

DIVISION 625
ROAD CONSTRUCTION AND MAINTENANCE

PURPOSE

OAR 629-625-0000

- (1) Forest roads are essential to forest management and contribute to providing jobs, products, tax base and other social and economic benefits.***
- (2) OAR 629-625-0000 through 629-625-0650 shall be known as the road construction and maintenance rules.***
- (3) The purpose of the road construction and maintenance rules is to establish standards for locating, designing, constructing and maintaining efficient and beneficial forest roads; locating and operating rock pits and quarries; and vacating roads, rock pits, and quarries that are no longer needed; in manners that provide the maximum practical protection to maintain forest productivity, water quality, and fish and wildlife habitat.***
- (4) The road construction and maintenance rules shall apply to all forest practices regions unless otherwise indicated.***

APPLICATION:

This rule is not used for enforcement . Enforcement action should be taken under OAR 629-625-0100 through 629-625-0700.

ADMINISTRATION:

This rule provides the broad framework under which the remainder of the road construction and maintenance rules are administered. The rule establishes the key role of forest roads in contributing to the economic and social benefits of forests. The overall intent of the individual rules in this division is to set standards for building and maintaining roads and quarries that limit their negative effects on forest productivity, water quality, and fish and wildlife habitat as much as practical.

There is further purpose in the statute, ORS 527.765(1) which states that the rules must "... insure that to the maximum extent practicable nonpoint source discharges of pollutants resulting from forest operations on forest lands do not impair the achievement and maintenance of water quality standards." Road location, design, construction, maintenance and use are forest operations that have great potential to impair waters of the state with crossing structures and turbidity and sediment transport. Therefore, forest road rule administration must incorporate this statutory requirement or the Department of Environmental Quality (DEQ) may seek forest practice rulemaking to maintain the state water quality standards.

Road Construction and Reconstruction. OARs 629-625-0100 through 0440 apply when roads are being newly constructed or reconstructed. In this context, “road reconstruction” includes such activities as road relocation, road widening, replacement of stream crossing structures, substantial fill repair, or re-opening of roads that have become impassable.

Routine Road Maintenance. Grading, ditch cleaning, culvert cleaning, cross drain installation (for structures that are not in stream channels), or rocking are examples in rule of what is considered routine road maintenance, and are therefore not included in the definition of reconstruction, nor do they require notification (OAR 629-605-0140(2)(b)).

REFERENCES:

- OAR 629-605-0140(2)(b) Notification to the State Forester – Types of operations
- ORS 527.765 Best management practices to maintain water quality
- ODF. Forest Road Management Guidebook, Maintenance and Repairs to Protect Fish Habitat and Water Quality. January 2000.
- Bowers, Steve, editor; Oregon State University Extension Service. Managing Woodland Roads A Field Handbook. February 2006
- Handbook for Forest and Ranch Roads. Pacific Watershed Associates. June, 1994

WRITTEN PLANS FOR ROAD CONSTRUCTION
OAR 629-625-0100

- (1) *A properly located, designed, and constructed road greatly reduces potential impacts to water quality, forest productivity, fish, and wildlife habitat. To prevent improperly located, designed, or constructed roads, a written plan is required in the sections listed below.*

APPLICATION:

This section is not used for enforcement. This section is the purpose statement for the following sections describing situations that require a written plan. Sections (2) through (5) of this rule can be used for enforcement.


The requirement for a **non-statutory** written plan under this rule may be waived if the Stewardship Forester determines that the formal plan process is not needed to help ensure resource protection. Unless the department grants the waiver, a **non-statutory** written plan is required and must be submitted before the practice or operation begins. Consideration of the waiver begins when the operator requests the waiver.

ADMINISTRATION:

A written plan is required in situations among the road rules where there is a high potential for impacts to water quality, forest productivity, fish, and wildlife habitat.

The wording of this purpose rule, the preceding purpose rule, OAR 629-625-0000, and the guidance throughout this rule division illustrates the balance to be sought between practically building and maintaining roads and, where practicable and feasible, eliminating their negative effects on water quality, forest productivity, fish, and wildlife habitat. If there is a physically practicable and feasible method of limiting these negative effects, compliance requires that method or practice to be employed. Failure to do so places the operator/landowner at risk of enforcement action and if damage results, enforcement action must be taken. Written recommendations or written statements of unsatisfactory condition are to be used whenever the potential for damage is observed by the Stewardship Forester.

REFERENCE:

- *Forest Practices Technical Note Number 7 - [Avoiding Roads in Critical Locations](#)  Version 1.0 - Effective June 20, 2003.*

Written Plans for Road Construction**OAR 629-625-0100**

- (2) *In addition to the requirements of the water protection rules, operators must submit a written plan to the State Forester before:*
- (a) *Constructing a road where there is an apparent risk of road-generated materials entering waters of the state from direct placement, rolling, falling, blasting, landslide or debris flow.*
 - (b) *Conducting machine activity in Type F or Type D streams, lakes or significant wetlands.*
 - (c) *Constructing roads in riparian management areas.*

APPLICATION:

Subsections (a) and (c) of this section can be used for enforcement of the non-statutory written plan requirement. Subsection (a) applies where planned road construction may result in road construction related material or machinery entering waters of the state either during or after the operation. Subsection (b) violations should be cited as failures to submit at statutory written plan under OAR 629-605-0170(1) (a), for operating within 100 feet of a Type F or Type D stream. The statutory written plan requirement should also be used for violations of subsection (c) when the RMA of a Type F or Type D stream is involved. Subsection (c) is used for specifically for violations in the RMAs of a medium or large Type N streams.

Upon request, the requirement for a non-statutory written plan under this rule may be waived if the Stewardship Forester determines that the formal plan process is not needed to help ensure resource protection. Unless the SF grants the waiver, a non-statutory written plan is required and must be submitted before the practice or operation begins. Consideration of the waiver begins when the operator requests the waiver.

A violation of this rule exists when the operator begins an activity listed in this rule without the required plan. If the operator is discovered in the act, the Stewardship Forester should direct the operator to suspend activities listed in this rule until the written plan requirement is met and the road location and alternatives are reviewed.

If the requirement for a non-statutory written plan was waived, enforcement action for resource damage under the applicable specific road location or design rule is appropriate.

COMPLIANCE:

An operator is in compliance with this rule when they submit a required written plan before:

1. Constructing roads where there is a risk of material entering a stream, lake or wetland;
2. Conducting machine activity in any Type F or D waters, lakes or significant wetlands including stream crossings; or
3. Constructing roads or reconstructing roads within any RMA.

Unsatisfactory Condition: An unsatisfactory condition exists when an operator does not submit a required written plan for operations described in this rule.


Damage: Resource damage is not a prerequisite for taking enforcement action. The operator, by not submitting a written plan, denies the Stewardship Forester the opportunity to review and comment on the operation to prevent resource damage.

Written Statement of Unsatisfactory Condition: Generally, if there is an unsatisfactory condition, a citation will be issued. However, under specific conditions listed in OAR 629-670-0125 (Using the Written Statement of Unsatisfactory Condition for Noncompliance with Procedural Rules), a written statement of unsatisfactory condition may be issued instead of a citation.

ADMINISTRATION

Written plans are required for Type F and Type D streams by OAR 629-605-0170(1)(a) also. Stream crossings must also be designed **and** constructed according to OAR 629-625-0320(1), (2) and (3).

REFERENCES

- OAR 629-625-0200 (4) Road location
- OAR 629-635-0130 (1) Written plans for streams, lakes, and wetlands
- OAR 629-670-0125 Using the Written Statement of Unsatisfactory Condition for Noncompliance with Procedural Rules
- *Forest Practices Technical Note Number 7 - [Avoiding Roads in Critical Locations](#) *
Version 1.0 - Effective June 20, 2003.

WRITTEN PLANS FOR ROAD CONSTRUCTION**629-625-0100**

- (3) *Operators shall submit a written plan to the State Forester before constructing roads on high landslide hazard locations. Operators and the State Forester shall share responsibility to identify high landslide hazard locations and to determine if there is public safety exposure from shallow, rapidly moving landslides using methods described in OAR 629-623-0000 through 0300. If there is public safety exposure, then the practices described in OAR 629-623-0400 through 0800 shall also apply.*

APPLICATION:

This section can be used for enforcement.

The requirement for a **non-statutory** written plan under this rule may be waived if the Stewardship Forester determines that the formal plan process is not needed to help ensure resource protection. Unless the department grants the waiver, a **non-statutory** written plan is required and must be submitted before the practice or operation begins. Consideration of the waiver begins when the operator requests the waiver.

COMPLIANCE:

An operator is in compliance with this rule when high landslide hazard locations are identified and initially screened for downslope public safety risks. An operator is in compliance with this rule when a required written plan is submitted before constructing any roads on high landslide hazard locations.

Unsatisfactory Condition: An unsatisfactory condition exists when the operator fails to investigate and identify high landslide hazard locations on a steep operation site. It is also an unsatisfactory condition when an operator fails to submit a required written plan before beginning any road construction or right of way cutting on a high landslide hazard location.

Damage: Resource damage is not a prerequisite for taking enforcement action. The operator, by not submitting a written plan, denies the Stewardship Forester the opportunity to review and comment on the operation to prevent resource damage or injury to the public.

Written Statement of Unsatisfactory Condition: Generally, if there is an unsatisfactory condition, a citation will be issued. However, under specific conditions listed in OAR 629-670-0125 (Using the Written Statement of Unsatisfactory Condition for Noncompliance with Procedural Rules), a written statement of unsatisfactory condition may be issued instead of a citation.

ADMINISTRATION

Operators must screen steep sites to check for possible public safety risks below the operation area. If there is substantial or intermediate public safety risk, OAR 629-623-0450 or 0550 will

also apply to the operation, and may prevent road construction on these locations. Forest Practices Technical Note # 2 includes all necessary information for identification of high landslide hazard locations.



Operators must describe the specific practices, as directed by a geotechnical specialist, they will use to reduce landslide risk in a written plan. This written plan should describe specific actions taken to comply with the following rules.

- OAR 629-625-0200 (3) Avoid locating roads on high landslide hazard location
- OAR 629-625-0310 (1) Use variable grades and alignments
- OAR 629-625-0310 (2) End-haul excess material
- OAR 629-625-0310 (3) Design road no wider than necessary
- OAR 629-625-0310 (4) Design cut and fill slopes to minimize the risk of landslides
- OAR 629-625-0330 (2) Avoid road drainage discharge onto high landslide hazard locations
- OAR 629-625-0340 Use stable areas for disposal of end-haul waste
- OAR 629-625-0410 Do not place debris, sidecast, or other waste materials on high landslide hazard locations
- OAR 629-625-0440 (1) Stabilize exposed material that is potentially unstable.

Maps must show the exact road location and all potentially affected high landslide hazard locations. Cross drainage structures, cuts, and fills should also be shown. A road profile should generally be supplied. As a minimum, proposed road grades must be shown on the plan. On spur roads, grades which require use of an assist vehicle (over 20 percent) are appropriate if this will reduce impacts to high landslide hazard locations.

Road specifications should include road width and end-haul standards. Use of fill on steep high landslide hazard locations (over 60 percent) is unacceptable unless a slope stability analysis indicates such a fill will remain stable. Roads across steep high landslide hazard locations should have no more than one foot of sidecast. Width should be the minimum that can be safely constructed with an excavator, typically 16 feet, including the ditch.

REFERENCES:

- *Forest Practices Technical Note Number 2 - [High Landslide Hazard Locations, Shallow, Rapidly Moving Landslides and Public Safety: Screening and Practices](#)  Version 2.0 - Effective January 1, 2003.*
- *Forest Practices Technical Note Number 7 - [Avoiding Roads in Critical Locations](#)  Version 1.0 - Effective June 20, 2003.*
- OAR 629-605-0170 (4) Written plans
- OAR 629-623-0450 and 0550 Road Construction on high landslide hazard locations with public safety risk

Written Plans for Road Construction***OAR 629-625-0100***

- (4) *In addition to the requirements of the water protection rules, operators shall submit a written plan to the State Forester before placing woody debris or boulders in stream channels for stream enhancement.*

APPLICATION:

This section can be used for enforcement. Use this section when operators propose to undertake stream enhancement projects as a component of a proposed forest operation. Such activities are not forest operations when there is no associated forest practice, e.g. harvesting or road construction.

The requirement for a **non-statutory** written plan under this rule may be waived if the Stewardship Forester determines that the formal plan process is not needed to help ensure resource protection. Unless the department grants the waiver, a **non-statutory** written plan is required and must be submitted before the practice or operation begins. Consideration of the waiver begins when the operator requests the waiver.

COMPLIANCE:

Operators comply with this section when they submit a required written plan before undertaking any stream enhancement projects associated with a forest operation.

Unsatisfactory Condition: There is an unsatisfactory condition when the operator fails to submit a required written plan prior to placing woody debris or boulders in stream channels as stream enhancement associated with a forest operation.

Damage: Resource damage is not a prerequisite for taking enforcement action. The operator, by not submitting a written plan, denies the Stewardship Forester the opportunity to review and comment on the operation to prevent resource damage.

Written Statement of Unsatisfactory Condition: Generally, if there is an unsatisfactory condition, a citation will be issued. However, under specific conditions listed in OAR 629-670-0125 (Using the Written Statement of Unsatisfactory Condition for Noncompliance with Procedural Rules), a written statement of unsatisfactory condition may be issued instead of a citation.

ADMINISTRATION:

Stream enhancement work is subject to this section only when the work is part of an operation. Otherwise, the FPA does not apply to the enhancement activity.

The intent of this section is to exclude excess construction-generated woody material and boulders from entering waters of the state where these materials could damage a water of the

state. This excludes material essential for construction of a minimal stream crossing fill. The intent is also to allow and encourage operators to enhance streams.

Consult with ODFW regarding the enhancement value of woody debris or boulders to be placed in channels. Consult the staff hydrologist or geotechnical specialist if there are questions as to the stability of materials and debris in the stream channel.

OAR 629-640-0105 Placing Large Key Pieces In Type F Streams To Improve Fish Habitat, provides guidance on placement of large wood to improve fish habitat. It implements the Environment Protection Agency's approval of the Forest Practices written process as adequate to conduct such fish habitat improvement projects without permitting by the Army Corps of Engineers. This approval was granted in 2006.

Refer to the "Administration" guidance under OAR 629-640-0110(1) and (2) for information regarding coordination with DSL on fill and removal requirements and the "Other Agency Programs" guidance on the Fill and Removal Act (Other Agency Programs tab,).

REFERENCE:

- OAR 629-640-0105 Placing large key pieces in Type F streams to improve fish habitat
- OAR 629-640-0110 Live tree retention credit for improvement of Type F streams

ROAD LOCATION**OAR 629-625-0200**

(1) *The purpose of this rule is to ensure roads are located where potential impacts to waters of the state are minimized.*


APPLICATION:

This section cannot be used for enforcement. It is the purpose statement for the following sections regulating road location. Use section (2) through (4) for enforcement actions.

ADMINISTRATION:

Protection of water quality and fish habitat is a critical consideration in the location of proposed new roads.

REFERENCES:

- *Forest Practices Technical Note Number 7 - [Avoiding Roads in Critical Locations](#)  Version 1.0 - Effective June 20, 2003.*

ROAD LOCATION**OAR 629-625-0200**

- (2) *When locating roads, operators shall designate road locations which minimize the risk of materials entering waters of the state and minimize disturbance to channels, lakes, wetlands and floodplains.*

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

An operator is in compliance with this rule when they locate roads so that materials are kept out of waters of the state and their associated floodplains to minimize disturbance to waters of the state.

Unsatisfactory Condition: There is an unsatisfactory condition when an operator locates any portion of a road in any of the following areas:

1. Below the high water level of a stream, lake, or wetland, exclusive of stream crossings in compliance with OAR 629-625-0320;
2. Parallel to or within 50 feet of a stream channel for a distance exceeding 500 feet per mile of road length, exclusive of stream crossings in compliance with OAR 629-625-0320; or
3. Where the road crosses a wetland for a distance of greater than 500 feet.

Operators may locate roads in these areas if the State Forester agrees beforehand that there are no practical alternatives. See the discussion under ADMINISTRATION for more information.

Damage: Damage occurs when a road has been built where runoff, sidecast or erosion can enter in any channel, lake, wetland, or floodplain unnecessarily.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when complete repair is feasible and practical. In most cases, damage exists as roads are being constructed in these locations.


ADMINISTRATION:

Operators must keep roads out of channels, lakes, wetlands, and flood plains when there are alternative road locations. Use this section when road location disturbs or is likely to disturb, streams, lakes and wetlands that **do not** have an RMA (small Type N channels, other wetlands or lakes). In addition, use this section when roads are located in flood plains, outside an RMA, and parallel to streams. Use OAR 629-625-0100(2) 629-625-0200(3) for any disturbance to Type F or D streams or RMA's.

Except at stream crossings and approaches, operators should not locate roads where fill and other material are likely to enter a stream channel, side channel, wetland, or lake. Roads should not be located parallel to streams if the road is likely to be reached by flood flows. Roads should never

be located below the high water level of a lake. Roads must also be located in places that minimize the risk of road-generated material entering waters of the state. Risk of material entering waters of the state is defined in OAR 629-625-0100(2)(a).

REFERENCE:

- *Forest Practices Technical Note Number 7 - [Avoiding Roads in Critical Locations](#) *
Version 1.0 - Effective June 20, 2003.

ROAD LOCATION
OAR 629-625-0200

- (3) *Operators shall avoid locating roads on steep slopes, slide areas, high landslide hazard locations, and in wetlands, riparian management areas, channels or floodplains where viable alternatives exist.*

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

An operator is in compliance with this rule when they locate roads away from steep slopes, slide areas, high landslide hazard locations, wetlands, riparian management areas, channels or floodplains if there are other viable alternatives.

Unsatisfactory Condition: An unsatisfactory condition exists when any portion of a road is located on the aforementioned locations when alternative locations, or in some cases alternative harvesting techniques, were available.

Damage: Damage occurs when the unsatisfactory condition results in landslides or preventable, unnecessary sediment or debris enters waters of the state.


There is damage, an exceedance of the turbidity water quality standard, when forest practices cause a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), and it continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when complete repair is feasible and practicable before damage occurs.

ADMINISTRATION:

Use this section when roads need not be located on steep slopes, slide areas, or high landslide hazard locations. This section also applies to roads that need not disturb streams, lakes, or wetlands with riparian management areas, or the riparian management areas themselves. Use OAR 629-625-0200(2) where roads may disturb streams, lakes, or wetlands without riparian management areas.

REFERENCES:

- *Forest Practices Technical Note Number 7 - [Avoiding Roads in Critical Locations](#)  Version 1.0 - Effective June 20, 2003.*
- OAR 629-625-0100 (2)(a) and (3)
- OAR 629-625-0200(2)

ROAD LOCATION**OAR 629-625-0200**

(4) Operators shall minimize the number of stream crossings.

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

Operators comply with this section when their layout eliminates unnecessary stream crossings in determining road locations.

Unsatisfactory Condition: There is an unsatisfactory condition when stream crossings are planned or constructed when available alternative locations would have resulted in less potential effect on streams. There is an unsatisfactory condition when road construction debris enters the waters of the state and could have been prevented by better road location reducing stream crossings.

Damage: Damage occurs when the unsatisfactory condition results in unnecessary channel disturbance or preventable, unnecessary sediment or debris entering waters of the state.

There is damage, an exceedance of the turbidity water quality standard, when forest practices cause a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), and it continues for two or more hours in a twenty-four hour period.

Because excess channel disturbance is damage, a violation exists when stream crossings are located for purposes **other** than the following: to significantly reduce road length in or near riparian management areas and stream channels; to avoid slopes where a stable roadway cannot readily be constructed; or to access essential landings. Stream crossings should not be constructed for the sole purpose of road alignment or minimizing logging costs. When an alternate location would have lower long-term impacts on the stream, the Stewardship Forester may require road relocation as part of the repair order.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practicable prior to damage occurring.

On completed construction it is seldom practical to fully repair the effects of an unnecessary stream crossing without more disturbance than just retaining the extra crossing structure(s).

ADMINISTRATION:

Stream crossings impact water quality and aquatic habitat because crossings necessarily cause some channel disturbance and increase the risk of material entering waters of the state.

Appropriately used, stream crossings may: a) significantly reduce road length in or near riparian management areas and stream channels; b) avoid slopes where a stable roadway cannot readily be constructed; or c) access essential landings.

One example of damage is the following: a road must be extended to access timber in the bottom of a small canyon. The slopes around the channel are flat and the channel meanders. It would be easy to build a road next to the channel by constructing five stream crossings. The other option would be to build the road up on the uniform sideslopes which average 45 percent steepness. This second road would be harder to build, but that option complies with this section, while the first option would be a violation of this section.

REFERENCE:

- OAR 629-625-0100 (2)(a) Written Plans for Road Construction

ROAD LOCATION**OAR 629-625-0200**

- (5) *To reduce the duplication of road systems and associated ground disturbance, operators shall make use of existing roads where practical. Where roads traverse land in another ownership and will adequately serve the operation, investigate options for using those roads before constructing new roads.*

APPLICATION:

This section cannot be used for enforcement unless it is to support non-compliance with another rule. This section encourages use of existing roads, including joint use by adjacent landowners to reduce duplicate road systems.

ADMINISTRATION:

The intent of this section is to reduce the duplication of road systems and associated disturbance, thereby reducing the potential for road-related resource damage. New roads are not necessary when existing roads can be used to meet the forest management objectives of the landowner.

The Stewardship Forester should explain the benefits of reduced road construction to the landowner and operator when applicable. Such benefits include not only water quality and fish habitat maintenance, but also the reduced amount of land taken out of production and savings of construction and maintenance costs.

ROAD DESIGN
OAR 629-625-0300

(1) The purpose of OARs 629-625-0300 through 629-625-0340 is to provide design specifications for forest roads that protect water quality.

APPLICATION:

This section cannot be used for enforcement action. It is the purpose statement for the following sections regulating road design specifications.

ADMINISTRATION:

Protection of water quality, including fish habitat, is a critical consideration in the design of proposed new roads.

REFERENCE:

- 1994 Water Classification and Protection Rules Reference Guide, Unit 4A

ROAD DESIGN
OAR 629-625-0300

- (2) *Operators shall design and construct roads to limit the alteration of natural slopes and drainage patterns to that which will safely accommodate the anticipated use of the road and will also protect waters of the state.*

APPLICATION:

This section can be used for enforcement. This section requires some level of pre-construction planning to “fit” the road to the terrain, and minimize overall disturbance.

COMPLIANCE:

Operators comply with this section when they at a minimum, conduct pre-construction reconnaissance and flag the proposed centerline. Full plan and profile design with slope staking is generally appropriate if there is a substantial risk of materials entering waters of the state.

Unsatisfactory Condition: An unsatisfactory condition exists when the operator makes no effort to design and lay out the road prior to construction. An unsatisfactory condition exists when new construction includes large cuts, fills, or impacts on drainage patterns that could reasonably have been avoided. An unsatisfactory condition exists when sediment is about to or begins to enter the waters of the state as a result of inappropriate design and location.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment or debris entering waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Inadequate design and construction may result in an increased risk of damage to waters of the state for a long period, and is therefore a violation.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring.

ADMINISTRATION:

This section requires a level of design necessary to **minimize** impacts to waters of the state. For gentle terrain away from streams, acceptable design might be limited to pre-construction reconnaissance and a flagged centerline. For roads on steep slopes or across Type F streams, designs must include site specific determination of cut and fill slopes, disposal locations of waste material, and culvert sizing and installation techniques. Care must be taken, even with ridge top roads in high rainfall areas to minimize moving runoff from one draw area to another.

ROAD PRISM
OAR 629-625-0310

- (1) *Operators shall use variable grades and alignments to avoid less suitable terrain so that the road prism is the least disturbing to protected resources, avoids steep sidehill areas, wet areas and potentially unstable areas as safe, effective vehicle use requirements allow.*

APPLICATION:

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This section can be used for enforcement.

COMPLIANCE:

An operator is in compliance with this rule when they vary grades and alignment to conform the road location to the terrain.

Unsatisfactory Condition: An unsatisfactory condition exists when the operator maintains constant grades, or eliminates curves, thereby increasing required cuts, fills, stream crossings, or incursions into unstable or wet areas. An unsatisfactory condition exists when sediment threatens or begins to enter the waters of the state as a result of inappropriate road design or location.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment or debris entering waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring.

The written statement may require re-vegetation, pulling back fill, buttressing, or other actions necessary to prevent surface erosion or landslides.

ADMINISTRATION:

This section is intended to minimize soil erosion. Direct impacts to water quality may not be immediately visible. Locating the road where excavation and filling are kept to a minimum will reduce long-term soil erosion and the subsequent entry of eroded material into waters.

The Stewardship Forester is encouraged to make pre-operation inspections and recommendations prior to road construction projects through steep or irregular slopes. When risks to waters associated with fitting the road to the topography are anticipated, require a written plan under OAR 629-625-0100 (2)(a).

REFERENCES:

- OAR 629-625-0100 (2) Written plans for road construction
- OAR 629-625-0410 Disposal of waste materials
- OAR 629-630-0500 (1) Harvesting on high landslide hazard locations in western Oregon

ROAD CONSTRUCTION AND MAINTENANCE**629-625-0310*****Road Prism***

- (2) *Operators shall end-haul excess material from steep slopes or high landslide hazard locations where needed to prevent landslides.*

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

Operators comply with this section when they end haul excess material where, if sidecast, it would pose a substantial landslide risk.

Unsatisfactory Condition: An unsatisfactory condition exists when the operator constructs a road with sidecast construction across steep side slopes or high landslide hazard locations resulting in risk to public safety or risk of sediment entering waters of the state. An unsatisfactory condition exists when sediment begins to enter the waters of the state.

Depending on drainage and headwall characteristics slopes steeper than 60 percent are considered steep slopes. This sidecast material may fail in the future and enter waters of the state, or initiate slope failure or increase surface erosion.

Damage: Damage occurs when the unsatisfactory condition results in unnecessary sediment entering waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action is feasible and practical prior to damage (i.e. all sidecast can be pulled back).

If sidecast on steep slopes resulted from construction problems rather than lack of design, take enforcement action under OAR 629-625-0410, Disposal of Waste Materials.

ADMINISTRATION:

End-haul should be required for road construction or reconstruction on all steep or designated high landslide hazard locations when alternate road locations are not feasible. This section will generally apply to slopes over 60 percent, 40 percent in decomposed granite-type materials and other highly erodible materials, (*Reference 629-630-0150(2) & (3)*) where there is a risk of materials entering waters of the state, other slopes where sidecast is likely to fail sometime in the future, and seep and spring areas with slopes over 50 percent.

REFERENCES:

- OAR 629-625-0410 Disposal of Waste Materials

ROAD PRISM
OAR 629-625-0310

(3) *Operators shall design roads no wider than necessary to accommodate the anticipated use.*

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

Operators comply with this section when they minimize road width.

Unsatisfactory Condition: There is an unsatisfactory condition when the operator designs and constructs a road wider than necessary for the intended use. An unsatisfactory condition exists when any road segment, 100-foot or longer, exceeds the maximum acceptable width listed below. **Maximum width for roads on high-risk sites is 16 feet, including the ditch.**

It is an unsatisfactory condition when excessive road width resulting in sediment entering the waters of the state.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment or debris entering waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring.

The operator should be directed to pull back fill and/or stabilize exposed materials with mulch as necessary to prevent sediment from entering waters of the state.

ADMINISTRATION:

The intent of this section is to keep the road width to the minimum necessary for planned uses of the road. Though direct impacts may not be visible, excess soil disturbance and exposure will result in greater long-term risk of erosion and subsequent effects on waters.

This section will be used only when roads are clearly and grossly wider than needed. The problem of determining anticipated uses makes it difficult to prove a violation has occurred. Maximum acceptable widths and target (goal) widths for the running surface are as follows:

| | <u>Maximum</u> | <u>Goal</u> |
|---------------------------------|----------------|-------------|
| Minor spurs and temporary roads | 18 feet | 12 feet |
| Collector road | 22 feet | 16 feet |
| Mainline* haul roads | 30 feet | 24 feet |

These widths do not include ditches, curve widening, turnouts, or areas used as landings.

*Generally, only one mainline haul road for 50,000 acres of ownership is necessary.

REFERENCES:

- OAR 629-625-0410 Disposal of Waste Materials
- OAR 629-625-0440 (1) Stabilization

ROAD PRISM
OAR 629-625-0310

(4) *Operators shall design cut and fill slopes to minimize the risk of landslides.*

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

Operators comply with this section when they design and construct cut and fill slopes in a way that minimizes the risk of landslides.

Unsatisfactory Condition: There is an unsatisfactory condition when the operator designs and constructs cut and fill slopes at an excessively steep slope angle, usually steeper than 1¼ to 1 (80 percent). There is an unsatisfactory condition when fills are constructed on slopes over 60 percent regardless of the fill angle. An unsatisfactory condition exists when preventable, unnecessary sediment begins to enter the waters of the state.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment or debris entering waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring. The operator may be directed to flatten cut slopes and/or pull back fill slopes. Vegetative stabilization or other slope stabilization techniques may be necessary if slope alteration is not feasible.

For sidecast slopes (excess material is not part of the road) enforcement should be based on OAR 629-625-0410.

ADMINISTRATION:

This section is intended to prevent damage to water quality caused by failure of over-steep cut and fill slopes. In most situations, over-steep cut-banks do not directly result in damage. However, cut slope failures may re-route ditch water to steep fills or may block culverts and thereby cause damage. Over-steep fills pose the greatest risk to waters of the state. Consult a Geotechnical Specialist prior to enforcement action under this section.

REFERENCES:

- OAR 629-625-0410 Disposal of Waste Materials

ROAD PRISM
OAR 629-625-0310

- (5) *Operators shall stabilize road fills as needed to prevent fill failure and subsequent damage to waters of the state using compaction, buttressing, subsurface drainage, rock facing or other effective means.*

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

An operator is in compliance with this rule when road fills are stabilized by compaction, buttressing, subsurface drainage, rock facing or other effective means as needed to prevent fill failure.

Unsatisfactory Condition: There is an unsatisfactory condition when the operator fails to compact, armor, or otherwise stabilize fills and water quality is threatened. Evidence of an unsatisfactory condition may include slumping or cracking of the fill surface. An unsatisfactory condition exists when sediment begins to enter the waters of the state.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment or debris entering waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring.

The written statement may direct the operator to pull back fill slopes, or remove and rebuild fills. Buttressing, rock armor, mulching, vegetative stabilization, or other slope stabilization techniques may be required. For sidecast slopes, enforcement should be based on OAR 629-625-0410.

ADMINISTRATION:

Consult a Geotechnical Specialist prior to taking enforcement action under this Section.

STREAM CROSSING STRUCTURES***OAR 629-625-0320***

- (1) *Operators shall design and construct stream crossing structures (culverts, bridges and fords) to:*
- (a) *Minimize excavation of side slopes near the channel.*
 - (b) *Minimize the volume of material in the fill.*
 - (A) *Minimizing fill material is accomplished by restricting the width and height of the fill to the amount needed for safe use of the road by vehicles, and by providing adequate cover over the culvert or other drainage structure.*
 - (B) *Fills over 15 feet deep contain a large volume of material that can be a considerable risk to downstream beneficial uses if the material moves downstream by water. Consequently, for any fill over 15 feet deep operators shall submit to the State Forester a written plan that describes the fill and drainage structure design. Written plans shall include a design that minimizes the likelihood of:*
 - i. *surface erosion,*
 - ii. *embankment failure, and*
 - iii. *downstream movement of fill material.*
 - (c) *Prevent erosion of the fill and channel.*

APPLICATION:

This section can be used for enforcement action.

The requirement for a **non-statutory** written plan under this rule may be waived if the Stewardship Forester determines that the formal plan process is not needed to help ensure resource protection. Consideration of the waiver begins when the operator requests the waiver. Unless the SF grants the waiver, a **non-statutory** written plan is required and must be submitted before the practice or operation begins.

COMPLIANCE:

An operator complies with this rule when stream crossings are constructed with a design that:

- (a) minimizes excavation of the stream banks and channels; and
- (b) minimizes fill of the stream banks ; and
- (c) limits erosion of fill material and the channel to that necessary and unavoidable.

When fills over 15 feet are planned, an operator complies with (1)(b)(B) of this rule by submitting a required written plan addressing the listed criteria.

Unsatisfactory Condition: There is an unsatisfactory condition when:

1. A stream crossing is begun or completed at a location where excessive cutting **or** filling is required and there is a better alternative crossing location. Enforcement action should be

taken for a violation of subsection (a) for excessive cutting, or subsection (b) for oversized fills (which may be less than 15 feet deep).

2. A stream crossing structure is begun or completed as a site for waste (excess soil or rock) disposal. Enforcement action should be taken for a violation of subsection (b).
3. A stream crossing is begun or completed with a fill over 15 feet deep without first submitting a required written plan. This is a violation of subsection (b)(B) and enforcement action should be taken under this section.
4. Erosion protection is not provided on stream crossing fills and unnecessary erosion is threatened or occurs. This is noncompliance with subsection (c) and should be handled through a written statement unless unnecessary fill erosion has occurred.
5. There is evidence of erosion of fill and/or stream channel as a result of the design where an alternative design practice would have prevented such erosion. This is a violation of subsection (c).

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment or debris entering waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when impending erosion into waters can be prevented or minor erosion can be stopped.

ADMINISTRATION:

This section is intended to prevent damage to aquatic habitat and water quality caused by direct physical alteration, sedimentation, turbidity, and channel scour during construction of stream crossing structures.

Operators must carefully design and construct all stream crossing structures and approaches to minimize channel disturbance. Operators must also prevent erosion of all stream crossing fills. Finally, **operators must not use stream crossings for disposal of excess material.**

Subsections (a) and (b) of section (4) must be balanced by the operator. The end result should be a stream crossing which results in the least possible ground disturbance.

Subsection (b)(B) is an **additional** requirement for all stream crossing fills more than 15 feet deep. A written plan **must always** be submitted prior to construction of these high fills unless a waiver of this requirement has been granted by the SF. In addition to design and construction details, a written plan for high fills must show:

1. There are no alternative stream crossing locations (using different grade or alignment) which would result in lower impacts to the stream; and
2. Lower fill heights would result in extensive cutting of slopes adjacent to streams.

There is also authority through OAR 629-625-0100(2)(a) to require a written plan for any fill if there is a "risk of material entering waters of the state". All stream crossing fills pose some risk of material entering waters of the state. Use the "risk of material entering waters" rule to require a written plan when site conditions threaten erosion or slumping into the water, but fills will be less than 15 feet deep. Crossings of steep gradient channels, crossings over weak soils, or crossings constructed by an operator who has little experience constructing stable fills across streams are situations where written plans are prudent.

Subsection (c) must be applied to **all** stream crossings (culvert, bridge or ford). Erosion control measures are always required at crossing locations because if stream crossing fills erode, it is very likely that the eroded material will enter the channel. Therefore, the road designer and road builder must provide effective protection from surface erosion (seeding and mulching, riprapping, etc.) on **all** fill slopes at stream crossings (regardless of the size of the fill, or the size or type of stream) . Fords are regulated by subsection (c) since the driving surface of a ford is either a fill or the channel. Operators should not use unimproved fords, except those on solid rock, for hauling because truck traffic usually breaks down stream gravel and tires carry soil into the channel.

REFERENCES:

- OAR 629-605-0170(4) Non-statutory Written plans
- OAR 629-625-0100(2)(a) Written Plans for Road Construction
- 1994 Water Classification and Protection Rules Reference Guide, Unit 4A (especially for guidance on appropriate contents of written plans)

STREAM CROSSING STRUCTURES***OAR 629-625-0320***

- (2) *Operators shall design and construct stream crossings (culverts, bridges, and fords) to:*
- (a) *Pass a peak flow that at least corresponds to the 50-year return interval. When determining the size of culvert needed to pass a peak flow corresponding to the 50-year return interval, operators shall select a size that is adequate to preclude ponding of water higher than the top of the culvert; and*
 - (b) *Allow migration of adult and juvenile fish upstream and downstream during conditions when fish movement in that stream normally occurs.*

APPLICATION:

This section can be used for enforcement action.

COMPLIANCE:

An operator is in compliance with this rule when stream crossings are designed and constructed to pass a 50-year peak flow. An operator is in compliance with this rule when fish-bearing streams' crossings are designed and constructed to allow for fish passage as specified in rule.

Unsatisfactory Condition: There is an unsatisfactory condition when a stream crossing is installed that does not pass a 50-year peak flow. An unsatisfactory condition exists when a culvert, ford or bridge has been installed in a Type F stream and is not likely to pass adult and juvenile fish upstream or downstream. Stewardship Foresters should confirm stream crossing structure shortcomings with a staff specialist prior to taking enforcement action.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment or debris entering waters of the state as a result of an undersized crossing structure. Damage occurs when the unsatisfactory condition prevents the normal migration of adult or juvenile fish upstream or downstream during times when fish normally access these areas.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring.

ADMINISTRATION:

Section (2) is intended to prevent damage to aquatic habitat and water quality caused by direct physical alteration, sedimentation, turbidity, and/or channel scour **and** hindrance of fish movement through stream crossing structures.

Operators must carefully design all stream crossing structures to pass the 50-year peak flow without washing out and to pass adult and juvenile fish upstream and downstream (on Type F streams). These requirements apply to all new road construction, and also for reconstruction of any partial or complete stream crossing washout, or replacement of any crossing structure.

Subsection (a) requires operators to design culverts and bridges for the 50-year return interval peak flow. Culvert size should be determined using the standard ODF methodology described in the "1994 Water Classification and Protection Rules Reference Guide." However, if an operator presents nearby stream gage data which has been analyzed by a hydrologist to determine the 50-year flow, the operator should use that information for culvert sizing. Bridges should also be designed using the information found in the "1994 Water Classification and Protection Rules Reference Guide." The **only** exception to subsection (a) applies to **wide** flood plains as described in OAR 629-625-0320(3).

Culverts which are slightly undersized can sometimes be repaired using an overflow pipe, or the alternative design as specified in section (3) of this rule. Culverts judged unlikely to cause fill failure may be allowed to remain until replacement becomes the landowner's choice.



Undersized culverts may be handled with a written statement. In some cases, repair will require fill removal and substantial channel disturbance. Enforcement action should be based on risk to water quality or aquatic habitat.

Existing under-sized culverts that may cause fill failures should be evaluated for their damage potential and accorded enforcement action when there is significant potential for damage under the Road Maintenance rule OAR 629-625-0600(2) or (3).

Subsection (b) requires operators to design and construct culverts, fords and bridges to allow passage of adult and juvenile fish both upstream and downstream through the structures on Type F streams. Design for fish passage often requires a detailed engineering analysis. Forest Practices Technical Note Number 4, "Fish Passage Guidelines for New and Replacement Stream Crossing Structures" Version 1.0 is the reference for these analyses.

Subsections (a) and (b) apply to any temporary crossing which remains in place during the winter, and to temporary crossing structures which might affect fish passage.

REFERENCES:

- OAR 629-625-0320(3)
- 1994 Water Classification and Protection Rules Reference Guide, Unit 4B (especially for guidance on sizing culverts and bridges).
- [Determining the 50-Year Peak Flow and Stream Crossing Structure Size for New and Replacement Crossings](#),  *Technical Note #5, Version 1, effective May 10, 2002*
- [Fish Passage Guidelines for New and Replacement Stream Crossing Structures](#),  *Technical Note #4, Version 1, effective May 10, 2002.*

STREAM CROSSING STRUCTURES**OAR 629-625-0320**

- (3) *An exception to the requirements in subsection (2)(a) of this rule is allowed to reduce the height of fills where roads cross wide flood plains. Such an exception shall be allowed if the operator obtains approval of a plan for an alternate practice. The State Forester will approve such a plan when the plan demonstrates:*
- (a) *The stream crossing site includes a wide flood plain ; and*
 - (b) *The stream crossing structure matches the size of the active channel and is covered by the minimum fill necessary to protect the structure;*
 - (c) *Except for culvert cover, soil fill is not placed in the flood plain: and*
 - (d) *The downstream edge of all fill is armored with rock of sufficient size and depth to protect the fill from eroding when a flood flow occurs.*

APPLICATION:

This section is not normally used for enforcement action. This section offers an opportunity for a plan for alternate practice. If an approved plan for alternate practice is not obtained, enforcement would be based upon OAR 629-605-0173(5)(s) or if the flow capacity of the structure is too small, upon this rule's section (2)(a).

COMPLIANCE:

An operator is in compliance with this rule if a plan for an alternate practice is approved by the State Forester for an exception to the requirements in subsection (2)(a) of this rule. The operator must comply with the provisions of the plan for an alternate practice.

Noncompliance exists when any of subsections (3)(a) through (d) above are not complied with. Noncompliance should generally be handled using subsection (2)(a) of this rule (the standard rule for design of stream crossings). However, if most criteria in this section were met in the design of the crossing, i.e., wide flood plain and sized to match the active channel, but there is an inadequate overflow, a written statement issued under this rule is appropriate provided high flows have not yet caused fill washout damage.

ADMINISTRATION:

The intent of this section is to reduce filling in channels and flood plains in cases where there is the risk of ponding and major washout of fills can be prevented by building an armored overflow spillway in the road or crossing fill.

Operators may use this alternative design for stream crossing culverts when the flood plain at the crossing is typically at least 10 times the width of the active channel. Design and construction of the crossing must then comply with subsections (b), (c), and (d) of this rule. Approval criterion (c) "Except for culvert cover, soil fill is not placed in the flood plain" must be read to mean "minimal soil fill is placed in the flood plain", because there is no sense to creating an armored overflow spillway in the road fill if there is no road fill. As section (3) says, the exception is allowed to reduce the height of fills in flood plains.

This section can also be used as a guide for repair of a slightly undersized culvert in a wide flood plain. If a culvert is slightly undersized for the 50-year flow, the flood plain is more than 100 feet wide, and the culvert will pass the ten-year flow, then construction of an armored overflow spillway may bring the crossing into compliance. If no damage has occurred, use a written statement directing the operator to construct an armored overflow spillway in the fill.

REFERENCES:

- 1994 Water Classification and Protection Rules Reference Guide, Unit 4B

DRAINAGE**629-625-0330*****Drainage***

- (1) *The purpose of this rule is to provide a drainage system on new and reconstructed roads that minimizes alteration of stream channels and the risk of sediment delivery to waters of the state. Drainage structures should be located based on the priority listed below. When there is a conflict between the requirements of sections (2) through (6) of this rule, the lowest numbered section takes precedence, and the later-numbered and conflicting section shall not be implemented.*


APPLICATION:

This section cannot be used for enforcement. It is the purpose statement for the following sections regulating road location. Use sections (2) through (6) for enforcement actions, selecting the priority section as described by this rule in case of conflicting practices.

ADMINISTRATION:

Protection of stream channels and control of sediment delivery are the objectives of road drainage for all new and reconstructed roads.

REFERENCE:

- *Forest Practices Technical Note Number 8 - [Installation and Maintenance of the Cross Drainage Systems on Forest Roads](#)  Version 1.0 - Effective June 20, 2003.*

DRAINAGE**OAR 629-625-0330**

- (2) *Operators shall not concentrate road drainage water into headwalls, slide areas, high landslide hazard locations, or steep erodible fillslopes.*

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

An operator is in compliance with this rule when road drainage water is diverted into stable areas not affecting headwalls, slide areas, high landslide hazard locations, or steep erodible fillslopes.

Unsatisfactory Condition: An unsatisfactory condition exists when a lack of cross drainage or the improper location of cross drainage will direct drainage water into headwalls, slide areas, and high landslide hazard locations or steep erodible fillslopes. An unsatisfactory condition exists when such drainage water begins destabilizing these sites that are especially vulnerable to soil movement and surface erosion into waters of the state.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment or debris entering waters of the state.


Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.


Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring.

ADMINISTRATION:

The intent of this section is to prevent landslides, fill erosion, and subsequent water quality damage. This section is commonly used to evaluate written plans. In the plan, the drainage design must be clear and easy to understand, and provide effective means to prevent water concentration on erodible fillslopes, steep, unstable slopes, and high landslide hazard locations.

REFERENCE:

- *Forest Practices Technical Note Number 8 - [Installation and Maintenance of the Cross Drainage Systems on Forest Roads](#)  Version 1.0 - Effective June 20, 2003.*

- OAR 629-605-0170 (4) Written plans
- *Forest Practices Technical Note Number 2 - [High Landslide Hazard Locations, Shallow, Rapidly Moving Landslides and Public Safety: Screening and Practices](#)  Version 2.0 - Effective January 1, 2003.*

DRAINAGE***OAR 629-625-0330******(3) Operators shall not divert water from stream channels into roadside ditches.*****APPLICATION:**

This section can be used for enforcement.

COMPLIANCE:

Operators comply with this section when stream crossing structures are installed whenever the road crosses a stream.

Unsatisfactory Condition: An unsatisfactory condition exists when water is diverted from an active channel into a roadside ditch.

There is an unsatisfactory condition when channel alignment is shifted into road ditches by a poorly-placed crossing structure.

An unsatisfactory condition exists when sediment begins to enter a water of the state.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment or debris entering waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.


Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring. The written statement should direct the operator to install a culvert or other drainage structure that is effective in continuing the stream in its natural channel where the road crosses the stream channel.

ADMINISTRATION:

This section requires the road to be designed so that the hydrologic changes associated with diversion of water from natural drainage ways are avoided.

This section does not apply to temporary diversions necessary for road construction when the stream is at relatively low flow.

REFERENCE:

- *Forest Practices Technical Note Number 8 - [Installation and Maintenance of the Cross Drainage Systems on Forest Roads](#)  Version 1.0 - Effective June 20, 2003.*

DRAINAGE**OAR 629-625-0330**

- (4) *Operators shall install dips, water bars, or cross drainage culverts above and away from stream crossings so that road drainage water may be filtered before entering waters of the state.*

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

Operators comply with this section when they install drainage structures to direct runoff away from waters of the state or in such a way that runoff carrying sediment is effectively settled out or filtered before entering waters of the state.

Unsatisfactory Condition: There is an unsatisfactory condition when a lack of cross drainage or the improper location of cross drainage outlets allows road drainage water to discharge directly into waters of the state without being filtered.

An unsatisfactory condition exists when sediment begins to enter the waters of the state.

Damage: There is damage when the unsatisfactory condition results in preventable, unnecessary sediment from road drainage water entering the waters of the state.


Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: Use a written statement when there is inadequate drainage prior to storms that can cause sediment entry, or when there are minor sediment or turbidity effects. The written statement should require the operator to install adequate culverts, dips or waterbars up-grade from the stream crossing at a location that provides effective sediment settling or filtering before runoff water reaches a water of the state.

ADMINISTRATION:

This section requires drainage to be installed above stream crossings so that muddy runoff will be diverted away from waters of the state, and settled out or filtered through a vegetated area prior to entering waters. When operators plan to reconstruct or otherwise use older roads, additional cross drainage above streams to improve filtering will usually be needed. Such drainage can be required through this section (road reconstruction) or through the road maintenance rules (operation changes inactive roads to active roads).

REFERENCE:

- *Forest Practices Technical Note Number 8 - [Installation and Maintenance of the Cross Drainage Systems on Forest Roads](#)  Version 1.0 - Effective June 20, 2003.*

DRAINAGE**OAR 629-625-0330**

- (5) *Operators shall provide drainage when roads cross or expose springs, seeps, or wet areas.*

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

Operators comply with this section when they install drainage structures to keep water from springs, seeps, or wet areas away from roads.

Unsatisfactory Condition: There is an unsatisfactory condition when a lack of drainage structures or the improper location of drainage structures where roads cross springs, seeps or wet areas poses a risk of road destabilization and resulting sediment entry into waters of the state.

An unsatisfactory condition exists when sediment begins to enter the waters of the state.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment delivery into waters of the state.


Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring. The written statement should require the operator to install effective drainage as necessary to prevent destabilizing the road resulting in sediment delivery into waters of the state.

ADMINISTRATION:

This section applies to all hill slope wet areas, regardless of whether identified before construction or not. Road fill should not be placed on potential spring areas, unless adequate subsurface drainage is constructed. In areas with high groundwater, it may be necessary to use French drains in the ditch area, or to use a free draining fill. Where cutslopes or road surfaces expose flowing water, roads must be graded and cross-drained to remove this water before ditch cutting or severe road surface pumping occurs.

REFERENCE:

- *Forest Practices Technical Note Number 8 - [Installation and Maintenance of the Cross Drainage Systems on Forest Roads](#)  Version 1.0 - Effective June 20, 2003.*

DRAINAGE***OAR 629-625-0330***

- (6) *Operators shall provide a drainage system using grade reversals, surface sloping, ditches, culverts and/or waterbars as necessary to minimize development of gully erosion of the road prism or slopes below the road.*

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

Operators comply with this section when they construct a road drainage system that controls surface erosion from the road prism and slopes below the road.

Unsatisfactory Condition: An unsatisfactory condition exists when a drainage system is inadequate to prevent development of a gully on the surface, in the ditch, the fill slope, or the slopes below the road and sediment begins to enter a water of the state.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment delivery into waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: Use a written statement prior to damage. The written statement should require the operator to install culverts, dips or waterbars and/or change the road surface slope.


ADMINISTRATION:

The intent of this section is to require a drainage system that effectively manages surface water so erosion of the road surface, ditch, fill, or cut slopes is minimized. Use this section for newly constructed roads that are generally less than two years old. Use road maintenance rules for roads that were constructed or last reconstructed more than two years ago.

Most landowners, at least in western Oregon, use ditches and culverts on the majority of roads. When landowners choose this option, they must use sufficient cross drain culverts to prevent erosion of ditches and at culvert outlets. Minor erosion of ditches can be expected during the first winter after road construction. If down cutting approaches several inches it should be considered an unsatisfactory condition. Drainage structures of any kind (culverts, dips, waterbars, etc.) must provide adequate filtering, as described in section (4) of this rule. Outsloping should be encouraged on summer-use roads that are less than about **eight percent**

gradient **and** where rutting can be prevented by use of additional drainage structures (waterbars and dips). **Waterbars must be installed on outsloped roads prior to the wet season.**

REFERENCE:

- *Forest Practices Technical Note Number 8 - [Installation and Maintenance of the Cross Drainage Systems on Forest Roads](#)  Version 1.0 - Effective June 20, 2003.*
- *Manual: Water Bar Systems*, Oregon Department of Forestry, Associated Oregon Loggers, Steve Goeller

WASTE DISPOSAL AREAS***OAR 629-625-0340******Operators shall select stable areas for the disposal of end-haul materials, and shall prevent overloading areas which may become unstable from additional material loading.*****APPLICATION:**

This section can be used for enforcement action.

ODF WASTE AREA POLICY:

A written plan for waste disposal areas (which include any site where excess excavated material or debris is hauled by truck, moved by loader, or drifted by cat, and in excess of that needed for a minimum size road or landing) is required when:

1. There is a risk of slope failure at the site; **and**
2. There is a risk of material from that slope failure entering waters of the state.

Requiring of written plans is authorized by OAR 629-625-100(2)(a).

COMPLIANCE:

An operator is in compliance with this rule when areas selected for disposal of end-haul materials are stable and will remain stable after additional material loading.

Unsatisfactory Condition: An unsatisfactory condition exists when end haul material is disposed of in unstable locations; or when end haul disposal locations begin to become unstable after additional material loading. Evidence of instability includes tension cracks on the surface on or near the disposal site.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment or debris entering waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring.

ADMINISTRATION:

Operators may be required to submit nonstatutory written plans for waste disposal areas which have a risk of slope failure and also a risk of material from that failure entering waters of the state. This plan is required under authority of OAR 629-625-0100(2)(a) "risk of material entering waters of the state."

Waste disposal areas may fail because waste is placed too close to streams or at too steep a slope. However, the most serious problems occur when the weight of the waste material causes or contributes to the cause of a much larger slide, which includes the in-place soil and rock under and around the waste site.

SFs should always inspect waste disposal areas when road construction involves the need to end-haul material or to drift a substantial volume of excavated materials (over about 2000 yards) to any one location. When there is a significant risk of such a failure, and there is any way slide material could enter a stream, an operator is must be required to submit a written plan. **That plan must include the following two provisions:**

1. **Size and Shape.** The written plan shall include: a drawing to scale of the site; maximum volume of waste to be placed on the site; limits where waste is to be placed (generally flagged on the ground); and other data as required by the Stewardship Forester.
2. **Maintenance and Correction Provision:** The operator will be required to include a "correction" provision in the plan. This provision requires that waste area sites be maintained in a condition which protects water quality for a period of ten years following construction. Correction refers to measures the landowner will take to stabilize the site itself (on-site) or minimize damage to waters of the state (off-site) if failure occurs. There may be instances where measures required to actually stabilize a site may be cost prohibitive. It is in these cases where off-site measures to minimize impacts to waters of the state may be appropriate.

Proposed waste disposal areas involving large volumes of fill material and/or on sites of questionable stability may require operator-provided evaluation, at the discretion of the Stewardship Forester. Evaluations may range from a statement of the stability based on surface indicators to a fully-engineered design (includes subsurface information and an engineering analysis of site stability). The amount of engineering required, and ultimately the decision to allow placement of waste material, will be commensurate with the value of the protected resource that is at risk from failure and the degree of confidence in the stability of the site.

When written plans include information about waste disposal areas, they shall be reviewed and comments may be provided by the geotechnical specialist.

RELATED RULES AND STATUTES:

- OAR 629-605-0170(4) Written plans
- OAR 629-625-0100(2)(a) Written Plans for Road Construction
- OAR 629-625-0200(3) Road location

ROAD CONSTRUCTION***OAR 629-625-0400***

OARs 629-625-0400 through 629-625-0440 provide standards for disposal of waste materials, drainage, stream protection, and stabilization to protect water quality during and after road construction.

APPLICATION:

This purpose statement is not used for enforcement action.

ADMINISTRATION:

The intent of the rules for road construction is to prevent material related to road construction disturbances from entering the waters of the state. Protected resources are water quality and aquatic habitat.

DISPOSAL OF WASTE MATERIALS**OAR 629-625-0410**

Operators shall not place debris, sidecast, waste, and other excess materials associated with road construction in locations where these materials may enter waters of the state during or after construction.

APPLICATION:

This section is used for enforcement

COMPLIANCE:

An operator is in compliance with this rule when road construction is planned and conducted in such a way as to protect waters of the state by placing materials associated with road construction in stable locations above the high water level.

Unsatisfactory Condition: There is an unsatisfactory condition when:

1. Road construction materials have been placed in an unstable location that could allow them to move into waters of the state;
2. Road construction materials have been placed in areas subject to future erosion by and into waters of the state.
3. Sediment begins to enter the waters of the state.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary road construction materials (including fill, sidecast, clearing and grubbing material, and muck) entering waters of the state by any means, direct or indirect (placement, erosion, landslide, rolling, etc.)

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring.

ADMINISTRATION:

This is a very useful road construction rule for protecting waters of the state from excess construction materials. Generally, this rule will apply to newly-constructed or reconstructed roads in their early years of use.

Material must be removed from all high landslide hazard locations and taken to a stable location.

Operators must not place any end-haul material, clearing and grubbing debris, or other soil, rock, or muck where it could be subject to surface erosion, cause slope instability, or be eroded by a flooding stream. Excess material is not to be placed below high water levels unless for stream enhancement as described in OAR 629-625-0100(5).

REFERENCE:

- OAR 629-625-0600 Road maintenance

DRAINAGE**OAR 629-625-0420**

- (1) *Operators shall clear channels and ditches of slash and other road construction debris which interferes with effective roadway drainage.*

APPLICATION:

This section can be used for enforcement action.

COMPLIANCE:

An operator is in compliance with this rule by maintaining effective road drainage during and after road construction activities.

Unsatisfactory Condition: An unsatisfactory condition exists when road construction debris of sufficient size and quantity is present and interferes with or is likely to interfere with roadway drainage. An unsatisfactory condition exists when sediment begins to enter the waters of the state.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary, sediment or debris entry into waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring. A written statement might direct the operator to place all woody debris well above the level reached by very high flows.

ADMINISTRATION:

The intent of this section is to maintain proper drainage by removing material capable of causing jams in drainage ways, plugging culverts, or causing other erosion or sedimentation problems that degrade water quality. Drainage ways include man-made drainage, such as ditches, and natural drainage, such as streams.

Channels above the inlet ends of culverts should be checked for floatable material. As a minimum, such material that will move with high flows should be removed if it is within 25 feet of the inlet. All floatable material should be removed from ditches.

DRAINAGE***OAR 629-625-0420***

- (2) *Operators shall provide effective cross drainage on all roads, including temporary roads.*

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

An operator is in compliance with this rule when cross drainage structures are installed on all roads, including temporary roads to effectively remove water from the road surface with minimal surface erosion and diversion of turbidity and sediment to settling or filtering locations, delivering clean water to natural channels.

Unsatisfactory Condition: An unsatisfactory condition exists when any roads, including temporary roads, are not properly drained due to the lack of cross drainage structures. An unsatisfactory condition exists when sediment begins to enter any water of the state.

Damage: Damage exists when the unsatisfactory condition results in preventable, unnecessary sediment entry into the waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring.

ADMINISTRATION:

A temporary road is a road constructed for one use (no long-term purpose) which has not been vacated (see OAR 629-625-0650(2)). A temporary road must be maintained as an inactive road. Both temporary and inactive roads must have drainage that affords the same level of water quality protection required of active roads. Enforcement action is appropriate when temporary roads are not effectively cross drained and sediment enters the waters of the state.

Generally, this rule will apply to newly-constructed, reconstructed, or temporary roads in their early years of use. Evaluate the road for compliance with the road maintenance rules in OAR 629-625-0600.

REFERENCES:

- OAR 629-625-0650(2) Vacating forest roads
- OAR 629-625-0600 Road maintenance

DRAINAGE
OAR 629-625-0420

(3) *Operators shall install drainage structures on flowing streams as soon as feasible.*

APPLICATION:

This section can be used for enforcement action.

COMPLIANCE:

An operator is in compliance with this rule when, during road construction operations, stream crossing structures are installed rapidly in live stream crossings.

Unsatisfactory Condition: An unsatisfactory condition exists when stream crossing structures are not installed rapidly after initial road pioneering and equipment repeatedly traverses the stream with out a crossing structure, producing preventable, unnecessary, disturbance to the stream bed and banks . It is an unsatisfactory condition when excessive disturbance to the bed and banks of stream channels is a result of a stream crossing structure not being installed in a timely manner. It is also an unsatisfactory condition when sediment begins to enter a water of the state because of delay in drainage structure placement.

Damage: Damage exists when unsatisfactory condition results in preventable, unnecessary sediment delivery into waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring.

The statement should direct the operator to install stream crossing structures before resuming road construction.

ADMINISTRATION:

One focus of this section is to minimize the crossing of streams with equipment during road construction without a stream crossing structure. Any method that eliminates preventable, unnecessary, sediment entry into waters of the state is acceptable

DRAINAGE
OAR 629-625-420

(4) Operators shall effectively drain uncompleted roads which are subject to erosion.

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

An operator is in compliance with this rule when effective drainage is facilitated throughout the road construction process.

Unsatisfactory Condition: An unsatisfactory condition exists when cross drainage is not installed where needed to prevent unnecessary sedimentation from uncompleted roads. An unsatisfactory condition exists when sediment begins to enter a water of the state.

Damage: There is damage when the unsatisfactory condition results in preventable, unnecessary, sediment delivery to waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring.

A written statement might direct the operator to immediately install drainage structures.

ADMINISTRATION:

This section requires that when work on uncompleted roads is halted for any period of time and the road might be subject to erosion, adequate cross drainage must be installed. Cross drainage may be provided by culverts, water bars, dips, or other suitable structures.

DRAINAGE
OAR 629-625-0420

- (5) *Operators shall remove berms on the edges of roads or provide effective drainage through these berms, except for those berms intentionally designed to protect road fills.*

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

An operator is in compliance with this rule when roadside berms are either removed or effective drainage is provided through the berms, except for those berms intentionally designed to protect road fills.

Unsatisfactory Condition: There is an unsatisfactory condition when a roadside berm has not been removed or adequately drained and that berm is not essential to protect a road fill from erosion. An unsatisfactory condition exists when sediment begins to enter any waters of the state.

Damage: Damage exists when the unsatisfactory condition results in preventable, unnecessary, sediment entering waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring.

The written statement should direct the operator to either remove the berm or provide effective drainage into stable locations where the runoff will be adequately settled out or filtered prior to entry into waters of the state.

ADMINISTRATION:

The intent of this section is to use berms properly in the drainage system on roads during and at the end of construction.

STREAM PROTECTION**OAR 629-625-0430**

- (1) *When constructing stream crossings, operators shall minimize disturbance to banks, existing channels, and riparian management areas.*

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

Operators comply with this section when they minimize disturbance to the bed, banks and RMAs when constructing stream crossings.

Unsatisfactory Condition: There is an unsatisfactory condition when crossings are constructed and the disturbance is wider or otherwise greater than necessary to accommodate anticipated road use. An unsatisfactory condition exists when sediment begins to enter the waters of the state.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment or debris entering waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring.

ADMINISTRATION:

Written plans are required for Type F and Type D streams by OAR 629-605-0170(1)(a). Stream crossings must also be designed **and** constructed according to OAR 629-625-0320(1), (2) and (3). Stewardship Foresters can also require written plans under authority of the road location rule for risk of material entering waters of the state (OAR 629-625-0100(2)(a)).

REFERENCES:

- OAR 629-625-0100(2)(a) Road location
- OAR 629-625-0320(1)(2) and (3) Stream crossing structures
- OAR 629-605-0170 Written plans

STREAM PROTECTION***OAR 629-625-0430***

- (2) *In addition to the requirements of the water protection rules, operators shall keep machine activity in beds of streams to an absolute minimum. Acceptable activities where machines are allowed in streambeds, such as installing culverts, shall be restricted to periods of low water levels. Operators shall submit a written plan to the State Forester for machine activity in Type F or Type D streams, lakes, and significant wetlands.*

APPLICATION:

This section can be used for enforcement.

The written plan requirements should be enforced as described in the ADMINISTRATION section below.

COMPLIANCE:

Operators comply with this section by limiting as much a possible machine activity in Type F or Type D streams, lakes, and significant wetlands. Operators comply with this section when a statutory written plan is submitted for machine activity in Type F or Type D streams or significant wetlands as required by ORS 527.670(3). Operators comply with this section when a nonstatutory written plan is submitted for machine activity in lakes as required by this rule.

Unsatisfactory Condition: An unsatisfactory condition exists when construction could have been accomplished with less activity in the channel, lake or significant wetland; or equipment was operated during periods of moderate to high water levels without an approved plan for an alternate practice.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment or debris entering waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action can be completed prior to damage occurring.

ADMINISTRATION:

Operators must restrict both the amount of time and the time of year of machine activity in all listed waters during road construction to that which results in the least channel impact and lowest generation of sediment (low water level).

A statutory written plan must be required for any machine activity in Type F or Type D streams, or significant wetlands during road construction. The nonstatutory written plan requirements under OAR 629-625-0100(2)(b) and this rule are redundant and are not used.

The requirement for a non-statutory written plan for machine activity in lakes under OAR 629-625-0100(2)(b) or this rule may be waived if the Stewardship Forester determines that the formal plan process is not needed to help ensure resource protection. Consideration of the waiver begins when the operator requests the waiver. Unless the Stewardship Forester grants the waiver, a non-statutory written plan is required and must be submitted before the practice or operation begins.

The local ODFW fish biologist may be consulted for determination of acceptable plans for alternate practice to operate equipment in a stream during times other than the low flow periods published by ODFW in their publication, "Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources".

Low water levels in most of western Oregon normally occur in summer and early fall, exclusive of short periods (two days or so) after summer and early fall storms. In eastern Oregon, low flows may also occur during very cold periods in winter, when no warming, rain, or snow melt has occurred. Low levels normally can be determined by clear water and stable flows where water levels are consistent.

Acceptable activities include crossing the stream only as reasonably necessary to construct the stream crossing, and the actual construction of the stream crossing. Excessive activity is considered to be any operation of equipment or placing materials in streambeds which is not reasonably necessary to construct a minimum stream crossing.

REFERENCES:

- ORS 527.670(3) When Notice and Written Plan Required
- OAR 629-625-0100(2)(b) Written Plans for Road Construction
- OAR 629-635-0130 Written plans for streams, lakes, wetlands and riparian management areas
- Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources. ODFW.
- 1994 Water Classification and Protection Rules Reference Guide, Unit 4A

STREAM PROTECTION
OAR 629-625-0430

- (3) *For all roads constructed or reconstructed operators shall install water crossing structures where needed to maintain the flow of water and passage of adult and juvenile fish between side channels or wetlands and main channels.*

APPLICATION:

This section is used for enforcement

COMPLIANCE:

An operator is in compliance with this rule when, during road construction or reconstruction, water crossing structures are installed as needed to maintain fish passage between side channels, wetlands, and main channels.

Unsatisfactory Condition: An unsatisfactory condition exists when construction or reconstruction of a road across any side channel or wetland occurs without installation of a water crossing structure adequate to maintain water flow at low water levels, and/or which does not allow adult and juvenile fish passage.

Damage: Damage occurs when the unsatisfactory condition prevents the normal movement of adult or juvenile fish back and forth during times when fish normally access these areas.

Written Statement of Unsatisfactory Condition: Issue a Written Statement during or immediately after construction when correction can be accomplished prior to damage occurring.

If the construction may have already prevented fish migration, a citation may be appropriate. Consult an ODFW fisheries biologist or the department hydrologist prior to taking enforcement action under this section.

ADMINISTRATION:


Operators must construct stream crossing structures between main channels and side channels, between main channels and wetlands, and when crossing either side channels or wetlands. This applies to all new construction and also to all road reconstruction projects. In general, these structures should meet the same requirements as live stream crossing structures, except for peak flow passage. Minimizing culvert gradient and outlet drop is critical to successful fish passage.

Reconstruction includes minor road relocation; stream crossing structure replacement; road widening; and clearing of any road closed by trees growing on the road surface.

For sites where achieving culvert design standards for passage is difficult, Stewardship Foresters should consult with the hydrologist and the ODFW fish biologist to assure that the proposed

structure will be adequate to provide fish passage. Providing passage for juvenile fish may be difficult under many circumstances, so consultation is recommended.

REFERENCES:

- 1994 Water Classification and Protection Rules Reference Guide, Unit 4A
- *Forest Practices Technical Note Number 4 - [Fish Passage Guidelines for New and Replacement Stream Crossing Structures](#)  Version 1.0: Effective May 10, 2002*

STREAM PROTECTION**OAR 629-625-0430**

- (4) *Operators shall leave or re-establish areas of vegetation between roads and waters of the state to protect water quality.*

APPLICATION:

This section is used for enforcement..

COMPLIANCE:

An operator is in compliance with this section when areas of vegetation between roads and waters of the state are protected during construction to the extent possible, and re-established promptly when disturbance cannot be avoided.

Unsatisfactory Condition: There is an unsatisfactory condition when sufficient vegetation is not left between roads and waters of the state to protect water quality.

Damage: Damage exists when the unsatisfactory condition results in preventable, unnecessary sediment delivery into waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: Issue a Written Statement during or immediately following construction when mulching or re-establishment of vegetation will adequately control sediment entering waters of the state, prior to damage occurring.

ADMINISTRATION:

This section should generally be limited to small Type N streams. Written plans are required for roads in RMAs of Type F, and Type D streams. (OAR 629-635-0130(1)) When reviewing written plans for roads in riparian management areas, the Stewardship Forester should make sure that roads near and parallel to streams are avoided if there are alternatives. If there are no alternatives, roads should be located as far from streams as possible.

As a general rule, trees and shrubs should be left or re-established within 25 feet of streams where side slopes are less than 40 percent, and within 50 feet where side slopes are over 40 percent. If new roads must be located within these distances of a stream, nonstatutory written plans should be required under OAR 629-625-0100(2) and should address mulching and planting to replace lost or disturbed vegetation between the road and the stream.

RELATED RULES AND STATUTES:

- 629-635-0130(1) Written Plans for Streams, Lakes, Wetlands and Riparian Management Areas

STREAM PROTECTION***OAR 629-625-0430***

- (5) *Operators shall remove temporary stream crossing structures promptly after use, and shall construct effective sediment barriers at approaches to channels.*

APPLICATION:

This section is used for enforcement.

COMPLIANCE:

Operators comply with this section when temporary crossings are removed as soon as use is completed, and all feasible and practical measures are taken to minimize sediment entry from the crossing site. Re-vegetation of stream approaches should be part of sediment barrier installations whenever feasible for long-term soil stability.

Unsatisfactory Condition: There is an unsatisfactory condition when temporary crossings have not been removed prior to expected high flows and periods of fish migration. It is an unsatisfactory condition when the approaches have not been water barred or otherwise prepared to keep all preventable erosion of soil into waters of the state. An unsatisfactory condition exists when sediment begins to enter the waters of the state.

Damage: Damage occurs when the unsatisfactory condition results in a barrier to fish passage during times when fish normally access these areas. Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment entry into waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring.

ADMINISTRATION:

Temporary crossings should be removed and sediment barriers constructed as soon as use of the crossing has ceased, and always before high flows are expected. If a major storm is forecast, sediment barriers should be installed immediately, even if the crossing is still being used.

"Effective" means the barriers divert water away from the stream and onto non-compacted soil, through vegetation or slash, or other sediment barriers, so that sediment does not enter flowing waters. Large berms with cross ditches are generally suitable. Such structures should be placed a short distance (20 feet or so) above the high water level (the top of streambank for high banks,

and the edge of floodplain for low banks) so that filtering is possible. For medium and large streams, sediment barriers should also be placed at the outside boundaries of the RMA. Consideration should be given to insuring that unauthorized users can not access vacated stream crossings.

RELATED RULES AND STATUTES:

- OAR 629-625-0200(4) Road location
- OAR 629-625-0320(1)(2) and (3) Stream crossing structures
- OAR 629-635-0130 Written plans for streams, lakes, wetlands and riparian management areas

STABILIZATION
OAR 629-625-0440

(1) Operators shall stabilize exposed material which is potentially unstable or erodible by use of seeding, mulching, riprapping, leaving light slashing, pull-back, or other effective means.

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

Operators comply with this section when all unstable or erodible soils have been effectively shielded from the erosive effects of rainfall, surface runoff, dry ravel, slope failure, and the like.

Unsatisfactory Condition: There is an unsatisfactory condition when exposed soils have not been stabilized. An unsatisfactory condition exists when sediment begins to enter the waters of the state.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment entry into waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring.

Stream-crossing fills are particularly vulnerable to delivering soil to the waters of the state. For stream crossing fills, also consider whether enforcement action applies under OAR 629-625-0320 (1)(c).

ADMINISTRATION:

The intent of this section is to prevent exposed materials from entering waters of the state. Corrective measures should be completed in a timely manner (i.e., before heavy rains) to prevent erosion and/or landslides.

REFERENCES:

- OAR 629-625-0320 (1) (c) Stream crossing structures
- Seeding to Control Erosion Along Forest Roads. OSU Extension Circular # 885

STABILIZATION
OAR 629-625-0440

- (2) *During wet periods operators shall construct roads in a manner which prevents sediment from entering waters of the state.*

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

An operator is in compliance with this rule when road construction during wet weather conditions is planned and conducted using precautions effective in preventing sediment from entering waters of the state.

Unsatisfactory Condition: An unsatisfactory condition exists when road construction takes place during wet weather conditions, creating a potential for sediment to enter waters of the state, and inadequate measures are in place to control erosion. An unsatisfactory condition exists when sediment begins to enter the waters of the state.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment entering waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective measures can be taken prior to damage occurring. The written statement should direct the operator to either cease work and/or install effective erosion control structures.

ADMINISTRATION:

The intent of this section is to prevent sediment entry into waters any time when road construction exposes soils to washing or sliding into those waters. Road construction during times of the year when soils are wet or thawing and when storms are likely is particularly vulnerable. When it is not practical to limit the timing of construction, erosion prevention measures such as limiting the type of activity (e.g., clearing and grubbing rather than final grading) and the type of equipment (e.g., excavator rather than dozer) should be utilized. If erosion is possible, measures must be taken to prevent sediment from reaching waterbodies through the use of hay bales, silt fences, settling ponds, or the like. Such measures must effectively keep sediment out of waters of the state. Failing to apply available practices that are capable of preventing erosion into waters is a violation of this section.

REFERENCE:

- Oregon Department of Forestry. 2000. Forest Road Management Guidebook. Oregon Department of Forestry. Salem, Oregon.

STABILIZATION
OAR 629-625-0440

- (3) *Operators shall not incorporate slash, logs, or other large quantities of organic material into road fills.*

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

An operator is in compliance with this rule when clean fill material (free of slash, logs or other large quantities of organic debris) is used in road and landing construction.

Unsatisfactory Condition: It is an unsatisfactory condition when organic material such as stumps, logs or slash is incorporated into road fills. It is an unsatisfactory condition when erosion and/or a fill failure occurs due to organic material incorporated into road fills. An unsatisfactory condition exists when sediment begins to enter the waters of the state.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment entry into waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring. Consult a geotechnical specialist when useful to determine appropriate corrective actions.

ADMINISTRATION:

The intent of this section is to prevent the burying of slash, logs, and other large quantities of organic material in road fills where a potential fill failure could enter waters of the state.

Road grades should be cleared to mineral soil to comply with the basic intent of this rule. When organic material is buried, it decomposes after a period of time. Decomposition will reduce the strength of the fill and a landslide may eventually result.

"Large quantities of organic material" does not necessarily mean large material. Though small quantities of needles, duff, grass, or fern are usually not a problem, constructing a road without first removing a solid cover of such materials on a road with a side slope exceeding about 40 percent may eventually contribute to fill failure. Decomposition of organic material is a relatively slow process and, therefore, the timing of corrective action may not be as critical as

with other practices. However, the corrective measures should be completed as soon as is practical to minimize the opportunity to forget about the problem.

ROCK PITS AND QUARRIES**629-625-0500**

- (1) *The development, use and abandonment of rock pits or quarries which are located on forestland and used for forest management shall be conducted using practices which maintain stable slopes and protect water quality.*

APPLICATION:

This section (1) is the purpose statement, and is not used for enforcement action. Pursue enforcement action under the appropriate subsections of sections (2) through (5) of this rule.

ADMINISTRATION:

The intent of this rule is to place these surface mining operations under the jurisdiction of the FPA to ensure that protected resources are not adversely affected.

This rule is intended to meet the provisions of ORS 527.710, which requires forest practice rules to meet the objectives of other agencies' rules and regulations on forestland. This rule is directly related to the Mined Land Reclamation Act (ORS 571.750 to 571.900) administered by the Department of Geology and Mineral Industries (DOGAMI).

The Mined Land Reclamation Act (MLRA) regulates surface mining operations through permits. The MLRA contains an exemption for surface mining operations on forestlands where the rock is used on forest roads or for other forest management purposes. There is no quantity limit on this exemption as long as the rock is **only** used for forest management purposes **by the landowner on whose land the rock pit is located**. The rock may not be sold or traded to another forest landowner.

If during any twelve month period, more than 5000 cubic yards of rock is sold from a rock pit located on forestlands, that rock pit will be subject to DOGAMI permit requirements. Thus, where rock is used for both forest operation and commercial non-forestry uses (joint quarry), forest practice rules **and** DOGAMI permit requirements will apply to the rock pit if commercial sale exceeds 5000 cubic yards. DOGAMI will be the lead regulatory agency for joint quarries where 5000 yards or more of rock is sold each year. ODF is the only regulating agency for joint quarries on forestlands when less than 5000 yards of rock is sold in any year.

Coordinate regulation and enforcement actions on joint quarries with DOGAMI. Reclamation program staff that administer the surface mining regulations are located in Albany, and can be reached by calling (541) 967-2039.

In addition to the forest practice and DOGAMI rules, the Department of Environmental Quality requires permits for quarries which could discharge storm water into waters of the state. National Pollutant Discharge Elimination System (NPDES) permits are required for quarries that have a drainage ditch or culvert which discharges directly into any water of the state. Such direct discharges are considered point sources of pollution when they are associated with quarries.

Operators should be informed of these NPDES requirements if a quarry has or could have a drainage ditch or culvert which discharges directly into any water of the state. Operators should contact the regional DEQ office for specific permitting information. If NPDES permits are applicable, operators will be required to both obtain a permit from the DEQ **and** still comply with FPA rules.

Stewardship Foresters should consult a geotechnical specialist for additional information about DEQ and DOGAMI requirements for surface mining sites on forestlands, and also for information on interagency coordination.

RELATED RULES AND STATUTES:

- ORS 527.710 Duties and powers of board; rules to protect resources; inventory for resource protection; consultation with other agencies required
- ORS 571.750 to 571.900 Mined land reclamation act

ROCK PITS AND QUARRIES
OAR 629-625-0500

(2) *Operators shall not locate quarry sites in channels.*

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

An operator is in compliance with this rule when a rock source or waste area, or any portion thereof, is located well away from any stream channel.

Unsatisfactory Condition: There is an unsatisfactory condition when a quarry operation encroaches into a channel area.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment or debris entering waters of the state.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when complete repair or restoration is possible and feasible and can be done prior to damage occurring. Consultation with a geotechnical specialist is recommended prior to enforcement action.

ADMINISTRATION:

On rare occasions, locating a quarry in a streambed may result in lower environmental impact than would compliance with this subsection. In such a case, the operator must obtain approval of plan for an alternate practice as described in OAR 629-605-100(2)(b) "Compliance". Consultation with a geotechnical specialist, DEQ, DSL, and ODFW is recommended prior to approval of such a plan.

RELATED RULES AND STATUTES:

- OAR 629-600-0100 Definitions - (9) "Channel"
- OAR 629-605-0100(2)(b) Compliance

ROCK PITS AND QUARRIES
OAR 629-625-0500

- (3) *When using rock pits or quarries, operators shall prevent overburden, solid wastes, or petroleum products from entering waters of the state.*

APPLICATION:

This section can be use for enforcement.

COMPLIANCE:

An operator is in compliance with this rule when rock pit and quarry operations are planned and conducted so that overburden, solid wastes, or petroleum products are removed or placed in stable locations to prevent them from entering waters of the state.

Unsatisfactory Condition: There is an unsatisfactory condition when overburden, solid wastes, or petroleum products from rock pit and quarry operations are located where they may enter waters of the state.

Damage: Damage occurs when excessive overburden, solid wastes, or **any** petroleum products from rock pit and quarry operations enter waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical before damage occurs. The written statement should direct the operator to remove or place overburden, solid wastes, or petroleum products in stable locations where they cannot enter waters of the state.

ADMINISTRATION:

This section applies to rock pits that have not been abandoned as material sources. Refer to section (5) of this rule when there are compliance problems with pits that have been abandoned.

Contact Salem staff and perhaps a geotechnical specialist in cases where blasting shots have apparently gone awry and material has been deposited in a water of the state; the proper course of enforcement action may not always be clear.

ROCK PITS AND QUARRIES**OAR 629-625-0500**

- (4) *Operators shall stabilize banks, headwalls, and other surfaces of quarries and rock pits to prevent surface erosion or landslides.*

APPLICATION:

This section is used for enforcement.

COMPLIANCE:

Operators comply with this section when they stabilize working faces, floors, overburden, and waste areas before wet weather, or other operating conditions preclude needed work.

Unsatisfactory Condition: There is an unsatisfactory condition when the operator fails to stabilize all portions of a quarry operation to minimize the risk of erosion or landslides.

Damage: Damage occurs when preventable, unnecessary sediment or debris enters the waters of the state from soil erosion or mass soil movement as a result of a failure to stabilize surfaces in a quarry.

There is damage when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when correction is feasible and practical before damage occurs with time or the next anticipated rain or snowmelt event. The written statement may direct the operator to pull back waste areas, terrace working faces, and/or re-vegetate overburden and waste areas.

Buttressing, rock armor, vegetative stabilization, or other slope stabilization techniques may be required.

ADMINISTRATION:

This section applies to active surface mining sites that are utilized on an ongoing or annual basis. Use section (5) of this rule for sites that are inactive or vacated.

Consult a geotechnical specialist prior to taking enforcement action under this section, especially regarding slope stability problems or structural rock stability problems. DOGAMI reclamationists may be consulted for revegetation and surface erosion control.

ROCK PITS AND QUARRIES
OAR 629-625-0500

- (5) *When a quarry or rock pit is inactive or vacated, operators shall leave it in the conditions described in section (4) of this rule, shall remove from the forest all petroleum-related waste material associated with the operation; and shall dispose of all other debris so that such materials do not enter waters of the state.*

APPLICATION:

This section can be used for enforcement. Any surface mine unused for more than twelve months should be considered inactive.

COMPLIANCE:

Operators comply with this section when petroleum related waste material and other debris are removed. Operators comply with this section when all other debris associated with the operation is disposed of so that such materials do not enter waters of the state.

Unsatisfactory Condition: There is an unsatisfactory condition when the inactive or vacated rock pit operator fails to remove from the forest all petroleum-related waste material associated with the operation. An unsatisfactory condition exists when the operator fails to dispose of all other debris associated with the operation so that such materials do not enter waters of the state.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment or debris entering waters of the state. Damage occurs when the unsatisfactory condition results in **any** petroleum products entering waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring.

ADMINISTRATION:

The intent of this section is that inactive and vacated surface mines are to be left in a stable condition. Any surface mine unused for more than twelve months should be considered inactive. Final stabilization and reclamation work should be completed within three years of cessation of use. Coordination with DOGAMI and/or DEQ; and consultation with a geo-technical specialist are appropriate actions.

ROAD MAINTENANCE

OAR 629-625-0600

(1) The purpose of this rule is to protect water quality by timely maintenance of all active and inactive roads.

APPLICATION:

This purpose statement cannot be used for enforcement action.

ADMINISTRATION:

Sections (2) through (8) of this rule shall be used for enforcement action whenever maintenance or lack of maintenance may impact water quality.

ROAD MAINTENANCE***OAR 629-625-0600***

- (2) *Operators shall maintain active and inactive roads in a manner sufficient both to provide a stable surface and to keep the drainage system operating as necessary to protect water quality.*

APPLICATION:

This section can be used for enforcement. This section applies to all roads used and/or constructed since 1972, which have not been effectively vacated.

COMPLIANCE:

Operators comply with this section when all active and inactive roads are maintained as needed to maintain a stable road surface. In addition, operators comply with this section when drainage systems are maintained to control all preventable, unnecessary sediment entering waters of the state.

Unsatisfactory Condition: There is an unsatisfactory condition when road running surfaces are allowed to develop ruts that channel runoff along the road rather than off to the sides. There is an unsatisfactory condition when cross drains are not maintained and blockages or reduced capacities divert water onto the roadway, or overload ditches, forcing runoff to flow to a lower drainage structure. There is an unsatisfactory condition when surface runoff is channeled directly into waters of the state, or is not adequately filtered before entering waters of the state. An unsatisfactory condition exists when sediment enters the waters of the state.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment or debris entering waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring.

ADMINISTRATION:

This section requires operators to maintain stable road surfaces and maintain an operating drainage system on all active and inactive roads to achieve the protection of water quality.

Notification is not required for routine road maintenance as long as it involves only the road surface and ditches. Written plans are not required for routine road maintenance within these bounds when a road crosses a stream within a riparian management area. Maintenance outside

these bounds, such as brush control with herbicides requires notification and statutory written plans for stream protection.

- A **stable surface** is one that is of sufficient strength to remain relatively smooth (up to small ruts) so that water will not run down and erode the surface, and traffic will not lead to water running down ruts into waters of the state. A surface is stable if surfacing materials hold up under traffic, without pumping mud through the surface aggregate during use, that eventually enters waters of the state through the road drainage system or lack thereof.
- An **operating drainage system** ensures that water is conveyed across or under the road to disperse without entering waters of the state, and that provisions are in place to maintain drainage if ravel, slumps, or other roadway deterioration can be anticipated.

Determining the appropriate operator(s) responsible for road maintenance can be difficult. Using a forest road for any commercial forest management activity constitutes an "operation" as defined in ORS 527.620 (9). Anyone, including landowners, log truck drivers, and rock truck drivers, conducting such an "operation" is an operator and shares in the maintenance responsibility. There may be more than one responsible party, as when multiple operations are using a common road.

Road maintenance is ultimately the responsibility of the landowner. There are multiple ways to work through the "operator", which can also be the landowner, to have the maintenance done. Landowners often have road use agreements with other landowners and operators who need to use their road. Here ODF would work through the landowner, holding them responsible to activate road maintenance through the road use agreement. If the road is a county or state road, operators may try to divert the road maintenance responsibility to the government, reasoning that they pay taxes to have the road maintained. This reasoning does not shift responsibility off the operator or the operator's landowner. ODF requires the on-site operator to implement the proper BMPs, taking enforcement action to achieve the FPA-required outcomes as necessary. It's between the operators and the landowners, including the county or state, to work out who does the maintenance work and who pays for it. Resource protection through needed road maintenance will be enforced, and the operator(s) causing damage will receive the enforcement action. This also applies if the operator is using a federal agency-owned road.

Excepting certain mixed ownerships, landowners have the authority to control access on their roads. Landowners must make every reasonable effort to control use of their roads. Recreational users such as hunters or picnickers have no responsibility for road maintenance under the FPA. The department encourages cooperative road closures and coordination with the Department of Fish and Wildlife and other agencies to reduce damage caused by recreational users.

Under the FPA, operators are **not required** to maintain roads for adjacent homeowners or other public uses. Landowners are required to perform only that maintenance which is necessary to protect water quality, not "drivability."

REFERENCES:

- OAR 629-600-0100 Definitions - "*Active roads*"; "*Inactive roads*"; "*Vacated roads*"
- ORS 527.620 Definitions - "*Operation*"; "*Operator*"

ROAD MAINTENANCE***OAR 629-625-0600***

- (3) *Operators shall inspect and maintain culvert inlets and outlets, drainage structures and ditches before and during the rainy season as necessary to diminish the likelihood of clogging and the possibility of washouts.*

APPLICATION:

This section can be used for enforcement. This section applies to all roads used and/or constructed since 1972, unless adequately vacated.

COMPLIANCE:

An operator is in compliance with this rule when all active and inactive road drainage systems are inspected and maintained before and during the rainy season as necessary to prevent clogging and the possibility of washouts.

Unsatisfactory Condition: There is an unsatisfactory condition when drainage structures are not inspected and maintained and blockages or reduced capacities have the potential to divert water onto the roadway, or overload ditches by forcing runoff to flow to a lower drainage structure and increasing the likelihood of road failure. There is an unsatisfactory condition when drainage structures are poorly maintained and have the potential to channel surface runoff directly into waters of the state, without adequate settling and filtering. An unsatisfactory condition exists when sediment begins to enter the waters of the state.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment or debris entering waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring.

ADMINISTRATION:

The operator/landowner is required to clean drainage systems before and during the rainy season to reduce the likelihood of clogging and subsequent washout. "Cleaning" should include removal of all drainage obstructions, including damaged portions of culverts themselves. In stream large woody debris and beaver dams that do not pose an imminent danger to the drainage structure (due to proximity) should not be removed (see OAR 629-660-0050).

Operators are responsible for ensuring that vehicle use and equipment activities on roads are not causing turbid water to enter waters of the state. This applies to all roads (including county,

state, and federal) where forestry is a user of the road. Roads should be inspected during major storm events to ensure the drainage system will continue to operate properly.

REFERENCE:

- OAR 629-660-0050 Beaver dams or other natural obstructions

ROAD MAINTENANCE***OAR 629-625-0600***

- (4) *Operators shall provide effective road surface drainage, such as water barring, surface crowning, constructing sediment barriers, or outsloping, prior to the rainy and runoff seasons.*

APPLICATION:

This section can be used for enforcement. This section applies to all roads used and/or constructed since 1972, unless adequately vacated.

COMPLIANCE:

An operator is in compliance with this rule when all active and inactive road surfaces are appropriately maintained before the rainy and runoff seasons.

Unsatisfactory Condition: There is an unsatisfactory condition when there is potential for erosion and sediment delivery to waters of the state because road surfaces have not been out sloped, crowned, water barred, or protected by other suitable means. An unsatisfactory condition exists when there is evidence of erosion and sediment beginning to enter a water of the state.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment or debris entering waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective actions are feasible and practical before damage occurs.

ADMINISTRATION:

Operators must take whatever action is appropriate to prevent surface runoff from traveling a significant distance down the road surface. For roads designed without ditches, this requires outsloping, removal of unnecessary berms, and water barring. For roads with ditches, this usually requires crowning and removal of berms, but may also require water barring and rolling dips.

Berms in some locations may be **essential** for fill protection. Such fill protection berms should seldom exceed 100 feet in length. (see OAR 629-625-0420(5))

Preparation of the repair order will necessitate an evaluation of what machinery or methods can be used without further damage. Hand dug water bars, settling areas, straw filters, etc., may be appropriate as interim measures. When complete repairs cannot be applied immediately, the repair order should include a date by which final repairs shall occur.

ROAD MAINTENANCE***OAR 629-625-0600***

- (5) *When applying road oil or other surface stabilizing materials, operators shall plan and conduct the operation in a manner as to prevent entry of these materials into waters of the state.*

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

An operator is in compliance with this rule when the application of road oil, or other surface stabilizing material is done in such a way as to prevent their entry into waters of the state.

Unsatisfactory Condition: There is an unsatisfactory condition when road oil or other surface stabilizing material is applied or maintained in a manner where it is likely to enter waters of the state. An unsatisfactory condition also occurs when there is evidence of road oil, or other surface stabilizing material beginning to enter a water of the state.

Damage: There is damage when road oil or other surface stabilizing material has entered waters of the state.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring.

The operator may be directed to divert, filter, or capture runoff containing road oil or other surface stabilizing material prior to or after it enters waters of the state.

ADMINISTRATION:

This section is intended to ensure that waters of the state are not contaminated with road surface stabilizing material. If such material enters waters of the state, the DEQ and Health Division, Drinking Water Section, should be notified through the Oregon Emergency Response System (503-378-4124).

Use of waste oil on roads is prohibited by DEQ regulations. Notify DEQ if you believe waste oil was applied on forest roads.

If the stabilizing material may be hazardous, refer to the Hazardous Materials Incident Reporting and Control Directive. When this material threatens waters, timely and appropriate action is to remove the material so it does not enter waters. This may be done by capturing the material in a dike, ditch, absorptive material, or by some other effective means.

If the road surface stabilizing material enters waters, repair (via repair order) should attempt to capture and remove the material much the same as in other oil or chemical spills. In extreme incidents, repair may include stream habitat rehabilitation measures. Consult with the ODFW fish biologist to determine beneficial rehabilitation practices.

REFERENCE:

- Oregon Department of Forestry Directive 6-3-0-002, “*Hazardous Materials Incident Reporting and Control*”

ROAD MAINTENANCE**OAR 629-625-0600**

- (6) *In the Northwest and Southwest Oregon Regions, operators shall maintain and repair active and inactive roads as needed to minimize damage to waters of the state. This may include maintenance and repair of all portions of the road prism during and after intense winter storms, as safety, weather, soil moisture and other considerations permit.*

APPLICATION:

This section can be used for enforcement. It is particularly designed to prevent sediment and debris from entry into waters. This section applies to all roads used and/or constructed since 1972, which have not been adequately vacated. In the Northwest and Southwest Oregon Regions, intense winter storms and rain on snow events are most likely to result in extreme runoff events that damage road systems.

COMPLIANCE:

An operator is in compliance with this rule when roads are surveyed and maintained so that they are in condition to prevent the sedimentation into waters that major storm events can cause. Maintenance is expected in these regions before, during, and after intense storm events.

Unsatisfactory Condition: There is an unsatisfactory condition when an active or inactive road is in a condition that threatens or has already impacted waters of the state through the delivery of sediment from the roadway. An unsatisfactory condition exists when timely and appropriate action has not been taken, and there is evidence of erosion and sediment delivery to a water of the state.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment or debris entering waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when preventive action or complete repair is feasible and practical prior to damage occurring.

ADMINISTRATION:

This section is a very powerful erosion prevention tool. It is intended to minimize sediment delivery to waters of the state by requiring maintenance or repair (including reconstruction) of active or inactive roads. Required repair is any reasonable practice which will prevent damage to the waters of the state. Such practices may include reconstruction of portions of road, pull back and/or endhaul of unstable sidecast material, stabilization of cut and fill slopes, culvert cleaning, and the like. These practices are to be applied to all active and inactive roads, including those

built prior to the Forest Practices Act (July, 1972). Abandoned roads—those not used for motorized vehicle traffic by a landowner or representative since 1972—are the only exceptions to this section.

The landowner is required to take whatever reasonable action is necessary to prevent material entering waters of the state. Landowners with a quality maintenance plan that has been well-administered may in some cases not be cited for damage resulting from an unusual storm. Consult local supervisors and Salem staff if you believe that a landowner took reasonable action, yet damage occurred. If appropriate, consultation with a geotechnical specialist is also recommended, especially when major repairs involving slope stability are necessary.

ROAD MAINTENANCE
OAR 629-625-0600

(7) *Operators shall place material removed from ditches in a stable location.*

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

An operator is in compliance with this rule when materials removed from ditch cleaning operations are placed in a stable location above the 100 year flood level.

Unsatisfactory Condition: There is an unsatisfactory condition when materials removed from ditches are placed in an unstable location or where they may enter the waters of the state.

Damage: Damage occurs when the unsatisfactory condition results in ditch cleaning materials' entry into waters of the state, and it was preventable.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action can be completed prior to damage occurring.

ADMINISTRATION:

One objective of this rule is to prevent soil and debris removed from ditches during grading and/or cleaning from causing slope instability. Unstable locations include steep embankments or other slopes below the road (usually over 50 percent) on a slide areas; on the edge of any steep fills (within about three feet of the edge); or locations which can be eroded by high stream flows.

Potentially unstable material should be removed and placed in a stable location through the use of a written statement. If ditch material has slid, or otherwise caused a slide, enforcement action appropriate to the effect should be taken under this section.

ROAD MAINTENANCE***OAR 629-625-0600***

- (8) *In order to maintain fish passage through water crossing structures, operators shall:*
- (a) *Maintain conditions at the structures so that passage of adult and juvenile fish is not impaired during periods when fish movement normally occurs. This standard is required only for roads constructed or reconstructed after September 1994, but is encouraged for all other roads; and*
 - (b) *As reasonably practicable, keep structures cleared of woody debris and deposits of sediment that would impair fish passage.*
 - (c) *Other fish passage requirements under the authority of ORS 498.268 and 509.605 that are administered by other state agencies may be applicable to water crossing structures, including those constructed before September 1, 1994.*

APPLICATION:

This section is used for enforcement action involving roads constructed or reconstructed after September 1994. Subsection (c) informs operators of fish passage requirements found in statutes administered by ODFW. The Stewardship Forester should facilitate collaborative efforts between the landowner and ODFW to improve fish passage. Subsection (c) is not used for enforcement action by ODF personnel.

COMPLIANCE:

An operator is in compliance with this rule when fish passage is maintained to allow both upstream and downstream movement of adult and juvenile fish at those crossings where fish passage is required.

Unsatisfactory Condition: There is an unsatisfactory condition when debris is partially blocking any culvert on a Type F stream. An unsatisfactory condition also includes an outlet drop more than one foot, when that culvert had been installed after September 1, 1994.

Damage: Damage occurs when there is evidence of the unsatisfactory condition during periods when fish movement normally occurs.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when repairs or maintenance can be completed prior to damage.

ADMINISTRATION:

Operators must maintain fish passage through all stream crossing structures constructed after September 1, 1994. This rule applies only to crossings of Type F streams. **To comply with this section, landowners must routinely inspect stream crossing structures.** Necessary maintenance may include:

1. Removal of debris lodged in or on the crossing structure;
2. Repair of outlet drops of over one foot through pool (backwater) construction;
3. Removal of accumulations of gravel or cobbles near the culvert inlet which cause any step.

In some cases, reconstruction of the structure may be necessary.

Section (c) informs operators of fish passage requirements found in statutes administered by ODFW. Stewardship Foresters should facilitate landowner and ODFW collaborative efforts to improve fish passage. However, section (c) will not be enforced by ODF personnel.

629-625-0600***Road Maintenance***

- (9) *Where needed to protect water quality, as directed by the State Forester, operators shall place additional cross drainage structures on existing active roads within their ownership prior to hauling to meet the requirements of OAR 629-625-0330.*

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

An operator is in compliance with this rule when, prior to hauling on an active road, the drainage system is assessed and upgraded as necessary to adequately provide for drainage and prevent sediment delivery into waters of the state. An operator is in compliance with this rule when additional road cross drainage structures are installed as directed by the State Forester prior to hauling.

Unsatisfactory Condition: There is an unsatisfactory condition when a lack of cross drainage structures or the improper location of cross drainage structures poses a risk of sediment delivery to waters of the state from active road use. An unsatisfactory condition exists when an operator does not follow the direction of the Stewardship Forester in providing drainage structures on haul roads.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment delivery to waters of the state.


Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective actions can be completed prior to damage. The operator should be directed to add additional drainage structures as necessary to protect water quality.

ADMINISTRATION:

Refer to Technical Note # 8. This rule requires drainage upgrades on existing roads that will be used for hauling (active use) if the current drainage is inadequate and poses a water quality threat.

REFERENCE:

- *Forest Practices Technical Note Number 8 - [Installation and Maintenance of the Cross Drainage Systems on Forest Roads](#)  Version 1.0 - Effective June 20, 2003.*

VACATING FOREST ROADS***OAR 629-625-0650***

- (1) The purpose of this rule is to ensure that when landowners choose to vacate roads under their control, the roads are left in a condition where road related damage to waters of the state is unlikely.*

APPLICATION:

This section cannot be used for enforcement. It is the purpose statement for the following sections addressing vacating roads.

Section (2) of this rule will be used for enforcement action.

ADMINISTRATION:

This rule is intended to provide an exception to continuous maintenance of a road if certain conditions are met. If the landowner eliminates vehicular access to a road and leaves the road in a stable, self-maintaining condition, then no further maintenance will be required.

Nothing in this rule is intended to require the landowner to vacate a road or keep it vacated. However, if any of the conditions of a vacated road are not met, the landowner will be required to meet the maintenance requirements of an inactive road.

VACATING FOREST ROADS**OAR 629-625-0650**

- (2) *To vacate a forest road, landowners shall effectively block the road to prevent continued use by vehicular traffic; and shall take all reasonable actions to leave the road in a condition where road-related damage to waters of the state is unlikely.*

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

Operators comply with this section when a road has been completely blocked, drainage structures have been removed, and the surface has been out-sloped, re-vegetated or otherwise treated to make future damage to water quality unlikely.

Unsatisfactory Condition: It is an unsatisfactory condition when a road to be vacated remains accessible to vehicles. It is also an unsatisfactory condition when reasonable actions were not taken to insure damage to waters of the state does not occur.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment or debris entering waters of the state.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practical prior to damage occurring.

ADMINISTRATION:

A properly vacated road should present a very low risk of erosion by eliminating any potential maintenance problems. Culverts that might carry flow (including all stream culverts) should be removed; unstable sidecast should be pulled back; essentially re-establishing the natural systems.

VACATING FOREST ROADS***OAR 629-625-0650***

- (3) *Reasonable actions to vacate a forest road may include: removal of stream crossing fills; pullback of fills on steep slopes, frequent cross ditching, and/or vegetative stabilization.*

APPLICATION:

This section can not be used for enforcement. This section primarily defines *reasonable actions* as used in section (2).

ADMINISTRATION:

A properly vacated road should present a very low risk of erosion by eliminating any potential maintenance problems. Culverts that might carry flow, including both stream and cross drains should be removed or bypassed by open drains such as water bars; unstable side cast should be pulled back; bare surfaces re-vegetated, etc. This section should be used to support section (2) of this rule.

VACATING FOREST ROADS***OAR 629-625-0650***

- (4) *Damage which may occur from a vacated road, consistent with Sections (2) and (3) of the rule, will not be subject to remedy under the provisions of the Oregon Forest Practices Act.*

APPLICATION:

This section is not used for enforcement.

ADMINISTRATION:

Landowners may request inspection of roads they have vacated or plan to vacate. The Stewardship Forester must conduct a thorough inspection to confirm that adequate measures have been taken. If the Stewardship Forester determines that all necessary actions have been completed and the road poses no risk of mass failure or surface erosion in excess of natural background, the Stewardship Forester should write an inspection report stating that the road has been acceptably vacated. If there are any questions regarding stability of the road, a geo-technical specialist should be consulted prior to completing the inspection report. The Stewardship Forester should provide a copy of the report to the landowner.

WET WEATHER ROAD USE**629-625-0700**

- (1) *The purpose of this rule is to reduce delivery of fine sediment to streams caused by the use of forest roads during wet periods that may adversely affect downstream water quality in Type F or Type D streams.*

APPLICATION:

This section is not to be used for enforcement. It is the purpose statement for the following sections of the rule. This rule supplements the OAR 629-625-0600, Road Maintenance regulations on road surfacing, drainage, and use during wet periods. It applies specifically to road segments that can deliver turbidity and sediment to streams. Use sections (2) and (3) of this rule and OAR 629-625-0600, Road Maintenance, for enforcement actions in accordance with the associated guidance.

ADMINISTRATION:

This rule is important because fine sediment (fine sand, silt and clay) generated by road use can travel far downstream, impairing water quality and aquatic habitat for long distances.

“Wet weather”, also called wet periods, includes the time of year when rainfall or thawing normally occurs. In western Oregon, this typically includes the period from October through April. In eastern Oregon this period may be shorter. Wet periods from individual storms, at any time of year, and periods of snowmelt, are also considered wet weather.

This rule adds to the requirements of OAR 629-625-0600, Road Maintenance, by requiring specific preventive practices, those being: 1) placement of durable surfacing; or 2) other effective surfacing, drainage, or filtering measures, on road segments that are connected to streams. It also sets a specific threshold when operators must cease hauling. This rule is intended to greatly limit sediment delivery associated with roads and their use during wet weather.

This rule addresses the effects of road use during wet periods on any type and size of stream hydrologically connected to a road. Even though the rule mentions the subsequent effect on water quality in Type F or Type D streams, it applies to Type N streams as well.

Administer this rule in conjunction with OAR 629-625-0600, Road Maintenance. If a road segment is delivering turbidity or sediment to any stream, evaluate compliance with OAR 629-625-0600, Road Maintenance. In brief this means determining if there is connectivity to a stream that must be controlled by establishing a stable running surface and/or establishing a functioning drainage system to prevent or stop delivery of turbidity or sediment to waters of the state.

If, in spite of practices applied to control turbidity and sediment delivery to Type N stream reaches, turbidity or sediment caused by the road is visible in a Type F or Type D stream, the operator must also cease road use, to comply with section (3) of this rule. Ceasing road use is not enough in itself. The visible turbidity should be traced to determine whether it was caused


by noncompliance due to failure to use durable surfacing or other effective measures, and all practicable and feasible practices should be applied to stop the water pollution.

It is conceivable that the weather conditions, such as continued heavy rains, could raise the background water turbidity levels and mask turbidity contributed by road use. This will make it difficult to determine whether the OAR 629-625-0700(3), Wet Weather Road Use, visible turbidity standard for ceasing road use is occurring.

When these conditions occur, evaluate compliance with the road maintenance rule by checking for rutting and running water on the road surface and for direct connections between the road surface or road-generated turbidity and any stream. If any turbid runoff can be traced from the road directly to a stream, check that all practicable and feasible road maintenance practices are in place. If not, use the appropriate enforcement action to have these practices applied. Use a written statement if the input to the stream is of short duration and minor amount. Use a citation if you judge the condition has been going on for longer than it should have taken for the operator to note it and take immediate preventive action. In the Order to Cease Violation, it would be appropriate to direct the operator to stop using the road until weather conditions change enough to stop the direct delivery of turbid water into streams. You are not required to observe a visible change to the turbidity level in the nearest Type F or D stream before taking this enforcement action. It is sufficient that you judge the turbidity has affected or will affect the nearest stream, whether it is a Type N, F, or D stream. This enforcement action will be based upon OAR 629-625-0600, Road Maintenance, and its guidance that turbidity in any stream is an unsatisfactory condition, not upon OAR 629-625-0700(3), Wet Weather Road Use, which refers to turbidity in Type F or D streams.

Judgment must be applied in administering this guidance. The intent of the Forest Practices Act and rules is to limit as necessary, but not eliminate, all road use during wet periods in order to prevent, as much as practicable, sediment delivery and degradation of water quality in streams. A visible increase in turbidity in a stream that cannot be directly traced to the road influence, is acceptable temporary disturbance if all practicable and feasible measures have been taken to achieve compliance with the Road Maintenance rule and this Wet Weather Road Use rule (section (2)). However, when operations and conditions combine to produce a visible increase in turbidity over background levels in downstream Type F or Type D streams, road use must be stopped until wet weather conditions dry sufficiently that operations do not cause visibly-delivered additions to turbidity and sediment loading in the waters. Road use may also resume upon the application of effective measures to stop delivery of turbidity to streams.

REFERENCE:

- *Forest Practices Technical Note Number 9 - [Wet Weather Road Use](#)  Version 1, Effective June 20, 2003.*

629-625-0700***Wet Weather Road Use***

- (2) ***Operators shall use durable surfacing or other effective measures that resist deep rutting or development of a layer of mud on top of the road surface on road segments that drain directly to streams on active roads that will be used for log hauling during wet periods.***

APPLICATION:

This section can be used for enforcement. It is a stringent requirement and should be used to motivate landowners and operators to prepare their roads for water quality protection before wet periods.

COMPLIANCE:

An operator is in compliance with this rule when durable surfacing or other effective measures are used successfully on road segments that drain directly to streams on active haul roads that will be used during wet periods.

These road design, surfacing, and drainage measures must also maintain the stable surface and the working drainage system required by OAR 629-625-0600, Road Maintenance.

This preventive road preparation practice is required specifically:

- on road segments that can deliver turbidity or sediment to streams
- on roads planned for hauling wood products or gravel for a commercial forest operation during wet weather

For any other road use that produces turbidity in streams, such as recreation traffic, apply OAR 629-625-0600, Road Maintenance. The standard for compliance is the same for both rules, no practicably preventable turbidity should reach any stream, whether Type N, F, or D.

Unsatisfactory Condition: An unsatisfactory condition exists when durable surfacing, or other effective measures have not been applied on wet season use roads at locations that drain to and can deliver muddy runoff to Type N, Type F, or Type D streams. The Stewardship Forester will make professional judgments on the adequacy of the road to prevent water quality damage from turbid runoff into waters.

Landowners are expected to use durable surfacing and other effective measures such as subgrade reconstruction, ditching, cross drains, settling basins, mulching, filtering, seeding, and water bars.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment entering any stream. Evidence of sediment delivery to a stream, such as deposits in the stream bed is sufficient to establish that damage has occurred.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

A citation is appropriate when the operator fails to apply durable surfacing or other effective measures as directed by the State Forester in a Written Statement of Unsatisfactory Condition.

Written Statement of Unsatisfactory Condition: A written statement of unsatisfactory condition should be issued when corrective action or complete repair is feasible and practicable prior to damage occurring.

The Stewardship Forester will make professional judgments on the adequacy of the road to prevent water quality damage from turbid runoff into waters of the state.

Use a written statement prior to wet weather, when you judge active road use combined with wet weather is likely to cause turbidity and sediment entry into any water of the state.

Use a written statement when there are indications that the road surface is about to or is beginning to break down. Signs may include mud pumping to the surface or developing ruts that will carry muddy water down the road and ultimately into a stream or other waters of the state.

Use a written statement when the visible effect on a Type N stream: a) is still very limited in intensity and over time and space; b) is not yet visible in the downstream Type F or D stream; and c) can be immediately corrected with proper road maintenance practices. A citation may already be appropriate under OAR 629-625-0600 Road Maintenance because of the turbidity in the Type N stream.

The written statement should require the operator to apply durable surfacing and/or apply such additional effective road maintenance methods as reducing road segment length draining to streams and providing additional cross drains above stream crossings. Operators should be encouraged to develop innovative effective methods to prevent turbid water from reaching waters.

ADMINISTRATION:

This is a preventive rule section. Educational work with landowners and operators, using its requirements should be a primary focus for Stewardship Foresters. This rule section sets a high standard for road maintenance in preparation for wet periods. Landowners have been given training on this rule and were allowed the summer of 2003 to prepare their roads for the first wet season in which it was applied. Stewardship Foresters should be liberal in issuing Written Statements to educate landowners to the necessity to prepare their roads for and maintain them during wet period use.

In order to limit turbidity from roads to comply with this rule and the Road Maintenance rule, roads must be well-designed, well-constructed, well-drained, and well-surfaced. This rule places emphasis on “durable surfacing” specifically and “other effective measures” generally. There are numerous “other effective measures”, such as subgrade reconstruction, ditching, cross drains,

settling basins, mulching, filtering, seeding, and water bars. Whatever combination the landowner chooses is acceptable if the standards are met. The standards are, no practicably preventable turbidity in any stream, whether Type N, F, or D.


“Durable surfacing” is any material of sufficient thickness, strength, and lack of fines to resist rutting, breaking down, and direct delivery of turbid water to any stream during wet weather road use. Forest Practices Technical Note Number 9- Wet Weather Road Use is a guide to identifying rock durability and other elements of an all-weather road. The quality of a durable surface depends on several variables including adequacy of the subgrade, hardness of the rock, limited fines, depth of surfacing and the weight and amount of hauling. Heavily-traveled, all-winter-use roads need deeper and stronger surfacing. Lightly-used road segments with little rock surfacing may withstand limited use restricted to dry weather.

Landowners can reduce the need for durable surfacing through well-designed, effectively-constructed, and well-maintained road drainage systems. Also, situations exist in which placement of a durable surface may not be necessary to prevent sediment delivery to streams. The practice need be applied only where necessary to achieve its water quality protection purpose.

When there is turbidity or sediment entering streams that is not the result of a lack of durable surfacing or other effective measures, evaluate compliance with the relevant section(s) of OAR 629-625-0600, Road Maintenance.

More technical detail and methods of compliance are described in Technical Note # 9. The summary in Technical Note #9 is a good guide to landowners.

REFERENCE:

- *Forest Practices Technical Note Number 9 - [Wet Weather Road Use](#)  Version 1, Effective June 20, 2003.*

629-625-0700***Wet Weather Road Use***

- (3) *Operators shall cease active road use where the surface is deeply rutted or covered by a layer of mud and where runoff from that road segment is causing a visible increase in the turbidity of Type F or Type D streams as measured above and below the effects of the road.*

APPLICATION:

This section can be used for enforcement.

COMPLIANCE:

An operator is in compliance with this rule when they stop using roads because of potential or actual delivery of a visible increase in turbidity in a Type F or Type D stream.

Unsatisfactory Condition: An unsatisfactory condition exists when there is a visible turbidity increase in any Type N stream, likely to reach a Type F or Type D stream, resulting from hauling wood products or rock on a road associated with a commercial forest operation.

An unsatisfactory condition exists when an operator continues to actively use roads with unstable surfaces resulting in a visible increase in turbidity in Type F or D streams. Turbidity in any Type N stream, caused by road use, is likely to be an unsatisfactory condition under OAR 629-625-0600, Road Maintenance. See that Rule's guidance.

Damage: Damage occurs when the unsatisfactory condition results in preventable, unnecessary sediment entering a Type F or Type D stream.

Damage exists when a visible increase in turbidity from the water conditions 100 feet upstream of the entry site (a 10% or more increase over background turbidity), continues for two or more hours in a twenty-four hour period.

If damage occurs, the operator should cease road use immediately and apply effective practices that usually involve providing additional surfacing and additional drainage that diverts runoff water onto stable ground away from streams. A citation and order to cease road use should direct the operator to cease hauling if the operator has not voluntarily done so.

There is damage and a citation may be issued if there is evidence of excessive sediment having reached a Type F or Type D stream from the road segment, even though there is no active turbidity occurring at the time the Stewardship Forester is present on the site. There must be sufficient evidence, such as sediment deposits in the stream, to convince a "reasonable person" that conditions met the definition of damage for this section prior to the Stewardship Forester's inspection.

There is a remote possibility of conditions where durable surfacing is in the proper places and road drainage is adequate so that there is no visible evidence of a connection between road runoff and the stream. Yet, despite these proper practices, there is a visible increase in turbidity below the road crossing in the Type N stream system, which is not visibly changing the color of the nearest Type F or D stream reach. This would not constitute damage, a violation of this section or a requirement to cease hauling. Unless the Stewardship Forester judges that the turbidity is likely to affect the Type F or Type D stream, this constitutes unavoidable, natural background water quality condition, or an acceptable, temporary level of disturbance. However, normally there will be additional practicable and feasible preventive practices that could be applied. Such practices are required by OAR 629-625-0600 Road Maintenance because of turbidity added to the Type N stream.

Written Statement of Unsatisfactory Condition: A written statement referencing this section should be used if there is turbidity reaching a Type N stream from the road, which has not yet caused a visible increase in a Type F or Type D stream, but the Stewardship Forester judges that this is likely. The written statement should require the operator to use methods such as adding rock and/or reducing road segment length draining to streams. To avoid a violation of this rule, the timely action must stop the traceable delivery of turbidity or sediment into the Type N stream. A citation may already be appropriate under OAR 629-625-0600 Road Maintenance because of the turbidity in the Type N stream.

ADMINISTRATION:

For your reference, the italicized guidance immediately following is repeated from the guidance for section (1), the purpose statement for this rule. This guidance applies equally to this section.

This rule adds to the requirements of OAR 629-625-0600, Road Maintenance, by requiring specific preventive practices, those being: 1) placement of durable surfacing; or 2) other effective surfacing, drainage, or filtering measures, on road segments that are connected to streams. It also sets a specific threshold when operators must cease hauling. This rule is intended to greatly limit sediment delivery associated with roads and their use during wet weather.

This rule addresses the effects of road use during wet periods on any type and size of stream hydrologically connected to a road. Even though the rule mentions the subsequent effect on water quality in Type F or Type D streams, it applies to Type N streams as well.

Administer this rule in conjunction with OAR 629-625-0600, Road Maintenance. If a road segment is delivering turbidity or sediment to any stream, evaluate compliance with OAR 629-625-0600, Road Maintenance. In brief this means determining if there is connectivity to a stream that must be controlled by establishing a stable running surface and/or establishing a functioning drainage system to prevent or stop delivery of turbidity or sediment to waters of the state.

If, in spite of practices applied to control turbidity and sediment delivery to Type N stream reaches, turbidity or sediment caused by the road is visible in a Type F or Type D stream, the operator must also cease road use, to comply with section (3) of this rule. Ceasing road use is

not enough in itself. The visible turbidity should be traced to determine whether it was caused by noncompliance due to failure to use durable surfacing or other effective measures, and all practicable and feasible practices should be applied to stop the water pollution.

It is conceivable that the weather conditions, such as continued heavy rains, could raise the background water turbidity levels and mask turbidity contributed by road use. This will make it difficult to determine whether the OAR 629-625-0700(3), Wet Weather Road Use, visible turbidity standard for ceasing road use is occurring.

When these conditions occur, evaluate compliance with the road maintenance rule by checking for rutting and running water on the road surface and for direct connections between the road surface or road-generated turbidity and any stream. If any turbid runoff can be traced from the road directly to a stream, check that all practicable and feasible road maintenance practices are in place. If not, use the appropriate enforcement action to have these practices applied. Use a written statement if the input to the stream is of short duration and minor amount. Use a citation if you judge the condition has been going on for longer than it should have taken for the operator to note it and take immediate preventive action. In the Order to Cease Violation, it would be appropriate to direct the operator to stop using the road until weather conditions change enough to stop the direct delivery of turbid water into streams. You are not required to observe a visible change to the turbidity level in the nearest Type F or D stream before taking this enforcement action. It is sufficient that you judge the turbidity has affected or will affect the nearest stream, whether it is a Type N, F, or D stream. This enforcement action will be based upon OAR 629-625-0600, Road Maintenance, and its guidance that turbidity in any stream is an unsatisfactory condition, not upon OAR 629-625-0700(3), Wet Weather Road Use, which refers to turbidity in Type F or D streams.

Judgment must be applied in administering this guidance. The intent of the Forest Practices Act and rules is to limit as necessary, but not eliminate, all road use during wet periods in order to prevent, as much as practicable, sediment delivery and degradation of water quality in streams. A visible increase in turbidity in a stream that cannot be directly traced to the road influence, is acceptable temporary disturbance if all practicable and feasible measures have been taken to achieve compliance with the Road Maintenance rule and this Wet Weather Road Use rule (section (2)). However, when operations and conditions combine to produce a visible increase in turbidity over background levels in downstream Type F or Type D streams, road use must be stopped until wet weather conditions dry sufficiently that operations do not cause visibly-delivered additions to turbidity and sediment loading in the waters. Road use may also resume upon the application of effective measures to stop delivery of turbidity to streams.

Compliance with Section (2) of this rule should reduce or eliminate need for evaluation under Section (3).

Since stream size effects stream color, water must be removed from the stream to accurately evaluate differences in turbidity. A visible increase exists if you can see a difference when comparing water samples in clear jars, taken above and below the road's influence on the stream. The jars should be large enough, at least a quart, so that turbidity differences can be seen.

The upstream sample should be just above the first site of potential road influence on the Type F or Type D stream. The downstream sample should be taken just below the last site of potential road influence on the stream. For streamside roads, several miles of road may be involved. In such cases it is essential to check that there are no other major sediment sources between the sampling points that are not associated with the road.

The periods of highest risk for increased turbidity are

- After 1-2 inches of rain over 3 days
- First 1/2 inch rain event after long dry period
- During a rapid thaw after deep freeze

More technical detail and methods of compliance are described in Technical Note # 9.

REFERENCE:

- *Forest Practices Technical Note Number 9 - [Wet Weather Road Use](#) Version 1, Effective June 20, 2003.*