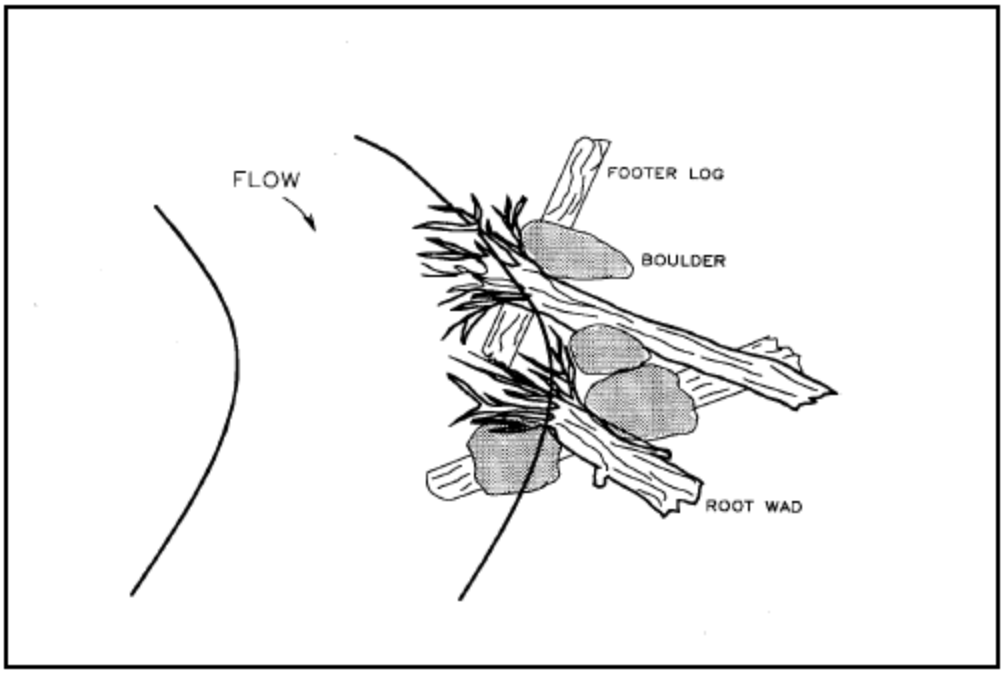


Figure VII-55. Plan view of native material revetment (Rosgen, 1993)

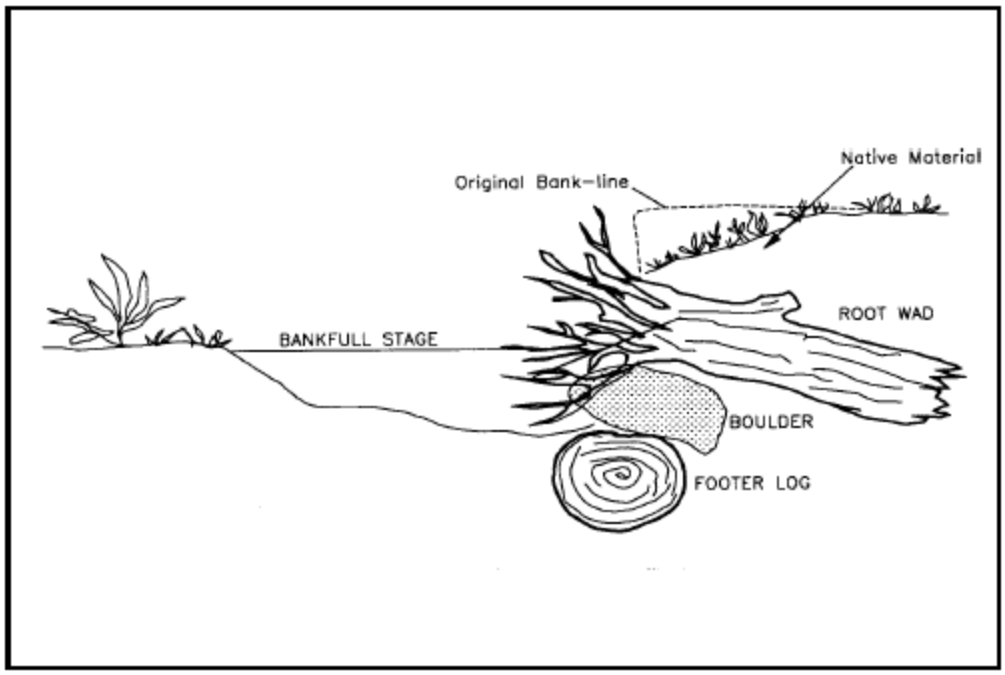


Figure VII-56. Native material revetment (Rosgen, 1993).

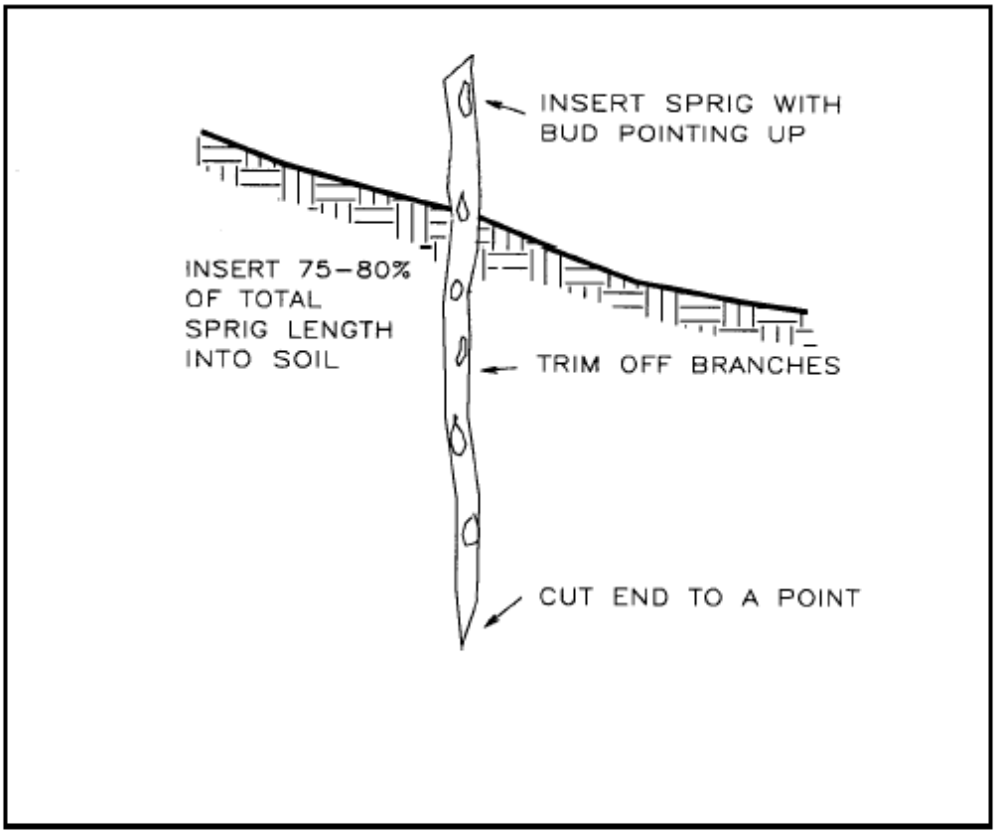


Figure VII-57. Willow sprigging. (Prunuske, 1987).

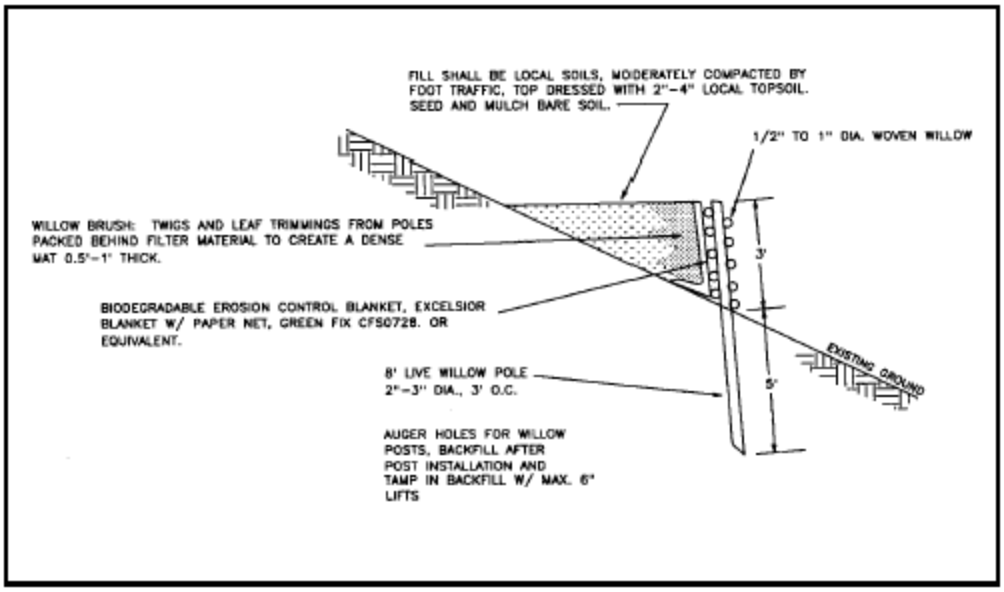


Figure VII-58. Willow Wall Revetment (L. Prunuske, 1997)

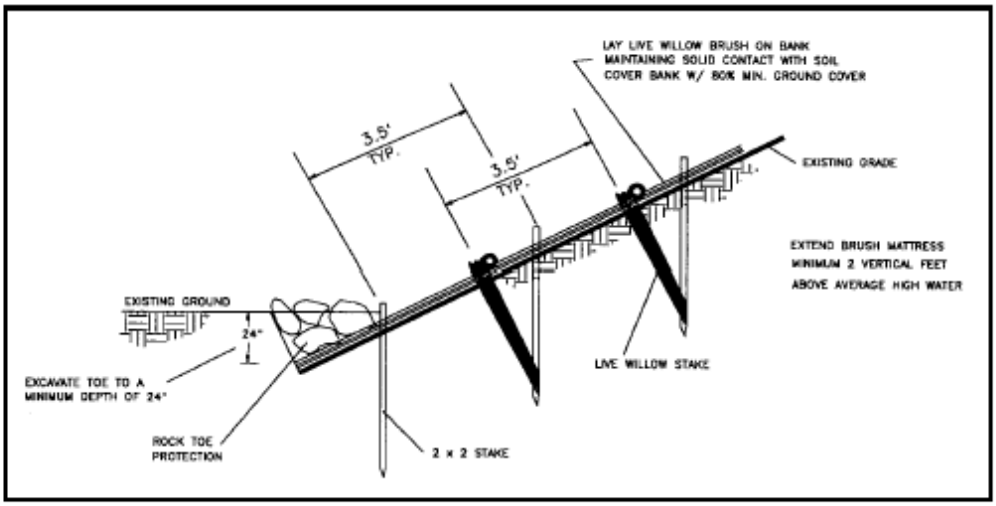


Figure VII-60. Brusch Mattress Cross Section (L. Prunuske, 1997)

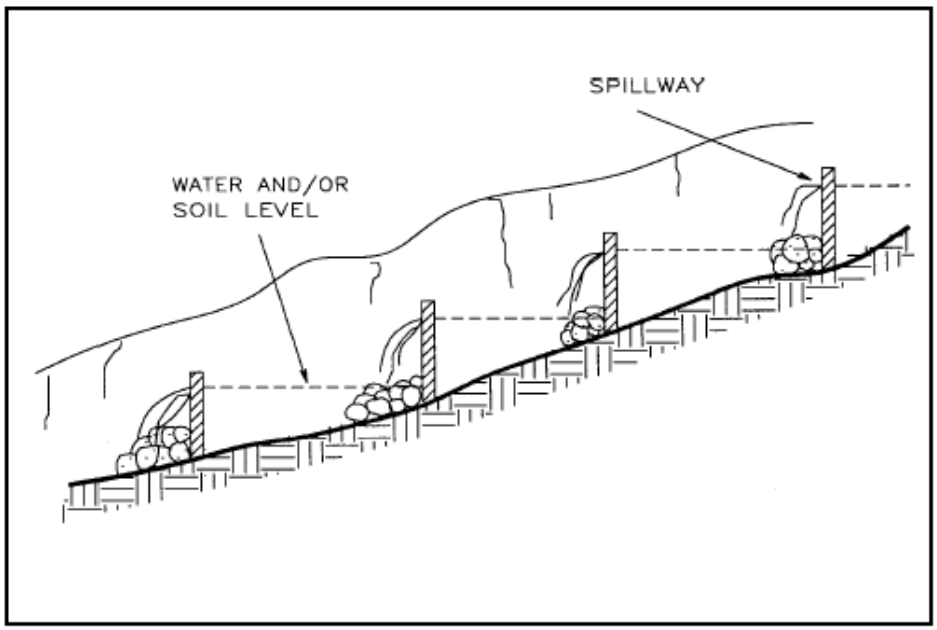


Figure VII-67. Checkdam placement. (Prunuske, 1987).

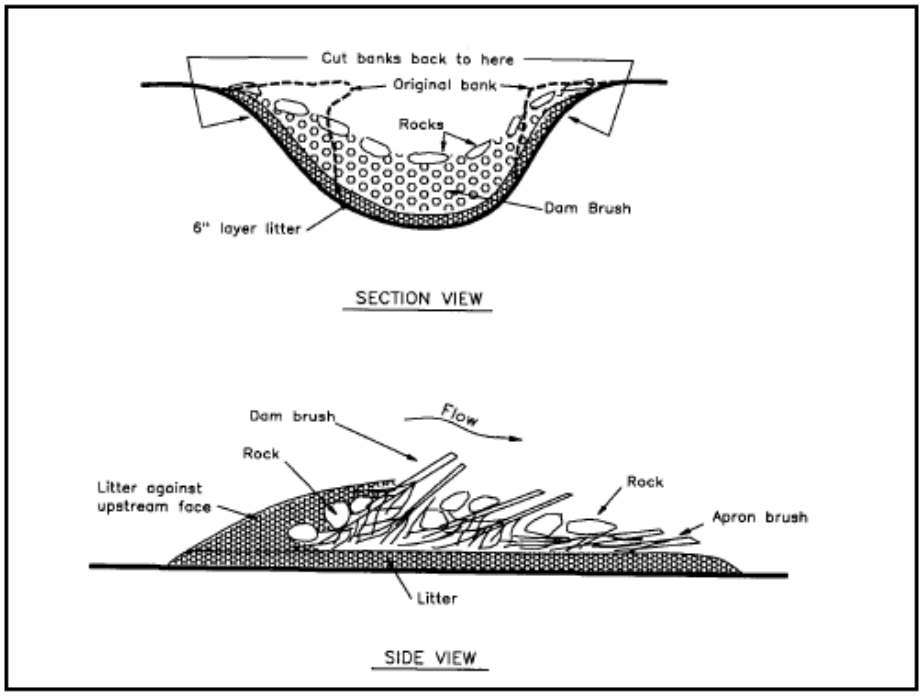


Figure VII-69. Brush and Rock Checkdam (Kraebel and Pillsbury, 1934)

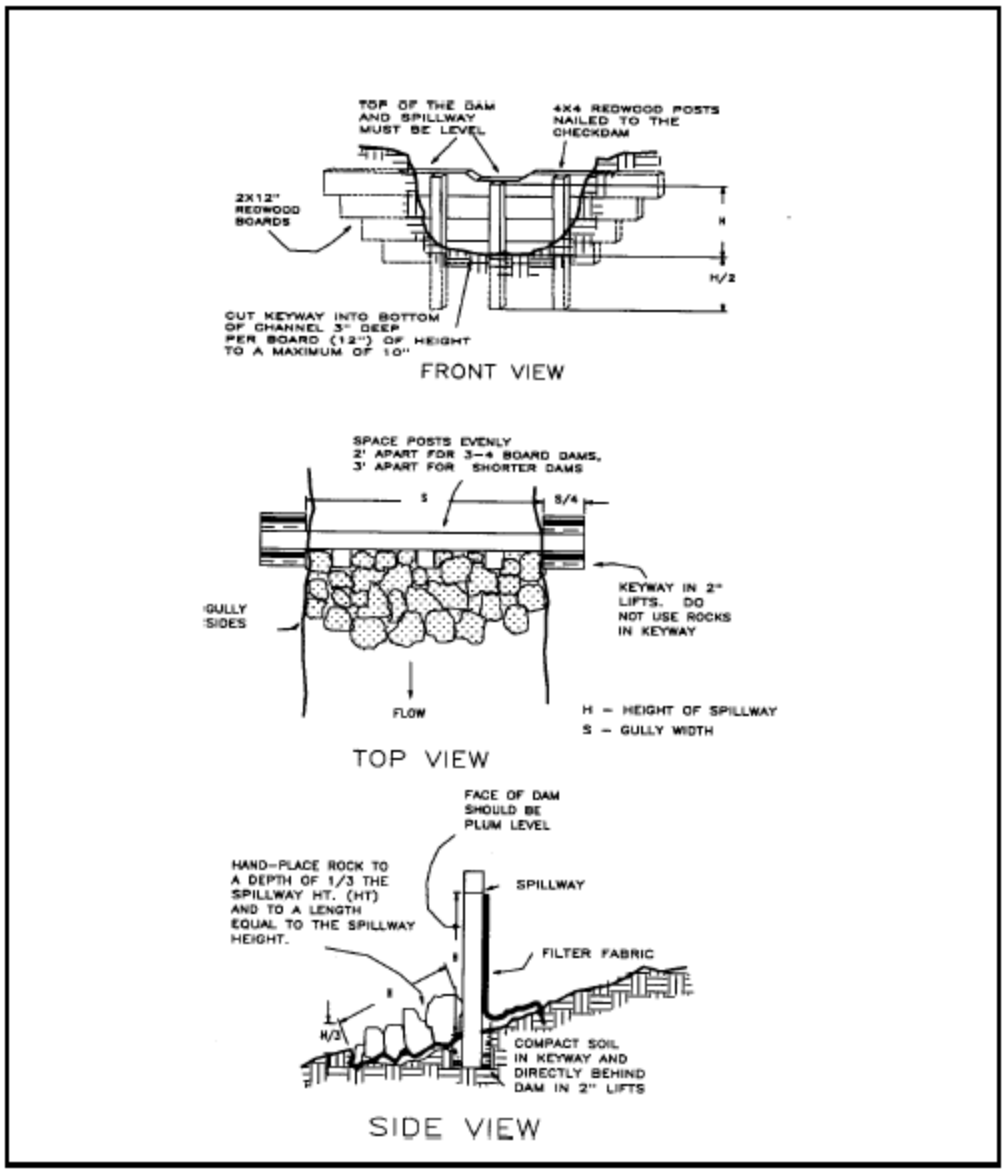


Figure VII-68. Redwood board checkdam. (Prunuske, 1987)

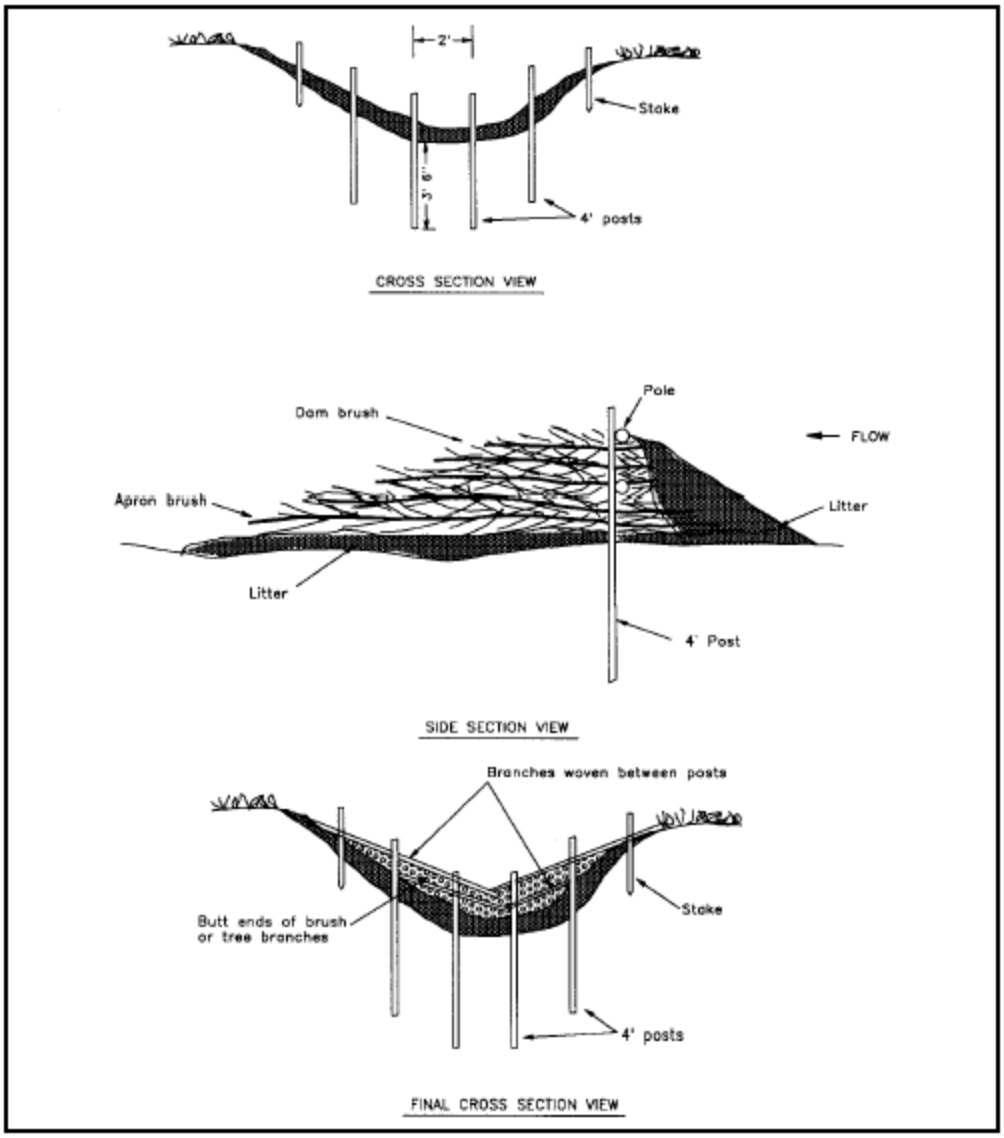


Figure VII-70. Post Checkdam (Kraebel and Pillsbury, 1934)

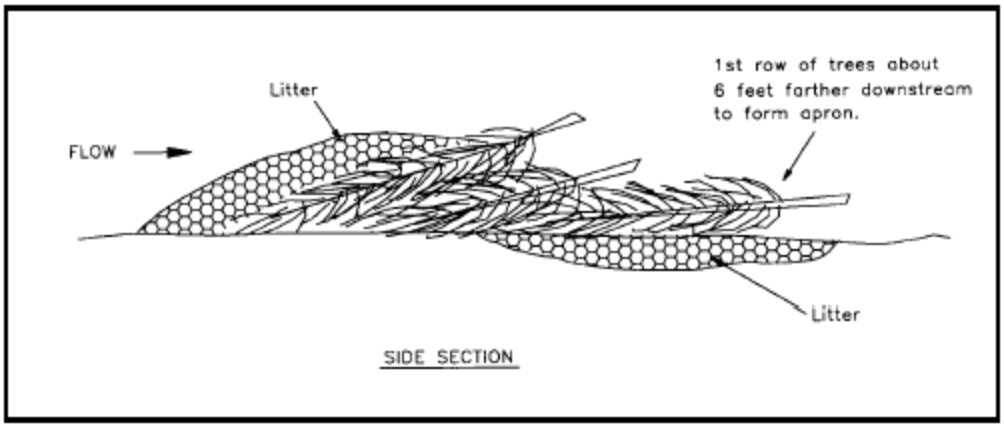


Figure VII-71. Tree Checkdam (Kraebel and Pillsbury, 1934)

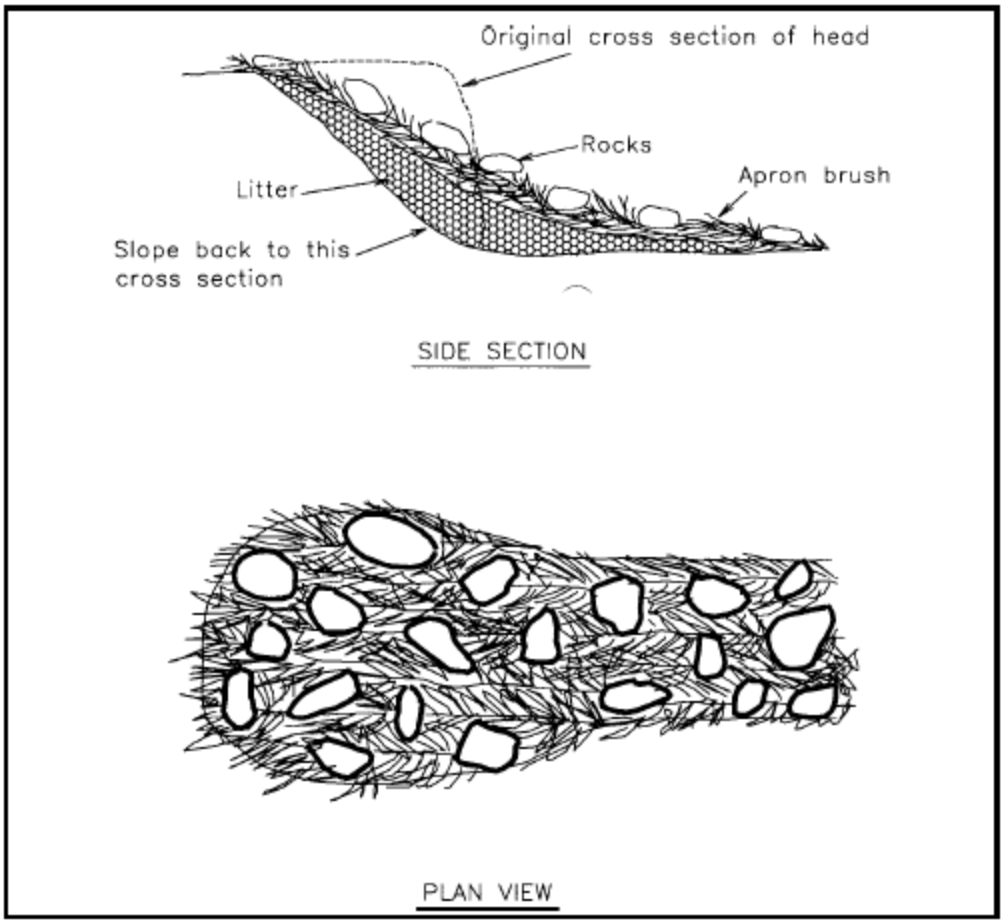


Figure VII-72. Brush and Rock Mattress (Kraebel and Pillsbury, 1934)

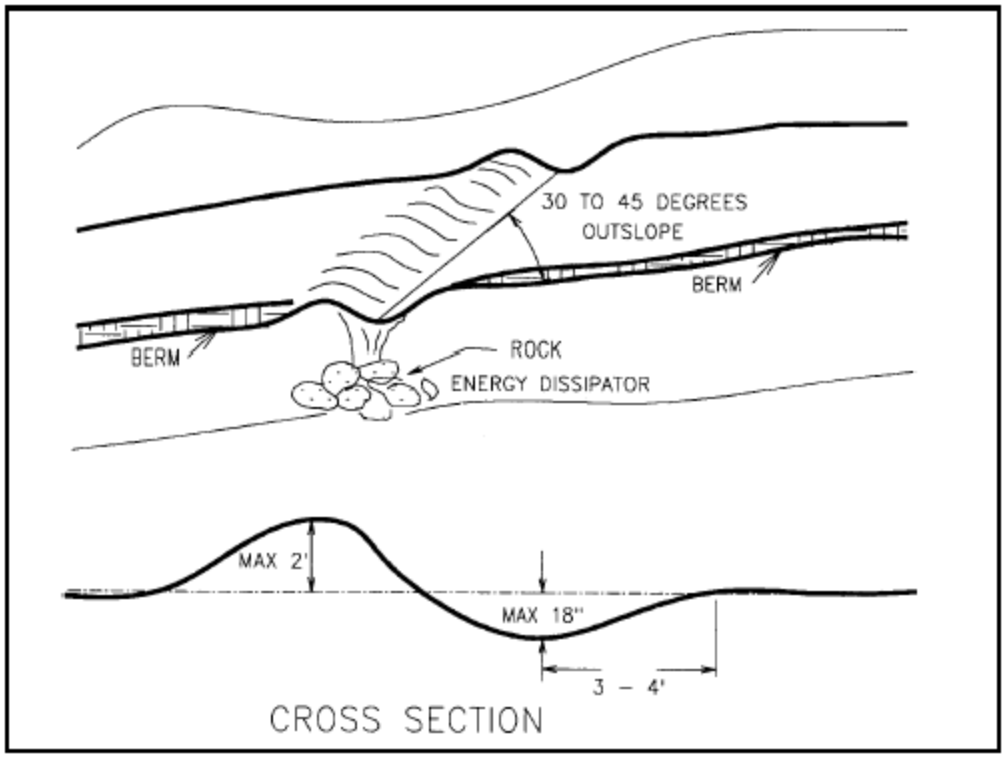


Figure VII-73. Waterbar.

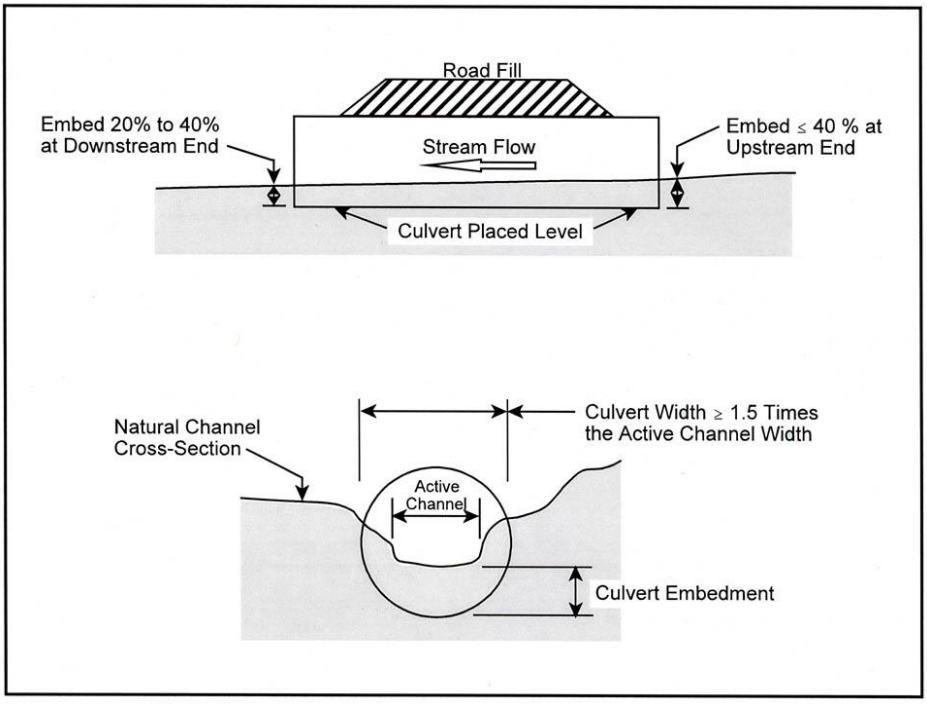


Figure IX-A-1. Active channel design option.

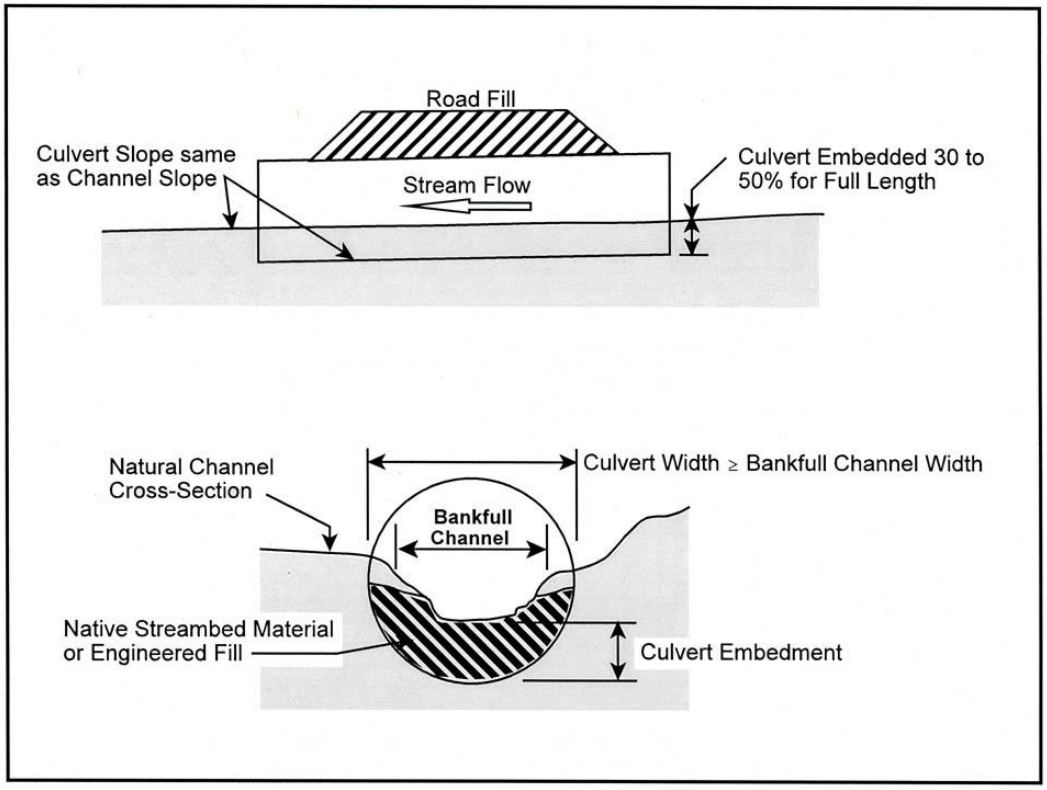


Figure IX-A- 2 Stream simulation design option.

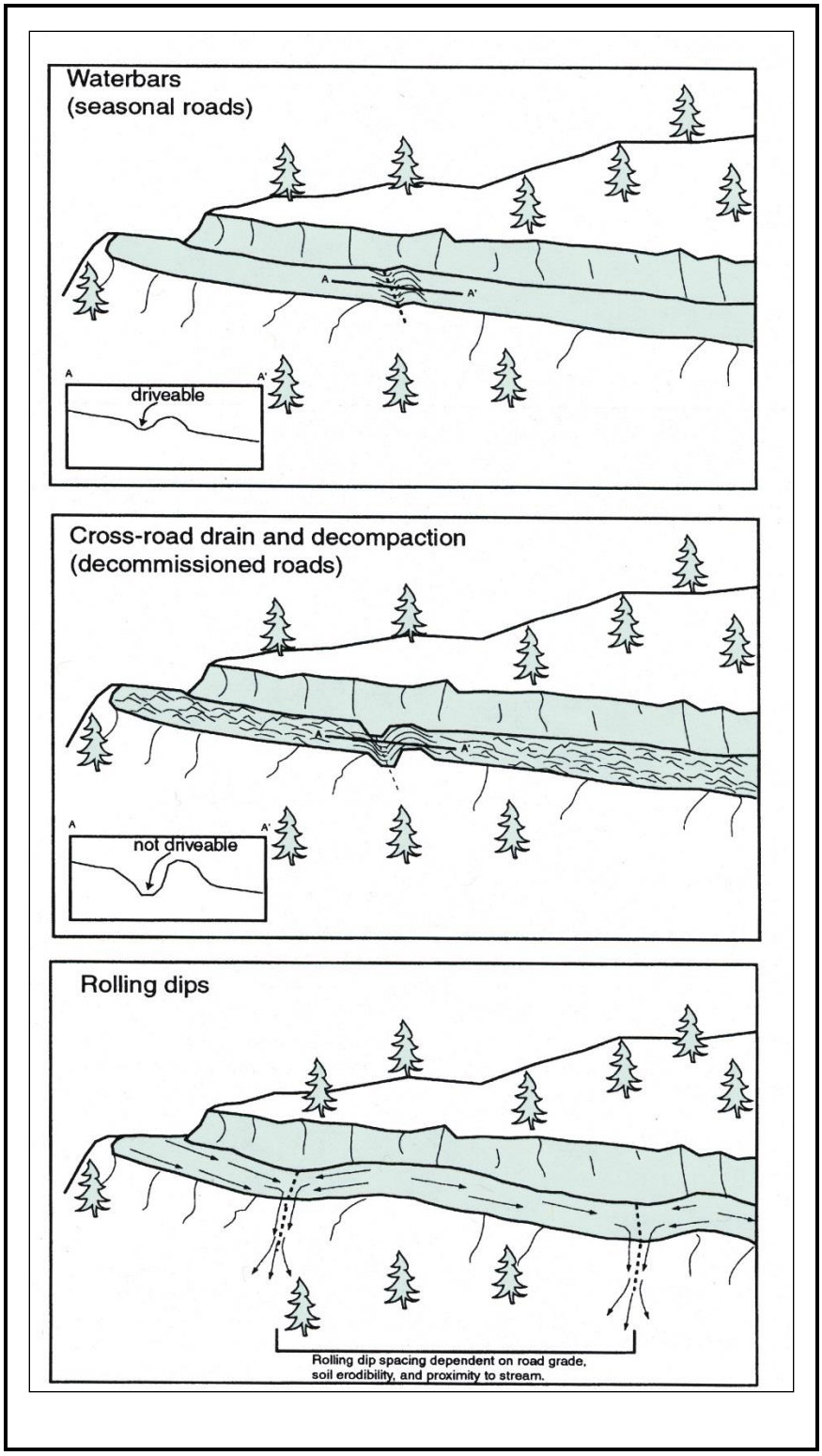


Figure X- 10. Techniques for dispersing road runoff.

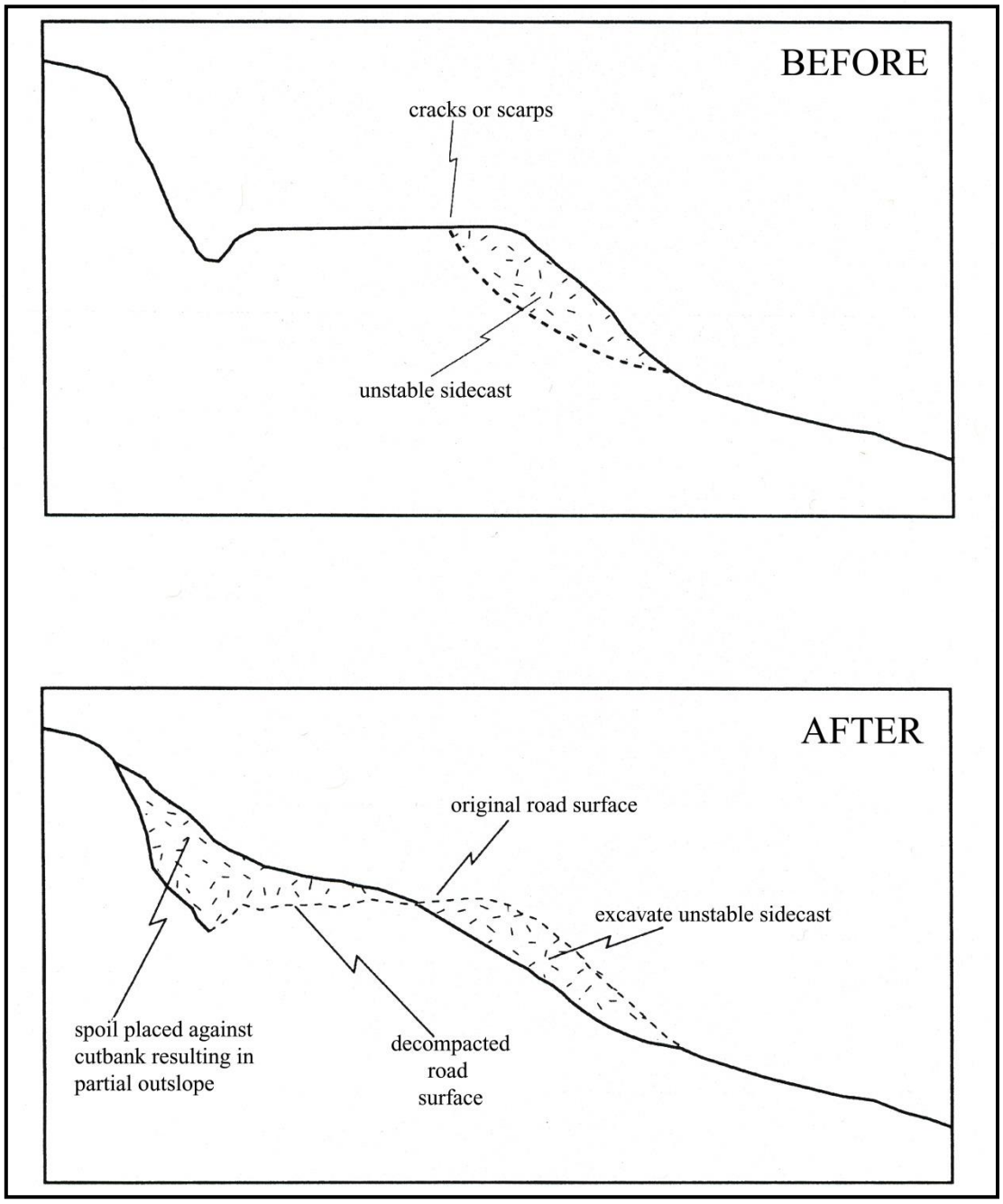


Figure X- 11. Partial outsloping for road decommissioning.

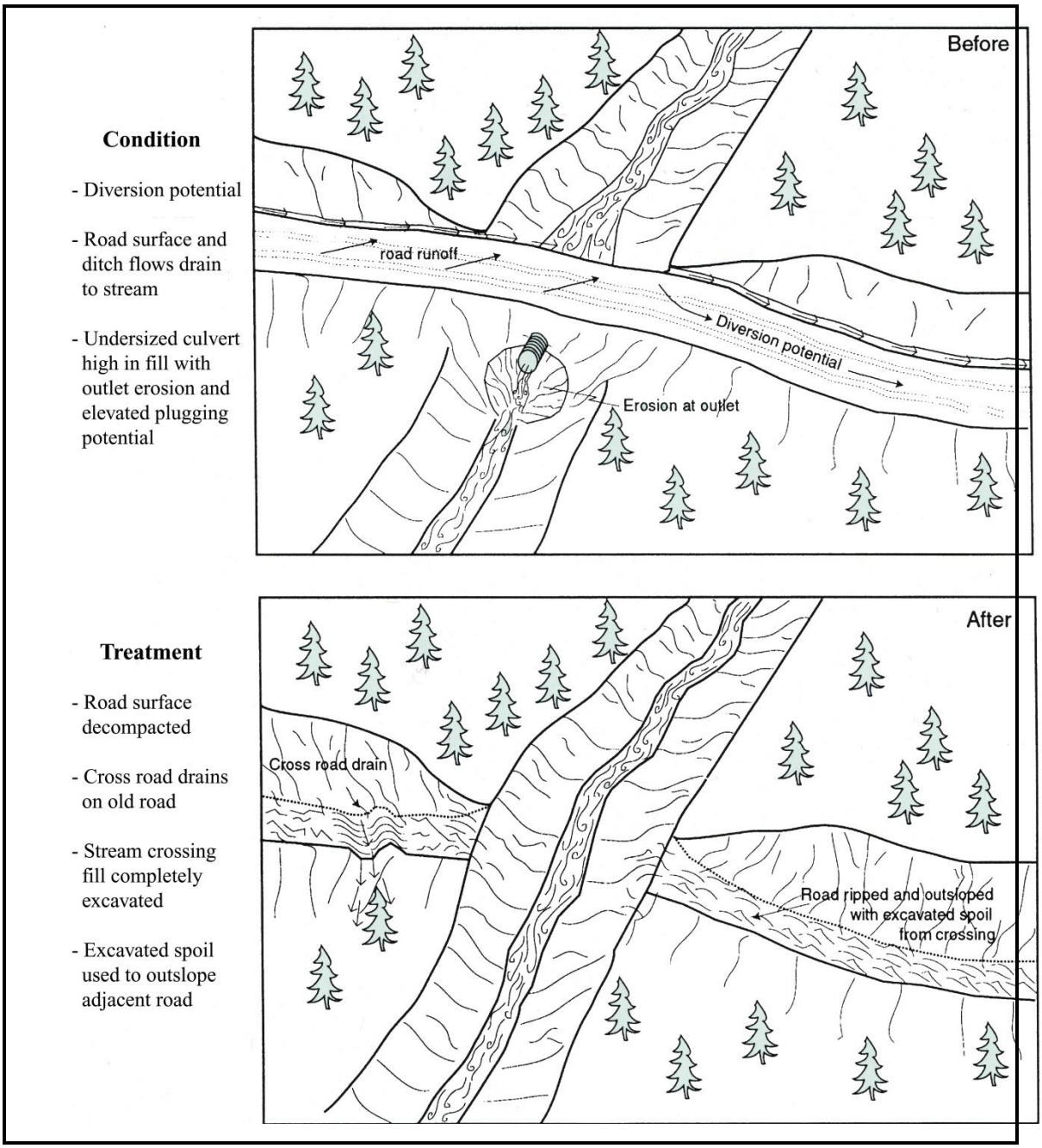


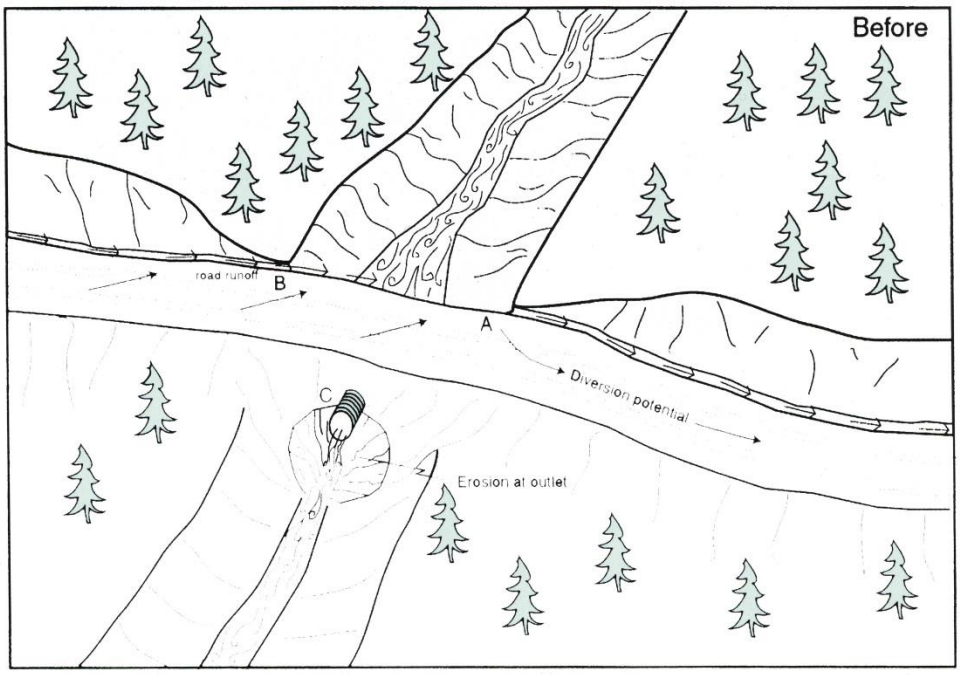
Figure X- 12. Typical stream crossing excavation on a decommissioned road.

Common Problems

A - Diversion potential

B - Road surface and ditch flows drain to stream

C - Undersized culvert high in fill with outlet erosion



General Standards

A - Road surface and ditch "disconnected" from stream

B - No diversion potential

C - 100 year culvert set at base of till

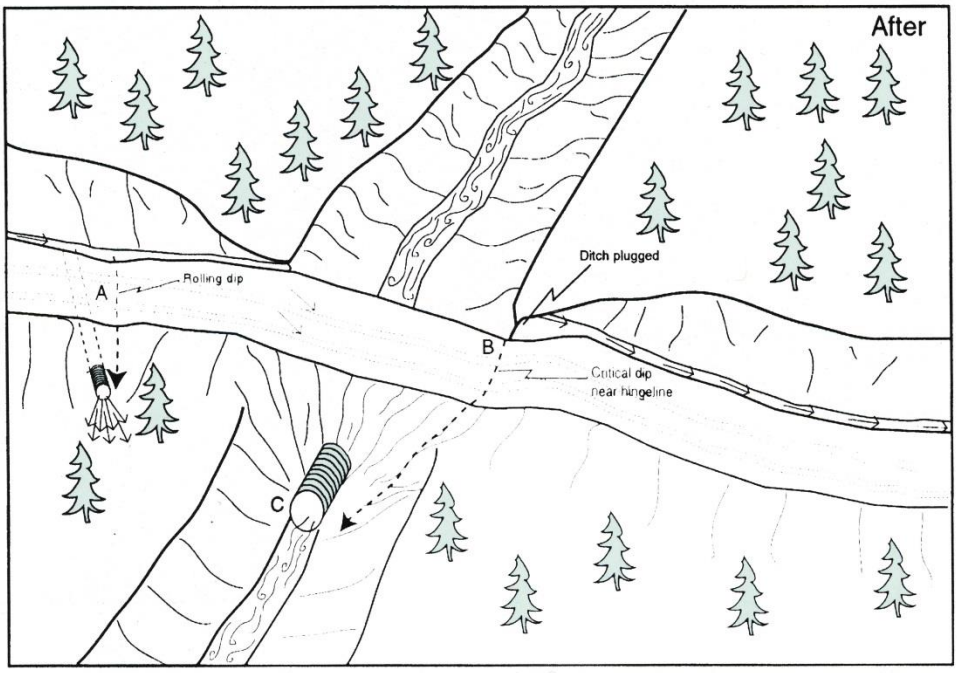


Figure X- 13. Typical upgraded stream crossing.

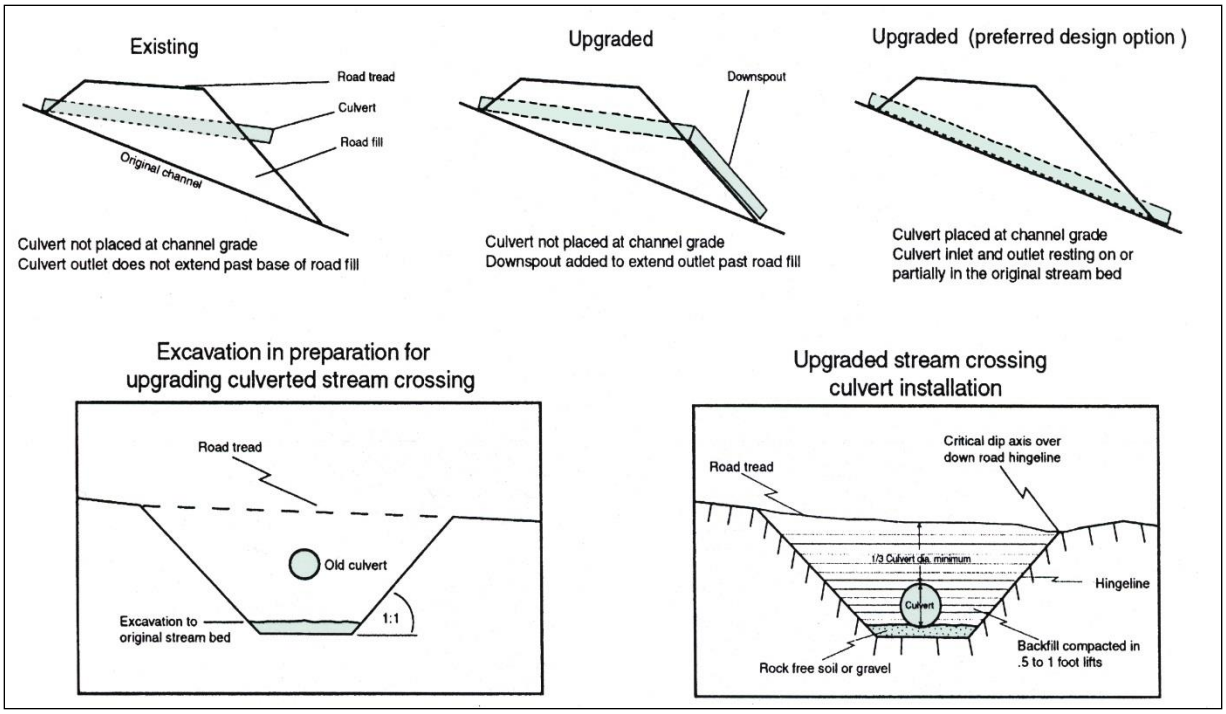


Figure X- 14. Typical culvert installation on non fish-bearing streams.

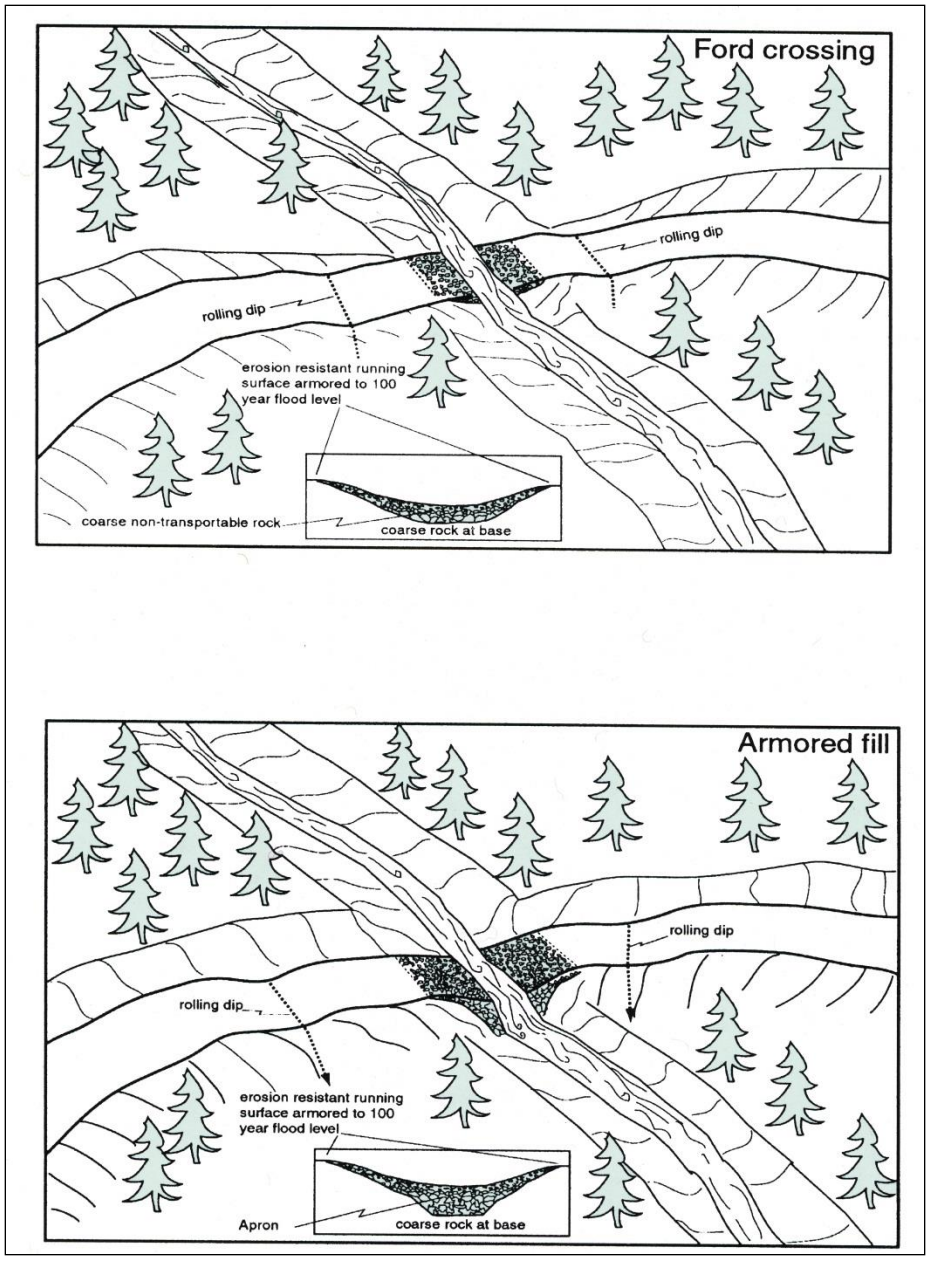


Figure X-15. Typical armored fill stream crossing.

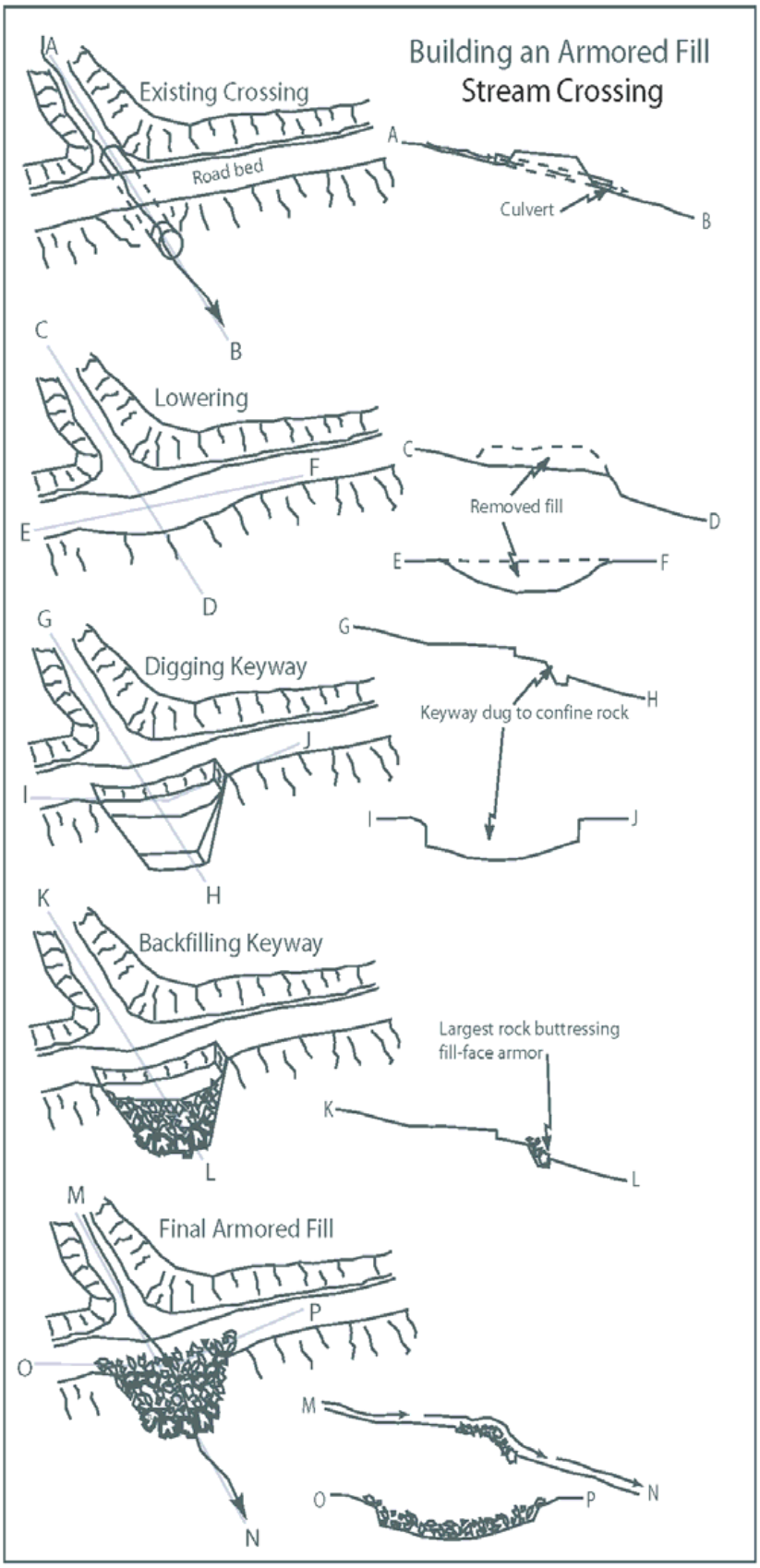


Figure X-16. Design elements of a typical armored fill crossing.

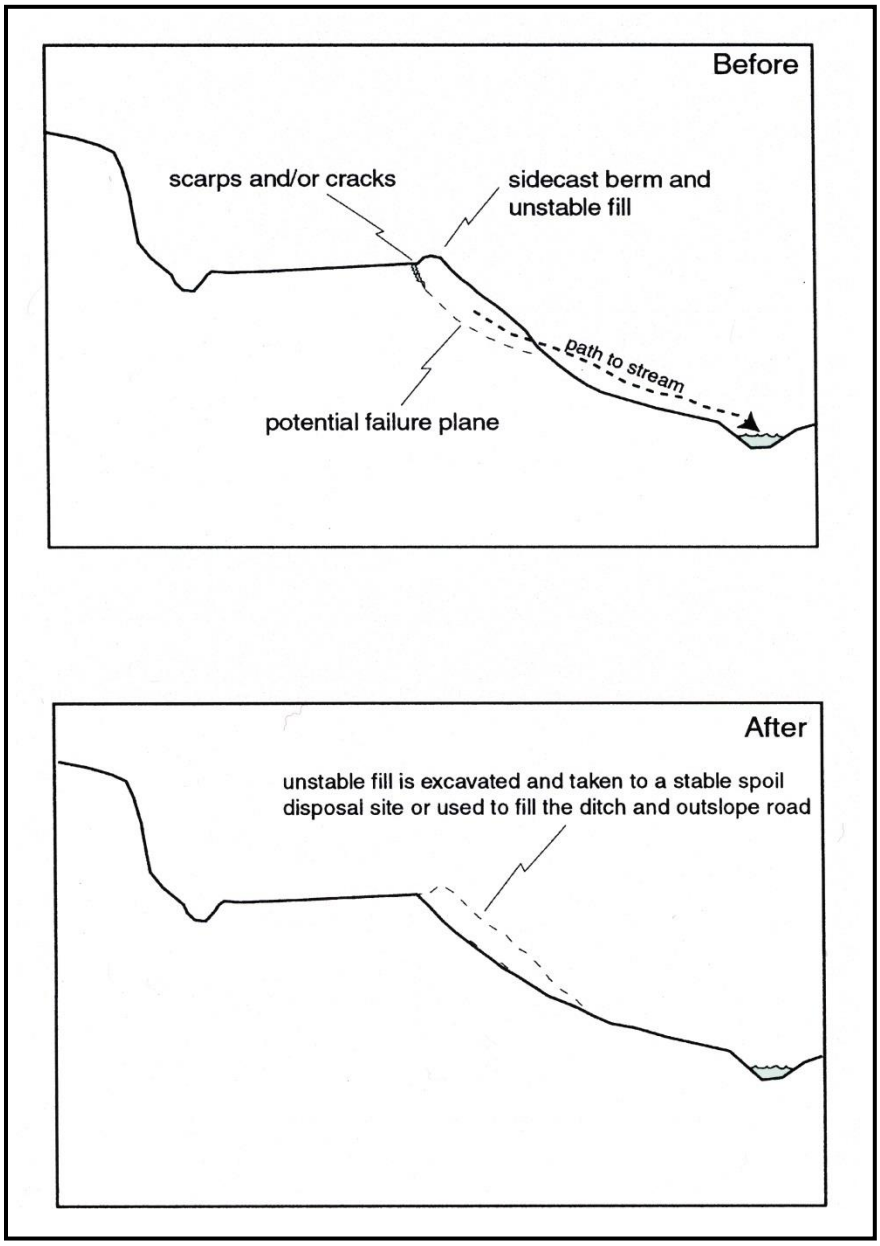


Figure X- 17. Removal of unstable sidecast materials.

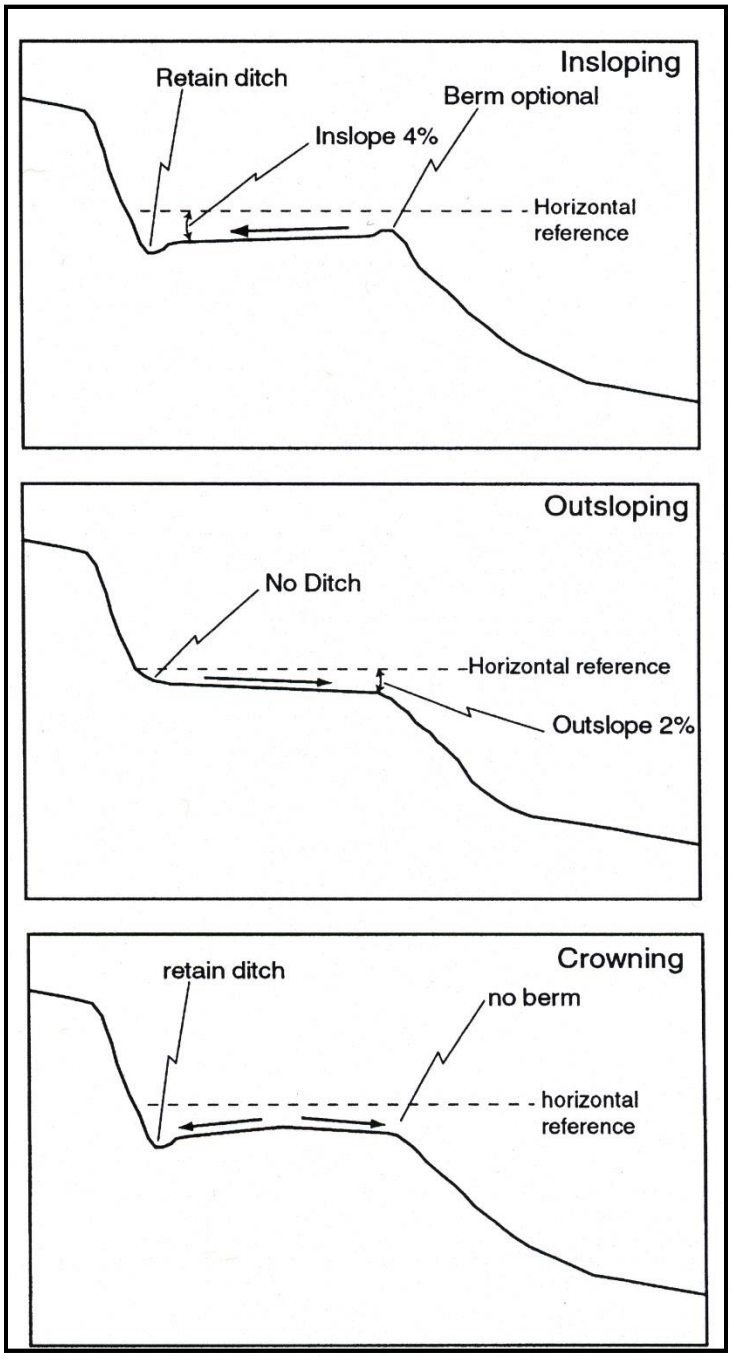


Figure X- 18. Utilizing road shape to reduce surface runoff rates.

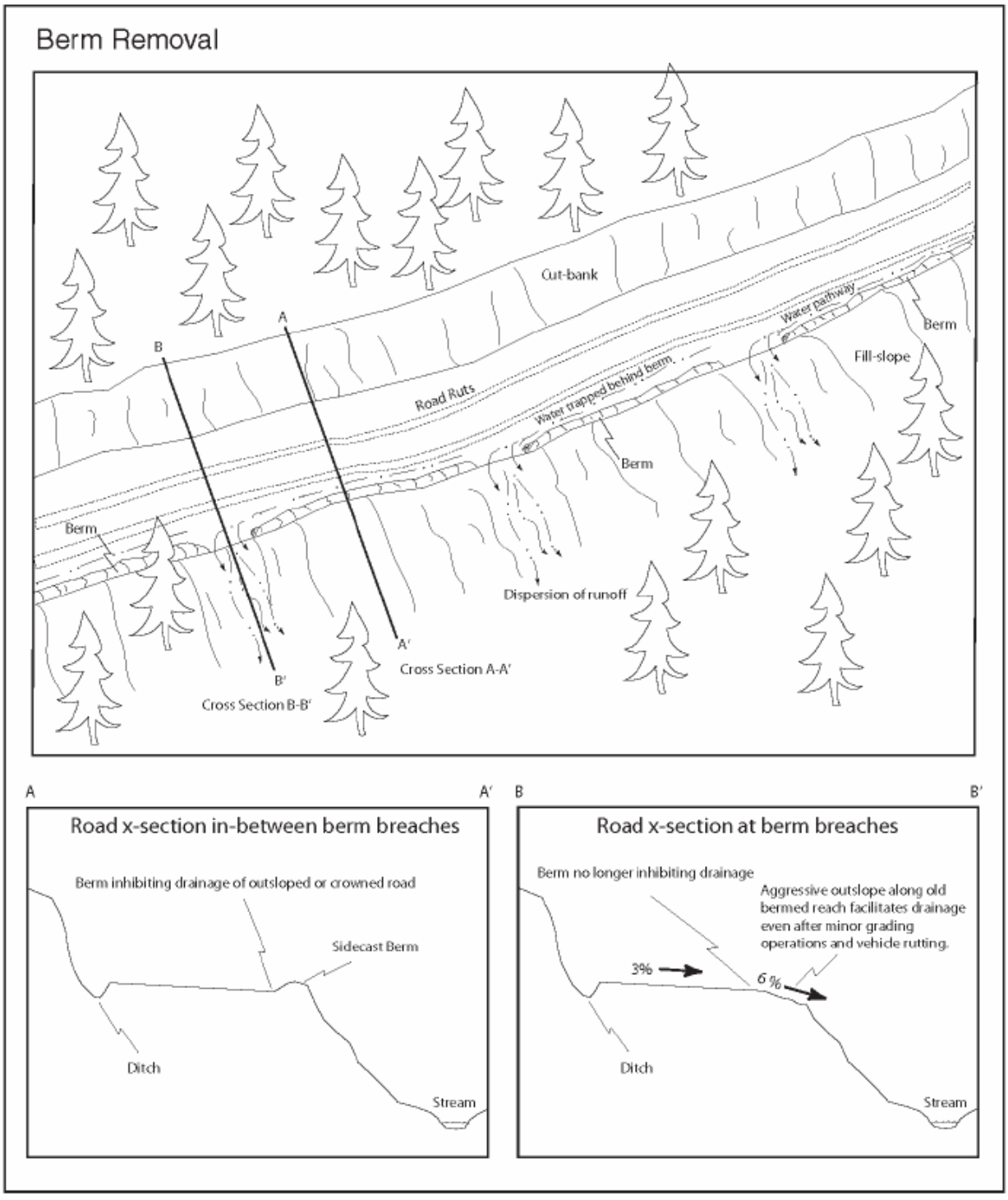


Figure X19. Berm removal for improved drainage on outsloped and crowned roads.

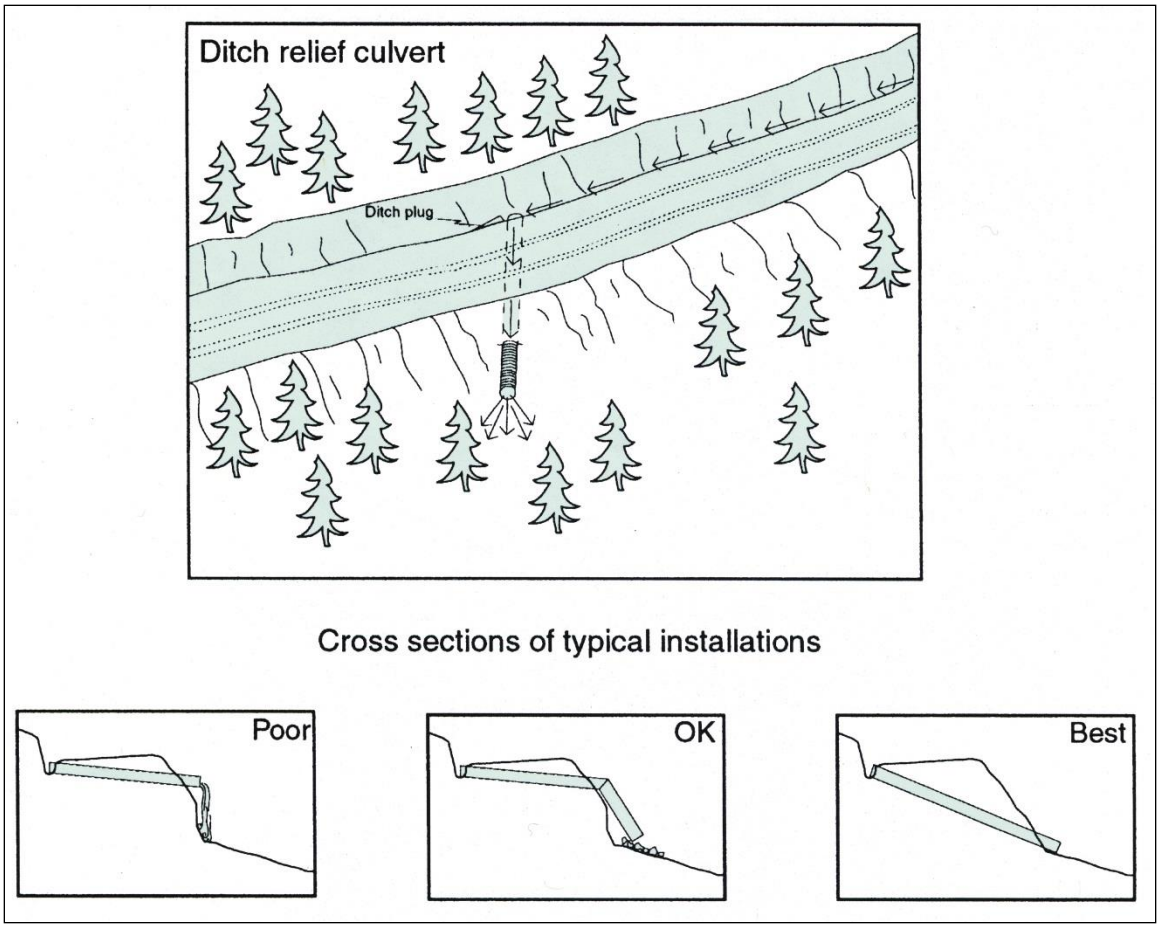


Figure X- 20. Typical ditch relief culvert installation.

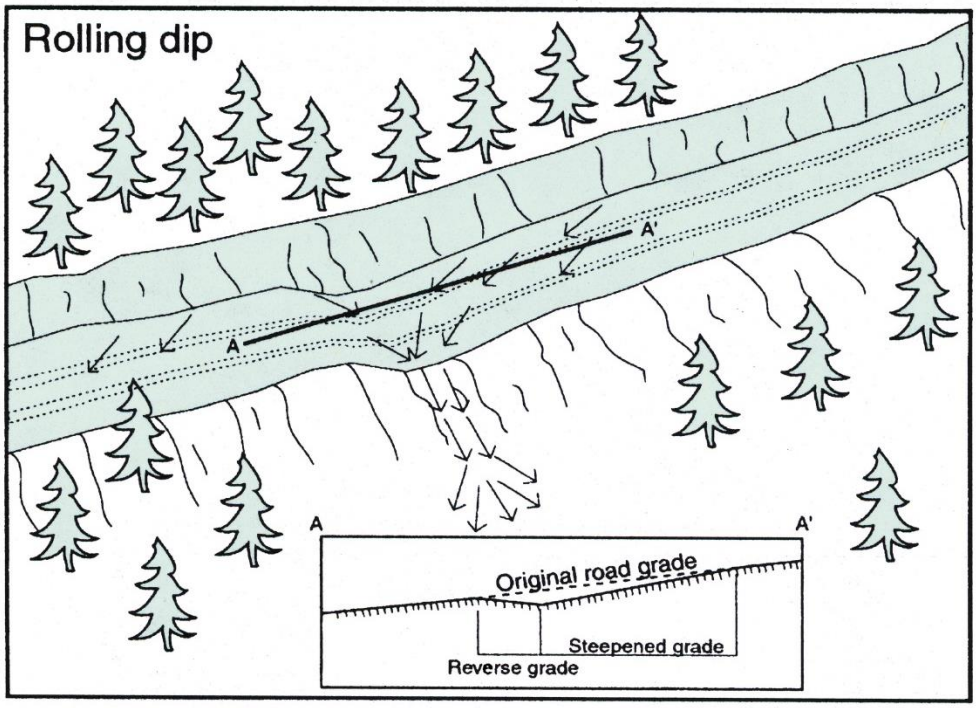


Figure X-21. Use of rolling dips to reduce ditch erosion and surface runoff.