State Forester Forum
Forest Practices
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FOREST ROADS – COMPLIANT AND NON-COMPLIANT CHARACTERISTICS

Properly planned, designed, constructed and maintained roads are essential to sound forest management. Well, built and maintained roads are an asset to the landowner; they benefit the operator by allowing for the responsible transport of forest products, while protecting aquatic resources and meeting water-quality standards. The Idaho Forest Practices Act administrative rules (Forest Practices Rules) contain several road construction and maintenance rules that focus on prevention of road washouts and avoidance of sediment delivery into streams.

GENERAL ROAD CONSTRUCTION/MAINTENANCE GUIDES

PLANS AND ROAD STANDARDS

Rule-compliant

Widths and grades are suitable for needs and intended uses. Cost allowances are carefully analyzed. Roads are constructed with grades of 2% to 10%; these road slopes are least costly to drain and can be used most of the year if conditions are not too wet. Road layout is planned to fit the natural terrain features so that width, cuts, and fills are minimized.

Potentially Non-Compliant

Roads are excessive in width, resulting in excessive costs; large fill slopes require more drainage and more surface area to stabilize. Roads are constructed with near-zero grades; flat grades can form mud holes by pooling water. Roads are overly steep; (10%+) grades accelerate water runoff velocity, causing un- wanted rilling and gullying.

LOCATION

Rule-compliant

Roads are on stable landforms and gentle slopes outside the Stream Protection Zones (SPZs), entering the SPZ only for approaches to stream crossings. Greater amounts of vegetation are left undisturbed to dissipate and filter water, stabilize stream banks, protect aquatic habitats and maintain the integrity of the soil near streams.

Potentially Non-Compliant

Roads are built in the Stream Protection Zones (SPZs), or existing roads are used within the SPZ without an approved variance. Roads are constructed in which fills may erode into streams, road beds are laid on soft, wetter ground, or excessive SPZ vegetation is removed. Roads are located on steep, unstable slopes or on landforms which are subject to mass wasting.

DRAINAGE

Rule Compliant

The road-drainage plan has every running foot planned with a combination of drainage structures to match the site and terrain.

a) Roads are insloped with inside ditches and frequent cross-drainage structures.

b) Roads are outsloped with drainage moving onto stabilized fills or filter strips of vegetation.

c) Roads are insloped, outsloped or crowned with appropriate water-diversion structures.

d) Surfaces of cuts, fills, berms, and roads are stabilized by grass, mulch, or fabric.

e) All sediments and water diverted off the road are dissipated and filtered by undisturbed vegetation and slash filter windrows.

Potentially Non-compliant

Roads are constructed with no thoughtful drainage system apparent. Mudholes, rills, gullies, washouts, and slumps occur on cuts and fills; water and sediments reach Class I and II streams. Inside ditches deliver directly to streams at crossings. Cuts and fills for switchbacks are in draws or creek bottoms. Cuts, fills and berms are not stabilized by grass seeding, mulching, erosion fabric, or slash filter windrows. Drainage systems for active and inactive roads are not maintained. On abandoned roads, drainage systems are not obliterated, culverts not pulled, and the road is not closed to vehicles.

RELIEF CULVERTS

Rule Compliant

Adequately located, sized, installed and maintained metal or plastic relief culverts are spaced under the road to disperse inside ditch, springs, seepage, and other water flows. They are sloped, tamped, and bedded firmly, and covered sufficiently. The inlets are armored with rock and constructed to remain unplugged. The outlet is armored or down-spouted to protect fills or extend beyond the toe of the fill slope.

Potentially Non-compliant

No cross drainage is provided for inside ditches, road surface water, or water from springs and seeps. Culverts are too small or infrequent to provide adequate drainage relief. The inlets will be plugged by cut bank sloughing, maintenance grading, or debris. There are no culverts to supply proper drainage for intermittent streams.

CROSS DITCHES/ROLLING DIP

Rule Compliant

On infrequently used roads, cross ditches are in- stalled after each use and spaced properly (see State Forester Forum No. 5, Cross-Ditches), stabilized, and maintained. For frequently used roads, rolling dips are permanently built into the road sur- face, with gradients less than 8 percent

Potentially Non-compliant

Cross ditches or rolling dips are not installed, or if installed, are not adequately draining water off of the road, or are causing water and sediments to be delivered to a Class I or Class II stream.

FILTER WINDROWS

Rule Compliant

Filter windrows are used when fill slopes pose a potential sediment-delivery threats to streams. They are constructed sediment barriers at the toe of fill slopes, made of slash and other woody debris (see State Forester Forum No. 13, Slash Filter Windrows). Windrows can trap 75 to 85+ percent of fill slope erosion in or near SPZs.

Potentially Non-compliant

Filter windrows are not used and sediment from un- stable fill slopes is being delivered to an SPZ. Filter windrows are installed, but not properly constructed.

MUD AND DUST

Rule Compliant

Where natural rock is lacking and soils easily turn into mud or dust, 3-inch-minus sized rock material is applied at least 10 inches deep on the surface of the road.

Potentially Non-compliant

Mud or dust is generated, causing obstructions in operations, rutting in the roads, and threats to safety. Rock surface is lacking.

GRADES IN CURVES

Rule Compliant

Road grades on sharp curves are reduced to 7% or less. Grades are flattened out at stream crossings. Road junctions and truck turnarounds are not built near stream crossings or in SPZs.

Potentially Non-compliant

Grades over 7% are sustained in sharp curves on switchbacks and at stream crossings. Road junctions and truck turnarounds are built near stream crossings and in SPZs.

INACTIVE OR ABANDONED ROADS

Rule Compliant

Inactive Roads: All drainage systems and structures are cleaned, stabilized, and maintained annually to prevent erosion. Access is controlled where seasonal traffic is allowed.

Permanently Abandoned Roads: Drainage systems are left in a stabilized condition with all stream crossings removed and stream gradients returned to their natural slope. Roads are closed to vehicular traffic.

Potentially Non-compliant

Inactive Roads: No post-operation stabilization or drainage cleanout is done. No planned regular or annual maintenance is completed.

Permanently Abandoned Roads: No final or post- operation stabilization and drainage cleanout is per- formed. No permanent road closure structures or barriers have been installed.

This guidance document is not a new law. This is an interpretation of existing law, except as authorized by Idaho Code or incorporated into a contract. On-the-ground help and written materials on Forest Roads and Water Quality are available from your nearest Idaho Department of Lands Private Forestry Specialist. Idaho Department of Lands Forestry