ODOT Erosion Control Manual

Guidelines for Developing and Implementing Erosion and Sediment Controls

April 2005
Prepared by Harza Engineering Company and ODOT Geoenvironmental Section
Introduction
Erosion and Sediment Control Manager (ESCM) Certification Training
(Pre-requisite: ESC Fundamentals)

Presenter/Staff: Raghu Namburi, CPESC, CPSWQ
Erosion and Sediment Control Program Coordinator
(503) 986-3551
raghu.namburi@odot.state.or.us

Target Audience
Contractors
Consultants offering services to Contractor
Others aspiring to become ESCM

Course Materials
• Course “Notes” Manual
• Erosion and Sediment Control Field Manual

Introduction
Course Agenda

1. Introduction
2. Permit Requirements
3. Standard Specifications
4. Inspection and Maintenance
5. Updates and Tools

Learning Outcomes

- Understand Permit and ODOT-Specifications
- Understand and implement ESC Plan to comply Standard Specifications, Permit and Contract requirements
- Identify Best Management Practices (BMPs), their application, installation and maintenance (covered in ESC-Fundamentals class)
- Identify when requirements are not being met and upgrade ESCP to comply with requirements

- Recognize when ESC measures are not adequate
- Be able to communicate with the contracting staff as well as ODOT staff (PM, REC, Designers, Inspectors, etc.) and Regulators the proper installation and removal of temporary and permanent ESC measures
- Learn to properly complete (contractor) and evaluate (inspectors) Erosion Control Monitoring Reports (ODOT Form 2361)
- Turbidity monitoring and report completion (ODOT Form 2755)
Permit Requirements
Erosion & Sediment Control

NPDES Permit
Background & Requirements

Regulatory Background

• Federal Clean Water Act (CWA) of 1972
• ODOT Background and Policies
• Other Agencies and Acts

Federal Regulations

• Clean Water Act – enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States
• National Pollutant Discharge Elimination System (NPDES)
• Point and nonpoint sources
• Federal Level – EPA
ODOT Background and Policies

- State law for ODOT to comply with Federal, State, County and City regulatory requirements
- ODOT assures that its actions do not jeopardize threatened or endangered species and implements measures identified by the US Fish and Wildlife Service and National Marine Fisheries Service

Other Agencies and Acts

- Coastal Zone Management Act (CZMA)
- Coastal Zone Reauthorization Amendments (CZARA)
- FHWA Memorandum – Final Rule
- Division of State Lands (DSL)

Other Agencies and Acts

- US Army Corps of Engineers (USACE)-404 Permit
  - Dredging and in-water work activities
    - Any activity that might result in discharge/disturbance to waters require Federal 404 Permit
      - Nationwide General Permit
      - Individual Permit
    - Above permits require DEQ 401 Certification to comply with State WQ regulations
NPDES Permits

Oregon is a delegated State:
- Authorized to issue NPDES Permits
- State Agency: OR-DEQ

NPDES Permit Types
- Individual (facilities with specific operations and requirements)
- General (facilities with similar operations and requirements)

Who is required to obtain a Construction Permit?

Any individual or entity involved in disturbing one acre or more of land is required to obtain a permit from OR-DEQ or its authorized agent.

Who issues Construction Permits?

- OR-DEQ
- OR-DEQ Partners/Agents (City/Counties)
Oregon, NPDES-Construction Permits

- NPDES, Individual Construction Permit
- NPDES, General Construction Permits
  - 1200-C, 1200-CN, (Private individuals and entities in the construction business)
  - 1200-CA Permit (Public Agencies only)

www.deq.state.or.us/wq/wqpermit/stminfo.htm

General Permit: 1200-C

SOURCES COVERED BY THIS PERMIT:

- Construction activities including clearing, grading, excavation, materials or equipment staging and stockpiling that will disturb one or more acres and may discharge to surface waters or conveyance systems leading to surface waters of the state.
- Construction activities including clearing, grading, excavation, materials or equipment staging and stockpiling that will disturb less than one acre that are part of a common plan of development or sale if the larger common plan of development or sale will ultimately disturb one acre or more and may discharge to surface waters or conveyance systems leading to surface waters of the state.
- This permit also authorizes discharges from any other construction activity (including construction activity that disturbs less than one acre) and is not part of a common plan of development or sale designated by DEQ, where DEQ makes that designation based on the potential for contribution to an excursion of a water quality standard or for significant contribution of pollutants to waters of the state.

www.deq.state.or.us/wq/wqpermit/docs/general/npdes1200c/permit.pdf

General Permit: 1200-CN

SOURCES COVERED BY THIS PERMIT:

- Construction activities automatically covered under this permit if they meet the size criteria and are within the jurisdictions specified in Schedule A. This includes:
  - Construction activities including clearing, grading, excavation, materials or equipment staging and stockpiling that will disturb one or more acres but less than 5 acres and may discharge to surface waters or conveyance systems leading to surface waters of the state; and
  - Construction activities including clearing, grading, excavation, materials or equipment staging and stockpiling that will disturb less than one acre that are part of a common plan of development or sale if the larger common plan of development or sale will ultimately disturb one acre or more and may discharge to surface waters or conveyance systems leading to surface waters of the state.

www.deq.state.or.us/wq/wqpermit/docs/general/npdes1200cn/1200CNPermit.pdf
How can I obtain a 1200C/CN Permit?

- By filing an Application with OR-DEQ or its authorized agent (City/County)
- Requirements:
  - Completed Application
  - Signed LUCS* from the City or County
  - Erosion and Sediment Control Plan (ESCP)
  - Fees
  (www.deq.state.or.us/wq/rules/div045/genpermitfees.pdf)
  - * Land Use Compatibility Statement

OR-DEQ Resources

www.deq.state.or.us/wq/stormwater/escmanual.htm

- Erosion and Sediment Control Manual
  - Appendix A: Climate Information and Rainfall
  - Appendix B: Soil Survey Information
  - Appendix C: Acronyms and Terms
  - Appendix D: Runoff Control BMPs
  - Appendix E: Erosion Prevention BMPs
  - Appendix F: Sediment Control BMPs
  - Appendix G: Non-Storm Water Pollution Control BMPs
  - Inspector Guidance Booklet

General Permit: 1200-CA

SOURCES COVERED BY THIS PERMIT:

- All Construction activities including clearing, grading, excavation, and stockpiling activities under the authority or jurisdiction of a public agency that will result in the disturbance of five or more acres.
- Also included are activities that disturb a total of five or more acres if part of a larger common plan of development.
- Effective December 1, 2002 the previously described construction activities will include land disturbance of one acre or more, and will also include activities that disturb a total of one or more acres if part of a larger common plan of development.
All General Construction Permits

These permits do not authorize the following:

- In-water or riparian work, which is regulated by other programs and agencies including the Federal Clean Water Act Section 404 permit program, the Oregon Department of State Lands, the Oregon Department of Fish and Wildlife, the U.S. Fish and Wildlife Service, the U.S. Army Corp of Engineers, the National Marine Fisheries Service, and the Department of Environmental Quality Section 401 certification program.
- *Post-construction stormwater discharges that originate from the site after completion of construction activities and final stabilization.
- *Discharges to underground injection control (UIC) systems.

How and Who gets the 12-CA Permit?

- Contractor is not required to obtain this Permit
- ODOT has obtained this Permit from DEQ
- This permit is available only for public entities such as State, County, City, etc.

ODOT-1200 CA Permit

- ODOT has 5 Regions, each Region has its own 1200-CA Permit
- Contractor needs to obtain a copy of the permit from the regional office
- A copy of the Permit should be retained on site
- Local regulations may be stringent and must comply
- Local permits may be required in addition to 1200-CA permit
ODOT-Resources

OR-Standard Specifications for Construction
www.oregon.gov/ODOT/HWY/SPECS/standard_specifications.shtml
#2008 Standard Specifications
OR-Erosion Control Manual
OR-Erosion Control Field Manual
www.oregon.gov/ODOT/HWY/GEONVIRONMENT/erosion_control_manuals.shtml

ODOT Funded Local Agency Projects

• ODOT-1200CA cannot be used on Local Agency Projects
• Local Agency can use its own 12-CA permit, if one exists
• Local Agency may obtain a new 1200-C
• Contractor may obtain a permit for the Local Agency

General Construction Permit 1200-CA
Requirements

A copy of permit is available at:
http://www.deq.state.or.us/WQ/wqpermit/doctype/permit_pdf/1200ca/permit.pdf

• This copy is for information only
• An actual assigned (signed) copy of the permit can/must be obtained from the regional PM’s Office.
Erosion & Sediment Control Manager
Oregon Department of Transportation

ODOT General Construction Permit

- GCP requires site-specific Erosion and Sediment Control Plan (ESCP) to minimize erosion and control sediment at each construction site
- Each construction site is also required to develop a Pollution Control Plan (PCP) to prevent pollutants such as oil, gasoline and solvents from entering waters of the state
- Ultimate responsibility lies with the property owner in implementing all plans and complying with all applicable regulations

Erosion & Sediment Control Manager
Oregon Department of Transportation

ODOT NPDES Permit
Schedule A

1. Performance Limitations:
   - Earth slides or mudflows that leave site or are likely to discharge to surface waters
   - Concentration of flow causing erosion or that are likely to leave site with a sediment load
   - Evidence of rills, rivulets or channels
   - Turbid water that is not filtered or settled

Erosion & Sediment Control Manager
Oregon Department of Transportation

ODOT NPDES Permit
Schedule A

1. Performance Limitations (continued)
   - Deposition of sediment where it can be mobilized into unprotected storm water inlets
   - Lack of maintenance of failing inlet protection
   - Deposition of sediment on public or private streets
   - Deposition of sediment on any adjacent property
2. Erosion and Sediment Control Plan (ESCP) Preparation Requirements

- A copy of the ESCP shall be retained on-site and made available to the Department upon request. During inactive periods of greater than seven (7) consecutive calendar days, the ESCP shall be retained by the permittee.
- OR-DEQ may request modifications to the ESCP at any time if the ESCP is ineffective at preventing the discharge of significant amounts of sediment and turbidity to surface waters.

2. Erosion and Sediment Control Plan (ESCP) Preparation Requirements (continued)

- The ESCP shall include any procedures necessary to meet local erosion and sediment control requirements or storm water management requirements.

- If possible, during the period of October through May, construction activities should avoid or minimize excavation and bare ground activities. If the operator chooses to continue land disturbance activities within this period, additional wet weather requirements (refer to A.3.d) are required in the ESCP. Specifically, if construction activity occurs during the winter season where slopes are greater than five (5) percent and the soils have medium to high erosion potential additional erosion controls will be required.
2. Erosion and Sediment Control Plan (ESCP) Preparation Requirements (continued)

• The following non-storm water discharges are allowed as long as they are identified in the ESCP and all necessary controls are implemented to minimize sediment transport. These include: firefighting activity, hydrant flushing and potable waterline flushing (DEQ guidance must be followed), air conditioning condensate, dewatering activities of uncontaminated groundwater or spring water, and uncontaminated foundation or footer drain water.

Each ESCP shall at a minimum, include:

• Site Description
• Site Map
• Required Controls and Practices
• Additional Controls and Practices
  – (May thru Oct, Sensitive water bodies, etc.)

• Maintenance Requirements
• Additional Requirements
  – WQ Standards (Turbidity)
  – WQ Limited Streams
4. Maintenance Requirements

- Significant amounts of sediment that leave the site shall be cleaned up within 24 hours and placed back on the site or properly disposed. Any in-stream clean up of sediment shall be performed according to Oregon Division of State Lands’ required timeframe.
- Under no conditions shall sediment be intentionally washed into storm sewers or drainage ways unless it is captured by a BMP before entering receiving waters.
- For a filter fence, the trapped sediment shall be removed before it reaches one third of the above ground fence height.
- For catch basin protection, cleaning must occur when design capacity has been reduced by fifty percent.
- For a sediment basin, removal of trapped sediments shall occur when design capacity has been reduced by fifty percent.

Minimum Monitoring Requirements:

- All sites
- Active sites
- Inactive sites
- Documentation
- Record keeping
INSERT TAB

Standard Specifications
Erosion & Sediment Control
Oregon Department of Transportation
Standard Specifications

2008 Standard Specifications
Divided into two volumes:
• Volume I – Rules of the Contract
  – Agency and Contractor
• Volume II – Construction Specifications
  – Construction “How to and What to Use”

Topics of Discussion
Part 00100
• General Conditions
  – Section 00150-Control of Work
Part 00200
• Temporary Features and Appurtenances
  – Section 00280-Erosion and Sediment Control
Part 01000
• Right of Way Development and Control
  – Section 01030-Seeding
## Section 100
### General Requirements

Rules of the Contract (Agency and Contractor)
- Legalities
- Responsibilities
- Documentation requirements
- Complaints

### Authority of the Engineer

**00150.00**

- The Engineer has full authority over the work.
- The Contractor shall perform all work to the complete satisfaction of the Engineer.
- The Engineer’s determination shall be final on all matters.

### Order of Precedence

**00150.10**

- Order of Precedence: The Engineer will resolve any discrepancies between these documents in the following order of precedence:
  - Contract Change Orders;
  - Special Provisions;
  - Agency-prepared Drawings specifically applicable to the Project and bearing the Project title;
  - Reviewed and accepted, stamped Working Drawings;
  - Standard Drawings;
  - Approved Unstamped Working Drawings;
  - Supplemental Specifications;
  - Standard Specifications; and
  - All other contract documents not listed above.

Notes on a drawing shall take precedence over drawing legends.
Dimensions shown on the drawings, or that can be computed, shall take precedence over scaled dimensions.
Contractor Responsibilities to Be Successful

- Become knowledgeable about the latest technology to control erosion and contain sediment.
- Bid on job with knowledge of site conditions, keeping contingencies in mind.
- Understand the ESCP and Sections 00280 (Erosion and Sediment Control) and 01030 (Seeding) of the Standard Specifications and Special Provisions for the project.
- Revise the ESCP to meet conditions of construction (i.e., phasing, timing, weather) and present the revisions at the Pre-construction meeting.

Contractor Responsibilities to Be Successful

- Develop an ESCP that includes a site plan and narrative, describing methods of erosion and sediment control to be used to minimize erosion and sediment from project operations related to disposal sites, borrow pit operations, haul roads, equipment storage sites, fueling operations and staging areas.
- Construct BMP’s as described in the project ESCP and specifications.
- Minimize clearing of vegetation and look for opportunities to minimize erosion, offering ideas to ODOT inspectors for approval.
Contractor Responsibilities to Be Successful

- Monitor erosion control devices and record on ODOT Form 734-2361 Erosion Monitoring Form or other authorized form.
- Maintain erosion control facilities and modify when required to stay in compliance with NPDES 1200 Permit.
- Update the ESCP as work progresses and modify plan as conditions change.
- Ensure that permanent seeding is done within the time frames set in Section 01030 (Seeding) of the specifications.

Specifications

Section 00280
Erosion and Sediment Control

- 00280.00 - Scope
- 00280.01 - Permit (1200-CA) requirements
- 00280.02 - ESC Plan requirements
- 00280.03 - Non-Agency Controlled Lands ESCP
- 00280.04 - ESCM
- 00280.14 - Material requirements
- 00280.20 - Equipment (?)
- 00280.30 - Labor
- 00280.40 - Construction
- 00280.50 - Protection (?)
- 00280.60 - Maintenance
- 00280.70 - Finishing & Clean Up
- 00280.80 - Measurement
- 00280.90 - Payments
Section 00280 Description

00280.00 Scope
• This work consists of implementing structural and non-structural Best Management Practices (BMP) for the purpose of controlling soil erosion by wind or water.
• Requirements described in these Specifications and ESCP are the minimum for all project construction sites and conditions.
• These Specifications cover all ODOT projects unless specified and includes disposal sites.

Section 00280.01 NPDES Permit
• Comply with Federal, State, and Local laws, rules, and regulations.
• Local construction permits may be more stringent than these specifications.
• Contractor is responsible to comply with all permit conditions.

Section 00280.02 ESCP on Agency Controlled Lands
• Agency developed ESCP is preliminary.
• Contractor may adopt it as a basis.
• Additional or revised features may be required depending on Contractor’s methods of operation and schedule.
Section 00280.02
ESCP on Agency Controlled Lands (continued)

Submit signed copies of the following for review and approval ten (10) days before the preconstruction conference:

- A Contractor developed ESCP that incorporates the Agency’s ESCP and all proposed modifications to it
- A narrative as described in the NPDES and EC Manual
- Implementation schedules for ESCP based on each phase of the contractor schedule

Section 00280.02
ESCP on Agency Controlled Lands (continued)

Required elements of ESCP as per NPDES Permit:

- Narrative Site Description
- Site Map
- Required BMP and Procedures to control erosion and prevent off-site sedimentation

Section 00280.02
ESCP on Agency Controlled Lands (continued)

- The ESCP and the implementation schedules shall be prepared by an individual who is knowledgeable in erosion and sediment control
- Keep a copy of the approved ESCP on-site during all construction activities. During inactive periods longer than 7 calendar days, the ESCP may be on-site or retained by the Agency
Section 00280.02
ESCP on Agency Controlled Lands (continued)

- Do not begin work until the ESCP and the implementation schedules are approved
- Contractor – Update the ESCP and schedules as needed. Add approved changes to the ESCP ASAP after changes have been implemented but no later than 24 hours after implementation.

Include in the implementation schedule:
- A list of emergency on-site stockpiled materials
- Clearing and grubbing perimeter controls
- Installing perimeter controls
- Construction phasing
- Grading related to the Project
- Temporary stabilizing exposed soil surfaces
- Final grading, landscaping and stabilization

Include in the implementation schedule:
- Work on or at bridges and other watercourse structures
- Isolating work area from surface water during in-water work
- Installing and removing utilities
- Work required in wetlands
- Monitoring rainfall
- Inspecting controls
Section 00280.02
ESCP on Agency Controlled Lands (continued)
Include in the implementation schedule:
• Installing, maintaining, monitoring and removing temporary controls.
  – Provide a monitoring schedule
  – Rain gauge data/information (especially winter work)
• Installing and maintaining permanent controls
• Disposing of waste materials
• Haul road and borrow pit controls
• Additional controls for wet season work and temporary work suspensions

Section 00280.03
ESCP on Non-Agency Controlled Lands
Submittals same as Agency-controlled lands, i.e., signed copies of the following for review and approval ten (10) days before the preconstruction conference:
• A Contractor developed ESCP that incorporates the Agency’s ESCP and all proposed modifications to it
• Implementation schedules for the ESCP

Also furnish the following:
• Signed, written letter from the property owner that allows the Contractor access to the property
• A statement that holds the Agency harmless for consequences related to the use of the property
• Signed agreement with the property owner detailing the Contractor’s operation and use of the property
• Copies of permits or proof that permits are not required from all pertinent federal, State, county, city and local agencies
Designate and provide a representative experienced in all disciplines of highway construction as the Erosion and Sediment Control Manager (ESCM).

- The ESCM is responsible for assuring the duties described in 00280.61 (ineffective controls) are done and has the authority to immediately mobilize personnel to correct and modify erosion prevention and sediment control devices as required.

Provide the ESCM's name and work phone number ten days before the preconstruction conference.

Provide written changes in the appointment of this individual during the term of the Contract.

Duties of the ESCM

- Manage and ensure proper implementation of the ESCP
- Review ESCP before beginning construction
- Monitor rainfall on and in vicinity of Project
- Monitor receiving streams
- Weekly inspections on active sites
- Bi-weekly inspections on inactive sites
- Daily inspections during rainy periods (½" or more during 24 hours)
Duties of the ESCM (continued)

- Mobilize repair crews
- Record remediation actions (i.e., sediment clean-up)
- Complete Erosion Control Monitoring Form
- Monthly update of ESCP
- Prepare contingency plan for rainy season
- Accompany Agency’s representative on inspections

Key Points for the ESCM

- During rainfall events, the ESCM must have the ability to call out crews to repair erosion and sediment control measures
- Appropriate materials and equipment should be kept on hand to enable a rapid response

00280.14 – 00280.16

Materials

00280.14 – Erosion Prevention
00280.15 – Runoff Control
00280.16 – Sediment Control

Material descriptions and requirements ranging from Biofilter Bags to Chemical Soil Stabilization
00280.14 – 00280.16
Materials (continued)

- When specified, use materials from the Qualified Product List (QPL)
- QPL Program discussion (later)

Construction

00280.40 Installation

- Install all BMPs as shown in the plans or ESC Manual
- Install BMPs before performing clearing activities
- BMPs can be non-structural such as limiting clearing of vegetation
- Provide continuous erosion prevention and sediment control for the entire period of the project
- If planned or installed BMP are not effective, modify or change them so they are effective
- Do not follow plans blindly

Straw Bales

Install all BMPs as shown in the plans or ESC Manual
00280.41 Work Restrictions

- Disturbance Limits
- Perimeter Controls
- Wet Season (Oct 1-May 30)
- Disturbance Restrictions
  - If soil erosion is not effectively controlled, the Agency will limit the disturbed areas

00280.42 Stabilization

00280.42 (a) Soil Exposure Limitations

Statewide (Entire Year) – Stabilize within seven days of exposure, all areas within 100 ft (30 m) of waterways, wetlands or other sensitive areas using methods that do not rely solely upon germination to control erosion

00280.42 (a) Soil Exposure Limitations (continued)

- West of the Cascades (Entire Year) – Stabilize all other areas within 14 days of exposure
- East of the Cascades (October 1-April 30) – Stabilize all other areas within 14 days of exposure
- East of the Cascades (May 1-September 30) – Stabilize slope and embankment construction in stages based on site conditions, weather and as determined by Agency
Construction (continued)

00280.42 Stabilization (continued)

00280.42 (b) Temporary Stabilization
- Every 14 days or more frequently
- During wet periods
- When sediments leave site

00280.42 (c) Permanent Stabilization
- ASAP, when re-disturbing is not anticipated
- If seed is not established, provide additional BMP's

Construction (continued)

00280.43 Area Preparation
- Prepare areas as per 01040.48(d)
- Track all fill slopes
  - Steeper than 1V:3H
  - Flatter than 1V:1.5H
  - Parallel to slope contours
  - Track grousers greater than 1 3/8"

Construction (continued)

00280.44 -.46 – BMPs
We will cover preparation, installation and application of BMPs in depth in other sections of this course.
Construction (continued)

00280.44 – Erosion Prevention BMPs

Plastic sheeting  Mulches  Slope Matting

Construction (continued)

00280.45 – Runoff Control BMPs

Check Dams  Swale  Temp. Slope Drain

Construction (continued)

00280.46 – Sediment Control BMPs

Const. Entrance  Sediment Fence  Inlet Protection
### Construction (continued)

#### 00280.47 Work Quality
- Project specific requirements in Special provisions
- 01030.49

#### 00280.48 Emergency Materials
- Should/will be listed in the Special Provisions
- Stockpile materials on-site for unknown weather or erosion conditions, in addition to materials required by ESCP
- All materials must be removed from the site at the completion of project (within 30 days)

### Maintenance

#### 00280.60 Inspection and Monitoring

Inspections
- Make sure ALL installed erosion and sediment control devices are working correctly at ALL times.
- If a control feature does not function correctly immediately repair, replace, or provide additional devices.
Inspections (continued)

- Weekly for active sites
- Every two weeks for inactive sites
- When directed by the Engineer
- When ½" of rain falls within 24 hours (including weekends)

Ineffective Controls

- Repair, replace or provide additional devices when control features does not function effectively
- Devices repaired, replaced, or added due to improper installation, insufficient maintenance, or damage from the Contractor operations will be made at no additional cost to the Agency

Inspection and Monitoring (continued)

- Observe and record color and turbidity
- Permit Non-Compliance & WQ Violations
  - verbal report to the Engineer within 24 hours
  - Written report within 5 calendar days
Maintenance

**00280.63 Sediment Removal**
- Remove sediment and upgrade or repair the devices ASAP (no later than 2 days after the ground has dried for equipment operation)
- Hand carry and install ESC devices when rainfall continues with Agency approval

**00280.63 Sediment Removal (continued)**
- Catch Basins-storage capacity <50%
- Sediment Controls-filtering capacity <50%
- Construction Entrances-add or remove aggregate or other material for proper function of entrances
- Permanent Stabilization: re-stabilize within two days
- Paved Areas
  - keep them clean
  - use methods that prevent transport of sediment-laden water to streams

Finishing and Clean-up

**00280.70 Removal of temporary ESC devices**
- No later than 30 days from acceptance of stabilization
- Permanently stabilize areas (2 days) affected by removal process

**00280.71 Sediment Disposal**
- Regrade removed sediment into slopes
- Dispose according to 00290.20
- Do not flush sediments into drainage systems
Measurement

00280.80 – Multiple methods for calculation
- Lump Sum Basis (4-25% payments)
- Unit Basis
- Length Basis
- Area Basis
- Limitations

Payment

00280.90
- Lump Sum Basis (4-25% payments)
- Unit, Length, Area Basis
  - Payment will be in full for furnishing and placing materials including equipment, labor, and incidentals

Special Provisions

- Takes precedence over Specifications/Drawings/Details, etc.
- Corrections/Modifications are shown in here.
- Requirements not addressed in 280 are included in the Special Provisions.
- Sec 280 requirements that don’t apply to a project are specified in the Special Provisions.
Special Provisions
Ex. Items

- **00280.05 Project Signing** – Install a minimum of two “Erosion Concerns? CALL (XXX) XXX-XXXX” (CG20-10) Type “OO” signs within the Project limits.
- **00280.30 Erosion and Sediment Control Manager** – In the bullet that begins “Inspect erosion control BMP…”, replace the value “5/8 inch” with “1/2 inch”.
- **00280.48 Emergency Materials** – Add the following paragraphs after the paragraph that begins “Provide, stockpile, and protect...”: Provide and stockpile the following emergency materials on the Project site: Item Quantify

---

Ex. Items (continued)

- **00280.70 Removal** – Add the following paragraph to the end of this section: If shown or if directed, compost filter material may be dispersed in place. Cut open compost filter socks and dispose of sock material according to 00290.20

---

Section 1030 & 1040

Our **Objective**: We will cover Temporary & Permanent Seeding for Erosion Control, Wetland Mitigation Developments, and Planting.
**Relevant Regulations & Permits**

- **Erosion Control**: NPDES 1200 CA
  - EPA/Oregon Department of Env. Quality plus many policies
- **Wetlands**: US Clean Water Act Section 404
  - US Army Corps of Engineers
  - Oregon Revised Statutes Chapters 196, 390
  - Oregon Department of State Lands
- **Roadside Dev.**: 23CFR750 Highway Beautification Act plus many policies

---

**Roles and Responsibilities**

- Site Preparation
- Healthy Seeds and Plants
- Plant Establishment
- Integrated Vegetation Management
Contract Documents

Plans, Details, Typical Sections and Notes
Contract Plan Development Guide, Ch. 12

Standard Specifications:
Sections 00280 Erosion Control, 00290 Environmental Protection, 00320 Clearing and Grubbing, 01030 Seeding, 01040 Planting, 03020 Compost

Project Special Provisions

Right of Way Development and Control
Section 01000

01030 Seeding
01040 Planting

Specs follow this format: Description, Materials, Labor, Construction, Maintenance, Finishing & Clean-up, Measurement, Payment

Description

01030.00 Scope
This work consists of seeding and associated tasks to develop plant growth for erosion control, environmental mitigation and Roadside Development.

01040.00 Scope
This work consists of planting and associated work as directed.
Description (continued)

01030.02 Definitions
Certified Seed, Establishment Period (based on coverage), Noxious Weed, Weed Management Area

01040.02 Definitions
Noxious Weed, Plant Establishment Period (based on time)

01040.04 Planting Work Plan
within 90 days of award submit for approval; 24 hrs notice for inspectors; proper preparation of site prior to commencing planting; utility locate and use; verification of ground dimensions prior to commencing construction.

Materials – Soil

01030.45, 01040.13 Soil Testing and Amendment Report
For Soil fertility by a qualified testing lab. Should identify amendments, bio-amendments and fertilizer needed in a report.

01030.11 and 01040.14 Topsoil

01030.12 and 01040.15-17 Soil Conditioners, Amendments and Bio-Amendment
Conditioners modify soil structure; Amendments improve soil nutrition; Fertilizers increase availability of specific elements necessary for plant growth

Soil is 1/3 mineral, 1/3 organic material and 1/3 pore space.
Mycorrhizal Fungi

- Engulf soil particles and pore spaces to absorb water and nutrients in solution and transfer this solution to the roots of plants
- Symbiotic relationship: they help uptake water and nutrients, and draw energy compounds from host
- Seven types of endo and ectomycorrhizae

Mycorrhizal fungi on roots
Seed Species Considerations

01030.13 Seed – Labels, Quality, Pure Live Seed, Inspection, Mixes

Look for:
- Compliance with Oregon and federal Seed Regs.
- Testing date
- Not sprouted, moldy, wet or damaged

Seed Sizes – as many as 2.5 mil / lb
Nursery Label / Sample

Calculation of Amount of Seed (lbs / ac)

Seeding Rate = Specified Pure Live Seed Rate
  Germination % x Seed Purity %

Fertilizer 01030.14 and 01040.18

- Typically not used on Wetland Mitigation Sites
- Should be based upon Soil Testing and Amendment Report
- Slow release are more efficient and have fewer environmental impacts
- Low phosphorus on areas near water bodies
- Stockpiled topsoil or compost can reduce the need for fertilizer and improve overall soil quality
Fertilizer

- Labeled to document content of Nitrogen (N), Phosphorus (P) and Potassium (K)
- Always listed in order (N-P-K)

Example: a 10-15-5 fertilizer =
10% by weight nitrogen
15% by weight phosphorus
5% by weight potassium

Slow-Release Fertilizer

- Polyurethane-coated formulations
- Respond to temperature rather than moisture
- Less likely to encourage non-native weeds
- Many different formulations
01030.15 and 01040.20 Mulch

01030.15 - .16
- may be hydro-mulch, straw, tracer, tackifier

01040.20
- may be bark, cinder, straw, rock, wood chip or compost

01030.16 Tackifier
- liquid, dry powder

01030.17 and 01040.21 Pesticides
Construction

01030.40 and 01040.40 General
• Retain all existing desirable vegetation!
• Areas must be weed-free prior to commencing
• Notify Agency 24 hrs prior to seeding

01030.42 Weed Control Work Plan
Applicable when included in the Contract Schedule of Items. Submit at preconstruction conference.

01030.41 and 01040.48 Area Preparation

Prior Preparation Prevents Pitiful Poor Performance!
• 5 site prep methods for 8 seeding and 2 planting types
• Loosen subsoils
• Stockpile selected topsoils as briefly as possible.
• Haul and spread selected topsoils without compacting.

Area Preparation
01030.43
a) Temporary & b) Permanent Seeding

- West of the Cascades (March 1 - May 15 & September 1 - October 31) – Extra time for irrigated areas.
- East of the Cascades (October 1 - February 1)
- Wetland (East and West) (September 1 - October 31 & March 1 - April 30)

Seeding Timing

- Apply temporary seeding to stabilize disturbed soils and slopes that will be exposed for 2 months or longer. Do not count solely on temporary seeding for immediate erosion control!
- Apply permanent seeding on areas to be left dormant for 1 year or more.
### Maintenance

01030.60 General, 01030.61 Establishment
- Temporary Seeding: min 70% cover – no timeframe
- Permanent Seeding: min 90% cover – either 45 days after seeding, or no timeframe for erosion control

### Finishing and Clean-up

01030.62, 01040.71 Establishment Work
- Protect, Water, Fertilize, Weed, Mow / Prune / Repair / Restore / Replace as needed

01030.70 Cleanup
01030.71 Waste Disposal

### Measurement & Payment

01030.80, .90 Seeding
- Unit, Area Basis
- Partial Payments: 70% at seeding, 30% at completion
03020 Compost
• Many applications in Erosion Control, Soil Conditioning, and Mulching.
• Watch for appropriate particle sizes, debris bits and state of decomposition of organics.
• Certified at the source, not by the load.

Communication
• Pre-Construction Conference – the best opportunity to answer questions before they become issues.
• POR on-call to Project Manager / Inspector if issues arise. Must be kept apprised of contract change orders.
• Regular inspections and enforcement of Contract documents are key to success!
• Post-Construction Conference – the best opportunity for learning how to improve next time.

Presenter Information
Raghu Namburi, CPESC, CPSWQ
ODOT-Erosion and Sediment Control Program Coordinator
(503) 986-3551
Raghu.Namburi@odo.state.or.us

Michael W. Shippey, RLA
Statewide Roadside Development Program Coordinator
(503) 986-3512 / (503) 428-0227
Mike.Shippey@odot.state.or.us
Inspection & Maintenance
ESC-Inspection, Monitoring, and Reporting

Standard Specification 00280.62 talks about inspection and monitoring of erosion and sediment control devices and is broken down into three sections:

- Inspection
  - Weekly for active sites
  - Every two weeks for inactive sites
  - When directed by the Engineer
- Rainfall
  - Within 24 hours after ½ inch of rainfall occurs.
- Monitoring receiving stream (turbidity)
ESC-Inspection, Monitoring, and Reporting Forms

- Learn to properly complete (contractor) and evaluate (inspectors) Erosion Control Monitoring Reports (ODOT Form 2361)
- Turbidity monitoring and report completion (ODOT Form 2755)

Example: Monitoring Form

Erosion Control Monitoring

Turbidity Monitoring During Construction
Inspection Monitoring and Reporting

Turbidity Monitoring

Excess turbidity is a sign that erosion and sediment control is not working, and that action must be taken.

Monitoring is required for

- In-water work (CWA 401 Cert): every 2 to 4 hours
- Stormwater discharges (NPDES 1200-CA): daily during rain storms per special specs

Specification related to turbidity:

00290.30 (a)(1)

“Do not cause turbidity to waters of the State and US outside of regulated levels.”

This is expanded in (7) Water Quality, and (8) Visual Turbidity Monitoring (or Turbidity Monitoring with a Meter).
Turbidity Monitoring:

Methods

Visual Monitoring Allowed:
- Nationwide 404 with pre-certified 401
- NPDES 1200-CA

Turbidity Meter Required:
- Individual 404 permit with meter use specified in the 401 certification

A Turbidity Meter

Background:
100 feet upstream

Monitoring Point:
Current: 100 feet downstream,
Proposed: dependent on stream width

Stream width

100 ft

Plume

Monitoring point

100 ft

Outfall

Construction Site
Turbidity Monitoring:
Criteria

- Visual: A noticeable increase in turbidity
- Metered: 10% increase above background (For all practical purposes, up to a 5 NTU increase is permitted)

Visible plume: Tighten up BMPs, monitor again in 4 hours, shut down in 8 hours (if there is still a plume).
### Turbidity Monitoring: Response to Visual Monitoring (Proposed 401 Cert)

<table>
<thead>
<tr>
<th>Turbidity Level</th>
<th>1st Monitoring Interval</th>
<th>2nd Monitoring Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Plume Observed</td>
<td>Continue to monitor every 4 hours</td>
<td>Continue to monitor every 4 hours</td>
</tr>
<tr>
<td>Plume Observed Within Compliance Distance (Mixing Zone)</td>
<td>Modify BMPs &amp; continue to monitor every 4 hours</td>
<td>Stop work after 8 hours with plume in mixing zone</td>
</tr>
<tr>
<td>Plume Observed Beyond Compliance Distance</td>
<td>Stop Work for 24 Hours</td>
<td>Stop Work for 24 Hours</td>
</tr>
</tbody>
</table>

#### Turbidity Monitoring: Response to Metered Monitoring (Nationwide 401)

<table>
<thead>
<tr>
<th>Turbidity Level</th>
<th>1st Monitoring Interval</th>
<th>2nd Monitoring Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 5 NTU above background</td>
<td>Continue to monitor every 4 hours</td>
<td>Continue to monitor every 4 hours</td>
</tr>
<tr>
<td>5 to 29 NTU above background</td>
<td>Modify BMPs &amp; continue to monitor every 4 hours</td>
<td>Stop work after 8 hours at 5-29 NTU above background</td>
</tr>
<tr>
<td>30 to 49 NTU above background</td>
<td>Modify BMPs &amp; continue to monitor every 2 hours</td>
<td>Stop work after 2 hours at 30-49 NTU above background</td>
</tr>
<tr>
<td>50 NTU or more above background</td>
<td>Stop work</td>
<td>Stop work</td>
</tr>
</tbody>
</table>

### Turbidity Meter vs Visual Monitoring

<table>
<thead>
<tr>
<th>Meter</th>
<th>Visual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disadvantage: More work</td>
<td>Disadvantage: More stringent conditions leading to work stoppage</td>
</tr>
<tr>
<td>Additional equipment</td>
<td>Potential for contested observations</td>
</tr>
<tr>
<td>Advantage: No limit on turbidity within compliance zone. Continue work for a period with moderate turbidity outside the compliance zone. Definitive data.</td>
<td>Advantage: Ease of conducting monitoring</td>
</tr>
</tbody>
</table>
Turbidity Criteria Exceptions

Sometimes it is not possible to meet the turbidity criteria.

- Exceedances may be allowed, if they are negotiated ahead of time, and in the permit.
- Extra conditions will be included, including timing and duration restrictions.

Documentation & Reporting

- Documentation is a must.
- Visual observation is acceptable (as long as observation are documented in written form).
- Mental documentation is not acceptable.
- Use forms provided or get approval to use others.
- Set documentation schedule for anticipated events.
  - Consult and get approval from PMs Office.
- Have a plan for unanticipated events (winter months).
- Make arrangements for monitoring during shut down periods (winter as well other scenarios).

Documentation & Reporting

- Reporting completes the process.
- Reporting should be on schedule.
- Good documentation and reporting will help you prevent violations.
- Reporting will help you get paid in a timely manner.
INSERT TAB

Updates & Tools
Erosion & Sediment Control Manager
Oregon Department of Transportation

Use of Sediment Fences & Straw Bales

Common problems with silt fences:
- Installation is difficult especially in areas under bridges and near water ways where the soils tend to be rocky or highly compacted.
- Installation of silt fences at the top of cut slopes with no diversion/collection trenches lead to enhanced erosion on the slopes.
- Installing intermediate silt fences on slopes to reduce slope length can contribute to erosion problems if not installed correctly and may result in large slope failures.

Trenching (6-9 inches) required to secure the bottom portion of the silt fence in place is a labor intensive practice that is difficult to achieve manually. Trenching machines are the preferred method for installation.
Silt fences should not be installed across streams, ditches, waterways, or other concentrated flow areas.
### Use of Sediment Fences & Straw Bales

**Common problems with silt fences:**
- Confusion and misuse of these measures for delineation of no-work zones
- Silt fence left in place on flood prone areas can become inundated with water or can trap fish and lead to threatened or endangered fish kill
- Maintenance actions requiring replacement of failed silt fences or addition of new silt fences during the winter months tends to cause more problems leading to violations

**Common problems with straw bales:**
- Straw bales become heavy when soaked with water making it difficult to move/remove
- Twine binding can disintegrate under natural conditions causing loose straw to enter storm drains and waterways
- Water does not flow through the bales causing flooding and safety issues in certain areas

**Common problems with straw bales: (continued)**
- When used properly in ditches without a gravel spillway, water ponds upstream of the bale and short circuits causing bank erosion
- Straw bales may include noxious weed seed when obtained from an uncertified source.
Use of Sediment Fences & Straw Bales

**Alternate BMPs:**
- Minimize soil exposure by phasing the project, or disturbing small areas and stabilizing areas early in the project
- Route off-site drainage away from disturbed areas
- Collect run-off in temporary/permanent detention ponds
- Leave vegetated buffers when possible.

**Alternate Products:**
- Straw Wattles, Straw Rolls, Bio-bags, Brush Barriers, Compost Berms, Terra Tubes, Silt Dikes, Compost Filter Socks, etc., can be used as sediment barriers in place of or in conjunction with silt fences and straw bales
- Temporary Mulch cover options such as compost blankets, bark, straw, etc.
- Permanent soil cover options with grass seed mix such as hydro mulch, Bonded Fiber Matrix, Compost Blankets, etc.

Advisory: Use of Sediment Fences & Straw Bales

Post-Construction Stormwater Management

- Clean up the stormwater
- Maintain site hydrology
Low Impact Development Techniques

- Maintain existing roadside conditions
- Improve roadside conditions
  - Planting
  - Soil amendments and compost
  - Regrading

Outfall protection on a vegetated slope

Build a stormwater management structure

- Bioswales; bioretention; infiltration
- Media filter drains
- Detention / retention ponds

Stormwater Facilities Specifications

- 01092: Water Quality and Water Storage Facilities
- 01092.11: Biofiltration Mix and Ecology Mix
- 01030.13(f): Types of Seed Mixes
- 00842: Drainage Facility Markers
Things to watch for:

- Grading, both size and slope
- Correct placement and elevation of inlets, outlets, orifices
- Correct materials and plants: amended soil mixes, seed mixes etc.
- Erosion control during plant establishment

Biofiltration Swale

Amended Soil Bioswale
Erosion & Sediment Control Manager

February 2012

Updates & Tools

5-8
Making sure it gets done right!

A lot of this is new to everyone concerned, so

• Be familiar with the plans and specs
• Talk to the Designer – understand the purpose of the whole and the parts
• Talk to the Contractor and construction crew
• Provide feedback to the Designer

COMPOST
Compost – New Specifications

• Check Special Provisions for Compost requirements (Handout)
• Contractor make sure the Specs are met
• Contractor will be responsible for removing and replacing material
• Check Compost Technical Data Sheet for OR-DOT Projects (Handout)

Compost – New Specifications

• Use Compost Standard Details when available
• Compost use variance should be approved by PE/PM
• Problems obtaining compost products-Report to Program Coordinators

Terra Tubes

A Fiber Filtration Tube (FFT) is an engineered composite of Thermally Refined™ wood fibers, man-made fibers and performance-enhancing polymers encased within cylindrical tubes composed of a heavy-duty, knitted, high density polyethylene mesh.
Several erosion control items are covered using Standard Drawings:
- Construction Entrance (RD1000)
- Check Dams (RD1005)
- Inlet Protection (RD1010, RD1015, and RD1020)
- Sediment Barrier (RD1025, RD1030, RD1035)
- Sediment Fence (RD1040)
- Temporary Slope Drains (RD1045)
- Temporary Scour Holes (RD1050)
- Matting (RD1055)
- Tire Wash Facility (RD1060)

This list is published every six months and available from the Internet:
http://www.oregon.gov/ODOT/HWY/CONSTRUCTION/
Construction Tools –
Erosion Control Field Manual

- Includes tools for erosion prevention and sediment containment
- Information pulled from the ODOT Erosion Control Manual based on requirements of NPDES Permit
GENERAL PERMIT
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
STORM WATER DISCHARGE PERMIT
Oregon Department of Environmental Quality
811 SW Sixth Avenue, Portland, OR 97204, (503) 229-5279
Issued pursuant to ORS 468B.050 and The Federal Clean Water Act

ISSUED TO:

All public agencies responsible for construction activities with storm water discharges that are covered by this permit. The submittal of an approved application and payment of applicable fees are required.

SOURCES COVERED BY THIS PERMIT:

All Construction activities including clearing, grading, excavation, and stockpiling activities under the authority or jurisdiction of a public agency that will result in the disturbance of five or more acres. Also included are activities that disturb a total of five or more acres if part of a larger common plan of development.

Effective December 1, 2002 the previously described construction activities will include land disturbance of one acre or more, and will also include activities that disturb a total of one or more acres if part of a larger common plan of development.

This permit does not authorize in-water or riparian work. These activities are regulated by the Oregon Division of State Lands, US Army Corp of Engineers, and/or the DEQ Section 401 certification program.

Michael T. Llewelyn, Administrator
Water Quality Division

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to construct, install, modify, or operate erosion and sediment control measures, and storm water treatment and control facilities, and to discharge storm water to public waters in conformance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule A</td>
<td>Limitations and Controls for Storm Water Discharges</td>
<td>2</td>
</tr>
<tr>
<td>Schedule B</td>
<td>Minimum Monitoring Requirements</td>
<td>7</td>
</tr>
<tr>
<td>Schedule C</td>
<td>Compliance Schedule</td>
<td>9</td>
</tr>
<tr>
<td>Schedule D</td>
<td>Special Conditions</td>
<td>10</td>
</tr>
<tr>
<td>Schedule F</td>
<td>General Conditions</td>
<td>11</td>
</tr>
</tbody>
</table>

Unless specifically authorized by this permit, by another NPDES or WPCF permit, or by Oregon Administrative Rule, any other direct or indirect discharge to waters of the state is prohibited, including discharges to an underground injection control system.
SCHEDULE A
LIMITATIONS AND CONTROLS FOR STORM WATER DISCHARGES

1. **Performance Limitations**  An Erosion and Sediment Control Plan (ESCP) shall be developed and implemented to prevent the discharge of significant amounts of sediment to surface waters. The following conditions describe significant amounts of sediment and shall be prevented from occurring.

   a. Earth slides or mud flows that leave the construction site and are likely to discharge to surface waters.

   b. Evidence of concentrated flows* of water causing erosion when such flows are not filtered or settled to remove sediment prior to leaving the construction site and are likely to discharge to surface waters. Evidence includes the presence of rills, rivulets or channels.

   c. Turbid flows* of water that are not filtered or settled to remove turbidity prior to leaving the construction site and are likely to discharge to surface waters.

   d. Deposits of sediment at the construction site in areas that drain to unprotected storm water inlets or catch basins that discharge to surface waters. Inlets and catch basins with failing sediment controls due to lack of maintenance or inadequate design will be considered unprotected.

   e. Deposits of sediment from the construction site on public or private streets outside of the permitted construction activity that are likely to discharge to surface waters.

   f. Deposits of sediment from the construction site on any adjacent property outside of the permitted construction activity that are likely to discharge to surface waters.

* Flow to storm water inlets or catch basins located on the site will be considered “leaving the site” if there are no sediment control structures designed for expected construction flows downstream of the inlets or catch basins that are under the permittee’s control.

2. **Erosion and Sediment Control Plan Preparation and Submittal**  The permittee shall ensure that a comprehensive ESCP is prepared and implemented for the construction activity regulated by this permit.

   a. A copy of the ESCP shall be retained on-site and made available to the Department upon request. During inactive periods of greater than seven (7) consecutive calendar days, the ESCP shall be retained by the permittee.

   b. The Department may request modifications to the ESCP at any time if the ESCP is ineffective at preventing the discharge of significant amounts of sediment and turbidity to surface waters.

   c. The ESCP shall include any procedures necessary to meet local erosion and sediment control requirements or storm water management requirements.

   d. If possible, during the period of October through May, construction activities should avoid or minimize excavation and bare ground activities. If the operator chooses to continue land disturbance activities within this period, additional wet weather requirements (refer to A.3.d) are required in the ESCP. Specifically, if construction activity occurs during the winter season where slopes are greater than five (5) percent and the soils have medium to high erosion potential additional erosion controls will be required.
e. The following non-storm water discharges are allowed as long as they are identified in the ESCP and all necessary controls are implemented to minimize sediment transport. These include: firefighting activity, hydrant flushing and potable waterline flushing (DEQ guidance must be followed), air conditioning condensate, dewatering activities of uncontaminated groundwater or spring water, and uncontaminated foundation or footer drain water.

3. **Erosion and Sediment Control Plan Requirements** The ESCP shall, at a minimum, include the following elements.

a. **Site Description** A description of the following:
   i. Nature of the construction activity, including a proposed timetable for major activities.
   ii. Estimates of the total area of the permitted site and the area of the site that is expected to undergo clearing, grading and/or excavation.
   iii. Nature of the fill material to be used, the insitu soils, and the erosion potential of such soils.
   iv. Names of the receiving water(s) for storm water runoff.

b. **Site Map** Indicating the following: (Note: In order to provide all the required information, a general location map in addition to the site map is required.)
   i. Areas of total development
   ii. Drainage patterns
   iii. Areas of total soil disturbance (including, but not limited to, showing cut and fill areas and pre and post development elevation contours)
   iv. Areas used for the storage of soils or wastes
   v. Areas where vegetative practices are to be implemented. Include type of vegetation seed mix.
   vi. Location of all erosion and sediment control measures or structures
   vii. Location of impervious structures after construction is completed. Include buildings, roads, parking lots, outdoor storage areas, etc., if any.
   viii. Springs, wetlands and other surface waters located on-site
   ix. Boundaries of the 100-year floodplain if determined
   x. Location of storm drainage outfalls to receiving water(s) if applicable
   xi. Location of drinking water wells and underground injection controls
   xii. Details of sediment and erosion controls
   xiii. Details of detention ponds, storm drain piping, inflow and outflow details

c. **Required Controls and Practices** The following controls and practices are required:
   i. Each site shall have graveled, paved, or constructed entrances, exits and parking areas, prior to beginning any other work, to reduce the tracking of sediment onto public or private roads.
   ii. All unpaved roads located on-site shall be graveled. Other effective erosion and sediment control measures either on the road or down gradient may be used in place of graveling.
   iii. When trucking saturated soils from the site, either water-tight trucks shall be used or loads shall be drained on-site until dripping has been reduced to minimize spillage on roads.
   iv. A description of procedures that describe controls to prevent the discharge of all wash water from concrete trucks.
   v. A description of procedures for correct installation or use of all erosion and sediment control measures.
   vi. A description of procedures for prompt maintenance or repair of erosion and sediment control measures utilized on-site (refer to A.4).

d. **Additional Controls and Practices** Additional controls and practices shall be developed that are appropriate for the site. At a minimum the following shall be considered:
i. A description of clearing and grading practices, including a schedule of implementation, that will minimize the area of exposed soil throughout the life of the project. Whenever practicable, clearing and grading shall be done in a phased manner to prevent exposed inactive areas from becoming a source of erosion.

ii. A description of vegetative erosion control practices, including a schedule of implementation, designed to preserve existing vegetation where practicable and re-vegetate open areas when practicable after grading or construction.

In developing vegetative erosion control practices, at a minimum the following shall be considered: temporary seeding, permanent seeding, mulching, sod stabilization, vegetative buffer strips, and protection of trees with protective construction fences.

iii. A description of additional erosion control practices, including a schedule of implementation, designed to protect exposed areas and prevent soil from being eroded by storm water.

In developing additional erosion control practices, at a minimum the following shall be considered: mulching with straw or other vegetation, use of erosion control blankets, and application of soil tackifiers.

iv. A description of sediment control practices, including a schedule of implementation, that will be used to divert flows from exposed soil, store flows to allow for sedimentation, filter flows, or otherwise reduce soil laden runoff. All temporary sediment control practices shall not be removed until permanent vegetation or other cover of exposed areas is established.

In developing sediment control practices, at a minimum the following shall be considered: use of silt fences, earth dikes, brush barriers, drainage swales, check dams, subsurface drains, pipe slope drains, rock outlet protection, sediment traps, and temporary or permanent sedimentation basins.

v. A description of erosion and sediment control practices that will be used to prevent stockpiles from becoming a source of erosion. Stockpiles located away from the construction activity but still under the control of the permittee shall also be protected to prevent significant amounts of sediment from discharging to surface waters. At the end of each workday the soil stockpiles must be stabilized or covered.

In developing these practices, at a minimum the following shall be considered: diversion of uncontaminated flows around stockpiles, use of cover over stockpiles, and installation of silt fences around stockpiles.

vi. A description of the best management practices that will be used to prevent or minimize storm water from being exposed to pollutants from spills, cleaning and maintenance activities, and waste handling activities. These pollutants include fuel, hydraulic fluid, and other oils from vehicles and machinery, as well as debris, leftover paints, solvents, and glues from construction operations. The reuse and recycling of construction wastes should be promoted.

In developing these practices, at a minimum the following shall be considered: written spill prevention and response procedures; employee training on spill prevention and proper disposal procedures; regular maintenance schedule for vehicles and machinery; and covered storage areas for waste and supplies.
4. **Maintenance Requirements**  The following maintenance activities shall be implemented.

   a. Significant amounts of sediment that leave the site shall be cleaned up within 24 hours and placed back on the site or properly disposed. Any in-stream clean up of sediment shall be performed according to Oregon Division of State Lands' required timeframe.

   b. Under no conditions shall sediment be intentionally washed into storm sewers or drainageways unless it is captured by a BMP before entering receiving waters.

   c. For a filter fence, the trapped sediment shall be removed before it reaches one third of the above ground fence height.

   d. For catch basin protection, cleaning must occur when design capacity has been reduced by fifty percent.

   e. For a sediment basin, removal of trapped sediments shall occur when design capacity has been reduced by fifty percent.

   f. All erosion and sediment controls not in the direct path of work shall be installed before any land disturbance.

   g. If fertilizers are used to establish vegetation, the application rates shall follow manufacture's guidelines and the application shall be done in such a way to minimize nutrient-laden runoff to receiving waters.

   h. If construction activities cease for thirty (30) days or more, the entire site must be stabilized, using vegetation or a heavy mulch layer, temporary seeding, or another method that does not require germination to control erosion.

   i. Any use of toxic or other hazardous materials shall include proper storage, application, and disposal.

   j. The permittee shall manage abandoned hazardous wastes, used oils, contaminated soils or other toxic substances discovered during construction activities in a manner approved by the Department.

   k. If a storm water treatment system for construction activities is employed, the operation and maintenance plan shall be submitted to the Department for approval.

5. **Additional Requirements**

   a. **Water Quality Standards:**
      The ultimate goal for permittees is to comply with water quality standards in OAR 340-41. In instances where a storm water discharge adversely impacts water quality, the Department may require the facility to implement additional management practices, apply for an individual permit, or take other appropriate action.

   b. **Turbidity (Nephelometric Turbidity Units, NTU) Water Quality Standard:**
      No more than a ten percent cumulative increase in natural stream turbidities shall be allowed, as measured relative to a control point immediately upstream of the turbidity causing activity. However, limited duration activities necessary to address an emergency or to accommodate essential dredging, construction or other legitimate activities and which cause the standard to be
exceeded may be authorized provided all practicable turbidity control techniques have been applied and one of the following has been granted:

(A) Emergency activities: Approval coordinated by DEQ with the Department of Fish and Wildlife under conditions they may prescribe to accommodate response to emergencies or to protect public health and welfare;
(B) Dredging, Construction or other Legitimate Activities: Permit or certification authorized under terms of Section 401 or 404 (Permits and Licenses, Federal Water Pollution Control Act) or OAR 14l-085-0100 et seq. (Removal and Fill Permits, Division of State Lands), with limitations and conditions governing the activity set forth in the permit or certificate.
[see OAR 340-041-(basin)(2)(c)]

c. Water Quality Limited Streams:
The Department may establish additional controls on construction activities that discharge storm water runoff to water quality limited streams if Total Maximum Daily Loads are established and construction activities are determined to be a significant contributor to these loads. The Department may also require application for individual permit or develop a watershed-based general permit for the activity.
SCHEDULE B
MINIMUM MONITORING REQUIREMENTS

All Sites

1. A person with knowledge and experience in construction storm water controls and management practices shall conduct the inspections. The ESCP shall identify the person(s) and/or title of the personnel that will conduct the inspections and provide a contact phone number for such person(s).

Active Sites

2. Frequency of inspections shall be daily during storm water runoff or snowmelt runoff and at least once every seven (7) calendar days and within 24 hours after any storm event of greater than 0.5 inches of rain per 24-hour period.

Inactive Sites

3. During inactive periods of greater than seven (7) consecutive calendar days, inspections shall only be required once every two (2) weeks.

4. Prior to discontinuing activities at the site, any exposed area shall be stabilized to prevent erosion. Stabilization may occur by applying appropriate cover (mulch, erosion control blanket, soil tackifier, etc.) or establishing adequate vegetative cover.

5. When a site is inaccessible due to adverse weather conditions, inspections shall not be required. Adverse weather condition shall be recorded on the inspection sheet.

6. Prior to leaving an inactive site or in anticipation of site inaccessibility, existing erosion and sediment control measures shall be inspected to ensure that they are in working order. Any necessary maintenance or repair shall be made prior to leaving the site.

Written Records

7. All visual inspections must document the following information:

   a. Inspection date, inspector’s name, weather conditions, and rainfall amount for past 24 hours (inches). (Rainfall information can be obtained from the nearest weather recording station.)

   b. List observations of all BMPs: erosion and sediment controls, chemical and waste controls, locations where vehicles enter and exit the site, status of areas that employ temporary or final stabilization control, soil stockpile area, and nonstormwater controls.

   c. At representative discharge location(s) from the construction site conduct observation and document the quality of the discharge for any turbidity, color, sheen, or floating materials. If possible, in the receiving stream, observe and record color and turbidity or clarity upstream and downstream within 30 feet of the discharge from the site. For example, a sheen or floating material could be noted as present/absent, if observation is yes, it could indicate concern about a possible spill and/or leakage from vehicles or materials storage. For turbidity and color an observation would describe any apparent color and the clarity of the discharge, and any apparent difference in comparison with the receiving stream.
d. If significant amounts of sediment are leaving the property, briefly explain the corrective measures taken to reduce the discharge and/or clean it up and describe efforts to prevent future releases. The ESCP shall be amended accordingly.

e. If a site is inaccessible due to inclement weather the inspection shall include observations at a relevant discharge point or downstream location, if practical.

8. All inspection records for an active site shall be kept on-site or be maintained with the permittee, and shall made available to the Department, its Agent, or local municipality upon request.

9. A written record of inspections for an inactive site shall be maintained with the permittee and made available to the Department, its Agent, or local municipality upon request.

10. Retention of all inspection records shall be for a period of one year from project completion.
SCHEDULE C
COMPLIANCE SCHEDULE

1. Registration of Underground Injection Systems (40 CFR 144 and OAR 340-044). The permittee shall submit to DEQ a registration form if construction activities include disposal of storm water or other wastewater discharges to an injection system. These types of disposal systems are classified under the Underground Injection Control Program as a Class V well, require registration, and must meet Division 44 standards.

a. A new permittee shall register any applicable underground treatment systems prior to the construction of a new facility.

b. For facilities covered by the previous 1200-CA permit the registration form is due within thirty (30) days after receipt of this new 1200-CA permit.
SCHEDULE D
SPECIAL CONDITIONS

1. Issuance of this permit does not relieve the permittee from all other permitting and licensing requirements. Prior to beginning construction activities, all other necessary approvals shall be obtained.

2. The permit will remain in effect after the expiration date or until another permit is issued if the permittee has paid all fees and has filed a renewal application.

3. Any permittee that does not want to be covered or limited by this general permit may make application for an individual NPDES permit in accordance with the procedures in OAR 340-45-030.

4. Permit Specific Definitions:

   Best Management Practices (BMPs) Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the state. BMPs include treatment systems, erosion and sediment control, source control, and operating procedures and practices to control: site runoff, spillage or leaks, and waste disposal.

   Dewatering The removal and disposal of surface water or groundwater for purposes of preparing a site for construction.

   Erosion The movement of soil particles resulting from the tracking, flow or pressure from storm water or wind.

   Grade Construction activity that causes the disturbance of the earth. This shall include but not be limited to any excavating, filling, stockpiling of earth materials, grubbing, root mat or topsoil disturbance, or any combination of them.


   Phasing Clearing a parcel of land in distinct phases, with the stabilization of each phase before clearing of the next phase; including soil stockpiling.

   Stabilization The completion of all soil disturbance activities at the site and the establishment of a permanent vegetative cover, or equivalent permanent stabilization measures (such as riprap, gabions, geotextiles, or bioengineering methods) that will prevent erosion.

   Start of Construction The first land-disturbing activity associated with a development, including land preparation such as clearing, grading, excavation, and filling; installation of streets and walkways; erection of temporary forms; and installation of accessory buildings such as garages.

   Storm Water Storm water runoff, snow melt runoff, and surface runoff associated with a storm event.

   Turbidity An expression of the optical property of a sample which causes light to be scattered and absorbed rather than transmitted in a straight line through the sample. It is caused by the presence of suspended matter in a liquid.
SECTION A. STANDARD CONDITIONS

1. Duty to Comply
The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Oregon Revised Statutes (ORS) 468B.025 and is grounds for enforcement action; for permit termination, suspension, or modification; or for denial of a permit renewal application.

2. Penalties for Water Pollution and Permit Condition Violations
Oregon Law (ORS 468.140) allows the Director to impose civil penalties up to $10,000 per day for violation of a term, condition, or requirement of a permit.

Under ORS 468.943, unlawful water pollution, if committed by a person with criminal negligence, is punishable by a fine of up to $25,000 or by imprisonment for not more than one year, or by both. Each day on which a violation occurs or continues is a separately punishable offense.

Under ORS 468.946, a person who knowingly discharges, places or causes to be placed any waste into the waters of the state or in a location where the waste is likely to escape into the waters of the state, is subject to a Class B felony punishable by a fine not to exceed $200,000 and up to 10 years in prison.

3. Duty to Mitigate
The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. In addition, upon request of the Department, the permittee shall correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

4. Duty to Reapply
If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and have the permit renewed. The application shall be submitted at least 180 days before the expiration date of this permit.

The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

5. Permit Actions
This permit may be modified, suspended, revoked and reissued, or terminated for cause including, but not limited to, the following:

a. Violation of any term, condition, or requirement of this permit, a rule, or a statute;
b. Obtaining this permit by misrepresentation or failure to disclose fully all material facts; or
c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the permittee for a permit modification or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. Toxic Pollutants
The permittee shall comply with any applicable effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

7. Property Rights
The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

8. Permit References
Except for effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance
The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls, and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary
facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Duty to Halt or Reduce Activity
For industrial or commercial facilities, upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Bypass of Treatment Facilities
a. Definitions
   (1) "Bypass" means intentional diversion of waste streams from any portion of the treatment facility. The term "bypass" does not include nonuse of singular or multiple units or processes of a treatment works when the nonuse is insignificant to the quality and/or quantity of the effluent produced by the treatment works. The term "bypass" does not apply if the diversion does not cause effluent limitations to be exceeded, provided the diversion is to allow essential maintenance to assure efficient operation.
   (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities or treatment processes which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Prohibition of bypass.
   (1) Bypass is prohibited unless:
      (a) Bypass was necessary to prevent loss of life, personal injury, or severe property damage;
      (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
      (c) The permittee submitted notices and requests as required under General Condition B.3.c.
   (2) The Director may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, when the Director determines that it will meet the three conditions listed above in General Condition B.3.b.(1).

c. Notice and request for bypass.
   (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior written notice, if possible at least ten days before the date of the bypass.
   (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in General Condition D.5.

4. Upset
a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operation error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of General Condition B.4.c are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
   (1) An upset occurred and that the permittee can identify the causes(s) of the upset;
   (2) The permitted facility was at the time being properly operated;
   (3) The permittee submitted notice of the upset as required in General Condition D.5, hereof (24-hour notice); and
   (4) The permittee complied with any remedial measures required under General Condition A.3 hereof.

d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

5. Treatment of Single Operational Event
For purposes of this permit, A Single Operational Event which leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation. A single operational event is an exceptional incident which causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission),
temporary noncompliance with more than one Clean Water Act effluent discharge pollutant parameter. A
single operational event does not include Clean Water Act violations involving discharge without a NPDES
permit or noncompliance to the extent caused by improperly designed or inadequate treatment facilities. Each
day of a single operational event is a violation.

6. Overflows from Wastewater Conveyance Systems and Associated Pump Stations
   a. Definitions
      (1) "Overflow" means the diversion and discharge of waste streams from any portion of the wastewater
          conveyance system including pump stations, through a designed overflow device or structure, other
          than discharges to the wastewater treatment facility.
      (2) "Severe property damage" means substantial physical damage to property, damage to the conveyance
          system or pump station which causes them to become inoperable, or substantial and permanent loss of
          natural resources which can reasonably be expected to occur in the absence of an overflow.
      (3) "Uncontrolled overflow" means the diversion of waste streams other than through a designed overflow
          device or structure, for example to overflowing manholes or overflowing into residences, commercial
          establishments, or industries that may be connected to a conveyance system.
   b. Prohibition of overflows. Overflows are prohibited unless:
      (1) Overflows were unavoidable to prevent an uncontrolled overflow, loss of life, personal injury, or
          severe property damage;
      (2) There were no feasible alternatives to the overflows, such as the use of auxiliary pumping or
          conveyance systems, or maximization of conveyance system storage; and
      (3) The overflows are the result of an upset as defined in General Condition B.4. and meeting all
          requirements of this condition.
   c. Uncontrolled overflows are prohibited where wastewater is likely to escape or be carried into the waters of
      the State by any means.
   d. Reporting required. Unless otherwise specified in writing by the Department, all overflows and
      uncontrolled overflows must be reported orally to the Department within 24 hours from the time the
      permittee becomes aware of the overflow. Reporting procedures are described in more detail in General
      Condition D.5.

7. Public Notification of Effluent Violation or Overflow
   If effluent limitations specified in this permit are exceeded or an overflow occurs, upon request by the
   Department, the permittee shall take such steps as are necessary to alert the public about the extent and nature
   of the discharge. Such steps may include, but are not limited to, posting of the river at access points and other
   places, news releases, and paid announcements on radio and television.

8. Removed Substances
   Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of
   wastewaters shall be disposed of in such a manner as to prevent any pollutant from such materials from
   entering public waters, causing nuisance conditions, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

1. Inspection and Entry
   The permittee shall allow the Director, or an authorized representative upon the presentation of credentials to:
   a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where
      records must be kept under the conditions of this permit;
   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this
      permit;
   c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment),
      practices, or operations regulated or required under this permit, and
   d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise
      authorized by state law, any substances or parameters at any location.

SECTION D. REPORTING REQUIREMENTS

1. Planned Changes
   The permittee shall comply with Oregon Administrative Rules (OAR) 340, Division 52, "Review of Plans and
   Specifications". Except where exempted under OAR 340-52, no construction, installation, or modification
   involving disposal systems, treatment works, sewerage systems, or common sewers shall be commenced until
   the plans and specifications are submitted to and approved by the Department. The permittee shall give notice
   to the Department as soon as possible of any planned physical alternations or additions to the permitted
   facility.

2. Anticipated Noncompliance
The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. Transfers
   This permit may be transferred to a new permittee provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and the rules of the Commission. No permit shall be transferred to a third party without prior written approval from the Director. The permittee shall notify the Department when a transfer of property interest takes place.

4. Compliance Schedule
   Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

5. Twenty-Four Hour Reporting
   The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally (by telephone) within 24 hours, unless otherwise specified in this permit, from the time the permittee becomes aware of the circumstances. During normal business hours, the Department’s Regional office shall be called. Outside of normal business hours, the Department shall be contacted at 1-800-452-0311 (Oregon Emergency Response System).

   A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. If the permittee is establishing an affirmative defense of upset or bypass to any offense under ORS 468.922 to 468.946, and in which case if the original reporting notice was oral, delivered written notice must be made to the Department or other agency with regulatory jurisdiction within 4 (four) calendar days.

   The written submission shall contain:
   a. A description of the noncompliance and its cause;
   b. The period of noncompliance, including exact dates and times;
   c. The estimated time noncompliance is expected to continue if it has not been corrected;
   d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and
   e. Public notification steps taken, pursuant to General Condition B.7.

   The following shall be included as information which must be reported within 24 hours under this paragraph:
   a. Any unanticipated bypass which exceeds any effluent limitation in this permit.
   b. Any upset which exceeds any effluent limitation in this permit.
   c. Violation of maximum daily discharge limitation for any of the pollutants listed by the Director in this permit.

   The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

6. Other Noncompliance
   The permittee shall report all instances of noncompliance not reported under General Condition D.4 or D.5, at the time monitoring reports are submitted. The reports shall contain:
   a. A description of the noncompliance and its cause;
   b. The period of noncompliance, including exact dates and times;
   c. The estimated time noncompliance is expected to continue if it has not been corrected; and
   d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

7. Duty to Provide Information
   The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

   Other Information: When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Department, it shall promptly submit such facts or information.

8. Signatory Requirements
   All applications, reports or information submitted to the Department shall be signed and certified in accordance with 40 CFR 122.22.

9. Falsification of Reports
   Under ORS 468.953, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, is subject to a Class C felony punishable by a fine not to exceed $100,000 per violation and up to 5 years in prison.

10. Changes to Indirect Dischargers - [Applicable to Publicly Owned Treatment Works (POTW) only]
The permittee must provide adequate notice to the Department of the following:

a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of the Clean Water Act if it were directly discharging those pollutants and;

b. Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

c. For the purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

11. Changes to Discharges of Toxic Pollutant - [Applicable to existing manufacturing, commercial, mining, and silvicultural dischargers only]

The permittee must notify the Department as soon as they know or have reason to believe of the following:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following “notification levels”:
   (1) One hundred micrograms per liter (100 g/l);
   (2) Two hundred micrograms per liter (200 g/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 g/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
   (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
   (4) The level established by the Department in accordance with 40 CFR 122.44(f).

b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following “notification levels”:
   (1) Five hundred micrograms per liter (500 g/l);
   (2) One milligram per liter (1 mg/l) for antimony;
   (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
   (4) The level established by the Department in accordance with 40 CFR 122.44(f).

SECTION E. DEFINITIONS

1. BOD means five-day biochemical oxygen demand.
2. TSS means total suspended solids.
3. mg/l means milligrams per liter.
4. kg means kilograms.
5. m³/d means cubic meters per day.
6. MGD means million gallons per day.
7. Composite sample means a sample formed by collecting and mixing discrete samples taken periodically and based on time or flow.
8. FC means fecal coliform bacteria.
9. Technology based permit effluent limitations means technology-based treatment requirements as defined in 40 CFR 125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR 340-41.
10. CBOD means five day carbonaceous biochemical oxygen demand.
11. Grab sample means an individual discrete sample collected over a period of time not to exceed 15 minutes.
12. Quarter means January through March, April through June, July through September, or October through December.
13. Month means calendar month.
14. Week means a calendar week of Sunday through Saturday.
15. Total residual chlorine means combined chlorine forms plus free residual chlorine.
16. The term “bacteria” includes but is not limited to fecal coliform bacteria, total coliform bacteria, and E. coli bacteria.
17. POTW means a publicly owned treatment works.
# Turbidity Monitoring Report
For use on all ODOT projects requiring turbidity monitoring

## Project Permit & Contract Information

<table>
<thead>
<tr>
<th>Project Name (Section)</th>
<th>Contract No.</th>
<th>Key No.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Address/Location</th>
<th>City</th>
<th>County</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Contact</th>
<th>Name</th>
<th>Phone</th>
<th>Cell</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>ODOT Project Manager</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ODOT REC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ODOT Inspector</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ODOT Inspector</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contractor Supervisor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contractor Inspector</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Permit Information

<table>
<thead>
<tr>
<th>Permit Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>401 Cert #</td>
</tr>
<tr>
<td>Instream Work Start</td>
</tr>
<tr>
<td>Instream Work End</td>
</tr>
<tr>
<td>Extension Date</td>
</tr>
<tr>
<td>DEQ-Contact/Phone</td>
</tr>
<tr>
<td>DSL-Contact/Phone</td>
</tr>
</tbody>
</table>

## Turbidity Information

Instructions: First take a background measurement approximately 100 ft. upcurrent in disturbed water. Then, take a compliance measurement approximately 100 ft. downcurrent of work site and within the turbidity plume if visible. If downcurrent turbidity exceeds background turbidity by 50 NTU or more, STOP WORK! If 30-49 NTU, modify BMPs and continue to monitor every 2 hours. If 5-29 NTU, modify every 4 hours.

### Turbidity Measurements (NTUs)

<table>
<thead>
<tr>
<th>Individual's Name Performing Monitoring</th>
<th>Date</th>
<th>In-Water Work START TIME</th>
<th>TIDAL STAGE (Ebb or Flow)</th>
<th>-100 ft. Up Current</th>
<th>-100 ft. Down Current</th>
<th>-100 ft. Up Current</th>
<th>-100 ft. Down Current</th>
<th>In-Water Work STOP TIME</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### ADD TURBIDITY LINE

### Visual Monitoring - Plume Observed

<table>
<thead>
<tr>
<th>Start +4 hours</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Start +4 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start +4 hours</td>
</tr>
<tr>
<td>Start +4 hours</td>
</tr>
<tr>
<td>Start +4 hours</td>
</tr>
<tr>
<td>Start +4 hours</td>
</tr>
<tr>
<td>Start +4 hours</td>
</tr>
<tr>
<td>Start +4 hours</td>
</tr>
<tr>
<td>Start +4 hours</td>
</tr>
</tbody>
</table>

No plume observed, continue to monitor every 4 hours. Plume observed, modify BMPs and continue to monitor every 4 hours.
### Erosion Control Monitoring

**Project Name (Section)**

**Highway**

**County**

**Erosion & Sediment Control Mgr (ESCM)**

**Name & Title:**

<table>
<thead>
<tr>
<th>Contractor and/or Subcontractor</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Erosion Control Facilities and Access Road Surfacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
</tr>
<tr>
<td>----------</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Visible or Measurable Erosion Leaving the Construction Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
</tr>
<tr>
<td>----------</td>
</tr>
</tbody>
</table>

**Receiving Waters:**

Visually compare color & clarity 30 ft. (10 m) upstream (U) and downstream (D)

<table>
<thead>
<tr>
<th>Location - U/D</th>
<th>Observations/Actions Taken</th>
<th>Date(s)</th>
</tr>
</thead>
</table>

### Comments and General Site Conditions

#### Rainfall Reporting Station

24 Hour Rainfalls

Ending Dates

Prepared by

Cert. No.

Telephone Number

Monitoring Period

**Minimum Monitoring and Reporting Requirements:**

Inspect all erosion control facilities at least every 7 calendar days on active sites and two weeks on inactive sites. Inspect daily during storm water or snowmelt runoff and within 24 hours after more than 1/2 inch (12 mm) of rain per 24 hour period. See contract subsection 00290.30(a) for additional information. Furnish a completed copy of this report to DEQ upon their request.

**Distribution:** Original to Agency Project Manager - Copy to Originator