POLLUTION CONTROL PLAN
CONTRACTOR PACKET

Developed By
Oregon Department of Transportation
Geotechnical Services Unit
Erosion Control Team
March, 1996
This packet assists the Contractor when developing a Pollution Control Plan which meets the Oregon Department of Transportation requirements found in Special Provision 00170.30 (c) and Supplemental 00280.

INTRODUCTION

Air and water pollution results from chemicals, waste materials, or soils which are discharged or released into air or water. In order to prevent pollution related to its construction projects and meet state and Federal requirements, ODOT requires a Pollution Control Plan (PCP) and an Erosion and Sediment Control Plan (ESCP) for each of its projects.

On most projects having earthwork activities, ODOT develops the Erosion and Sediment Control Plan (ESCP) and the contractor is responsible for revising the Erosion and Sediment Control Plan (ESCP), developing a Pollution Control Plan (PCP) and developing implementation and maintenance schedules for both the ESCP and the PCP. On some projects the contractor develops both erosion and pollution control plans.

The Pollution Control Plan should provide pollution prevention for 1) off-site tracking of soils, 2) material management 3) waste management, and 4) vehicle and equipment management. The PCP should include erosion and sediment control for contractor activities which are not addressed in the Erosion and Sediment Control Plan.

A complete Pollution Control Plan (PCP) includes the following:

1. A completed PCP form found in Appendix A;
2. A site plan identifying and locating all pollution control measures included in the PCP;
3. Typical details, as needed.

This packet includes directions for developing a Pollution Control Plan and the following appendices.

- **Appendix A** Blank Pollution Control Plan form and instruction for completing the form;
- **Appendix B** Best management practices (BMP) fact sheets for pollution control;
- **Appendix C** Acronyms, Definitions and References.

This packet does not include information on erosion prevention and sediment control measures. Two good references for erosion and sediment control are *Best Management Practices for Erosion and Sediment Control, FHWA-FLP-94-005* developed by the U.S. Department of Transportation, June 1995 and *Storm Water Management for Construction Activities, Developing Pollution Prevention Plans and Best Management Practices, EPA 832-R-92-005*, developed by EPA in 1992.
Appendix A
Blank PCP Form
And Instructions
INSTRUCTIONS
The following instructions outline steps to follow when developing the PCP:

COMPLETE THE POLLUTION CONTROL PLAN FORM

Section 1 Project Description

1. Project Purpose
Give a broad description of the scope of work. Example: “This project will reconstruct 5 miles of 2-lane highway and replace two bridges.”

2. Contractor Activities
List contractor activities such as paving, painting, sand blasting and other activities which could cause pollution.

3. Soil Disturbing Activities
List all soil disturbing activities associated with the project. Include grubbing, excavation, stockpiling, rough grading, final or finish grading, seedbed preparation, trench excavation, demolition, culvert installation, roadway obliteration, disposal sites, detour construction and related work.

4. Non-Stormwater Discharges
List non-stormwater discharges associated with the project. Include dewatering, water-line flushing, pavement wash waters and irrigation water.

5. Estimated Start Date For Construction
Give the date by month and year or use spring, summer, winter, fall and the year.

6. Nearest Surface Water Bodies
Name streams, rivers, wetlands, lakes, intermittent streams etc..

7. Receiving Waters
Name all waters which receive surface water discharge from the project.

8. Special Environmental Considerations
List any environmentally sensitive areas such as bird sanctuaries, national parks, burial grounds, wetlands, etc.

9. Designated EPCM
Name the designated Erosion and Pollution Control Manager (EPCM) who will fulfill duties spelled out in Special Provision 00170.30 (c) and Supplemental 00280.

10. Contractor Project Supervisor

11. ODOT Project Manager
Section 2  Pollution Control Plan

Describe the Best Management Practices (BMP) you will use to prevent pollution related to contractor activities listed in this section. Be as specific as possible. Appendix B contains fact sheets for activities such as material management, waste management and vehicle maintenance. The BMP fact sheets in Appendix B represent a selection of controls; however, the fact sheets do not include all possible BMPs for pollution control. The Contractor should select controls appropriate for contractor operations associated with the project. When selecting controls, consider all information at hand including drainage patterns, expected rainfall, slopes and grades, soil types and distances from surface waters.

A) Offsite Vehicle Tracking and Dust Prevention
Describe specific methods, locations, and scheduling of measures which prevent offsite tracking of materials. Measures could include sweeping pavements, covering loads or wetting soil to prevent dust. Include aggregate construction entrances as required in 00170.30 (c).

B) Contractor Activities
Describe specific pollution prevention measures for contractor activities given in Section 1.
Describe specific pollution prevention measures to prevent pollution related to non-stormwater discharges.

C) Material Management and Spill Prevention
List on the Materials Inventory all materials that will be onsite. Describe delivery, handling, storage, use, and application methods for all materials on the pollutant inventory including all hazardous materials. The Pollution Control Plan must include a specific discussion of spill prevention, control and cleanup.

Spill Prevention And Control
Describe material management practices you will use to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff and describe specific measures you will use to reduce the risk of employee exposure to hazardous materials. Describe housekeeping practices, storage, handling and disposal of hazardous materials and their containers.

Spill Cleanup:
Describe methods you will use for spill containment and cleanup in case of a spill of any material, hazardous or not. List and locate containment methods and cleanup materials stored onsite. Describe what measures will be used to protect onsite personnel during containment and cleanup. Discuss procedure for documentation of reported spills and for modifying practices to prevent future spills.
D) Waste Management
Discuss handling, storage and disposal of solid waste, hazardous waste, contaminated soil, concrete waste, and sanitary/septic waste and other waste produced onsite. Give names, addresses and qualifications for waste management companies employed to handle the waste.

E) Vehicle and Equipment Management
Describe and, when appropriate, locate pollution prevention measures for cleaning, fueling, maintaining vehicles and equipment.

Section 3  Erosion and Sediment Control
Complete Section 3 Erosion and Sediment Control for activities requiring erosion and sediment control that are not covered in the erosion control plan. If the contractor develops both the pollution control plan and the erosion control plan, then this section should cover pollution prevention for all construction activities.

Section 4  Inspection and Maintenance
Describe inspection and maintenance procedures for all controls included in the Pollution Control Plan. Inspection and maintenance procedures should meet or exceed ESCP inspection and maintenance requirements in the 00280 Supplementals.

Section 5  Employee and Subcontractor Training
Employee and subcontractor education at a minimum includes informing personnel of the posted locations of the Pollution Control Plan / Erosion and Sediment Control Plan/MSDS’s and important emergency phone numbers. Education should include informing personnel of revised material management procedures following a spill.

**LOCATE CONTROLS ON THE PLAN SHEETS OR DEVELOP A SITE MAP**
On the plan sheets clearly locate and name the controls selected for pollution and erosion and sediment control. This can be done by hand. For locations not shown on the plan sheets, develop a map showing control locations. The site map should include applicable information from the following list:

- North Arrow;
- Right of way;
- Easements;
- Natural drainage features (lakes, swales, rivers, streams, etc.);
- Surface waters;
- Environmentally sensitive areas, including wetlands;
- Stormwater discharges to surface water;
- Drainage patterns;
- Approximate slopes;
- Stockpile locations, material storage areas, fueling areas, etc..
**DEVELOP TYPICAL DETAILS**

Develop typical details for BMPs included in the Pollution Control Plan but not included in Appendix B or the contract’s typical erosion control details.

**PREPARE AN IMPLEMENTATION SCHEDULE**

Refer to 00170.30(c), 00180.41 and 00280 for specific requirements.

The following principles provide guidance when developing an implementation schedule:

1. Install downslope and side slope controls before land disturbing activities
2. Do not disturb an area until it is necessary for construction to proceed.
3. Cover and stabilize disturbed areas as soon as possible. See special provisions 00280.
4. Time activities to limit seasonal and weather impacts.
5. Retain temporary perimeter controls until all upstream areas are finally stabilized.
6. Delay constructing infiltration measures until the upstream drainage areas are stabilized.

**ATTACH SITE MAP/PLAN SHEETS**

**ATTACH TYPICAL DETAILS**

Attach details developed for any controls employed in the Pollution Control Plan which don’t have a typical detail included the contract documents.
### SECTION 1  PROJECT DESCRIPTION

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hwy</td>
<td>Agency/Owner Name</td>
</tr>
<tr>
<td>County</td>
<td>Address:</td>
</tr>
<tr>
<td>Key Number</td>
<td>Township, Range, Section, 1/4 Section</td>
</tr>
</tbody>
</table>

1. **Project Purpose**

2. **Contractor Activities**

3. **Soil Disturbing Activities**

4. **Non-stormwater Discharges**

5. **Estimated Start Date**

6. **Nearest Surface Water Bodies**

7. **Receiving Waters**
8. Special Environmental Considerations

9. Designated EPCM

10. Contractor’s Project Supervisor

11. ODOT Project Manager

<table>
<thead>
<tr>
<th>SECTION 2</th>
<th>POLLUTION CONTROL PLAN</th>
</tr>
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<tbody>
<tr>
<td>A)</td>
<td>OFFSITE VEHICLE TRACKING AND DUST PREVENTION</td>
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</table>

| B) CONTRACTOR ACTIVITIES | Pollution Prevention Measures: |
C) MATERIAL MANAGEMENT AND SPILL PREVENTION

MATERIALS INVENTORY:

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>SOLVENTS</td>
<td>PESTICIDES</td>
<td>CONCRETE</td>
<td>TAR</td>
</tr>
<tr>
<td>DETERGENTS</td>
<td>HERBICIDES</td>
<td>METAL STUDS</td>
<td>ROOFING SHINGLES</td>
</tr>
<tr>
<td>PAINTS</td>
<td>FERTILIZER</td>
<td>MASONRY BLOCKS</td>
<td>FUEL</td>
</tr>
<tr>
<td>WOOD</td>
<td>PETROLEUM BASED PRODUCTS</td>
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</tbody>
</table>

OTHER (Describe):

The following product-specific storage practices will be followed onsite:

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup:

1. Spill prevention:
2. Spill Cleanup:

D) WASTE MANAGEMENT
List disposal methods for construction waste materials, hazardous waste and sanitary waste:

E) VEHICLE AND EQUIPMENT MAINTENANCE
## SECTION 3  EROSION AND SEDIMENT CONTROL:

<table>
<thead>
<tr>
<th>Total project area (ha or acre):</th>
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<tbody>
<tr>
<td>Total disturbed area (ha or acre):</td>
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</table>

**Temporary Stabilization Practices:**
- ☐ Seeding
- ☐ Mulching
- ☐ Erosion Control Matting
- ☐ Other (Describe):

**Permanent Stabilization Practices:**
- ☐ Seeding
- ☐ Rock Drainage Blanket
- ☐ Sodding
- ☐ Mulching
- ☐ Erosion Control Matting
- ☐ Other (Describe):

**Sediment Retention:**
- ☐ Straw Bale Sediment Barrier
- ☐ Wheel Wash
- ☐ Aggregate Construction Entrance
- ☐ Silt Fence, Unsupported
- ☐ Inlet Protection
- ☐ Sediment Basin
- ☐ Silt Fence, Supported
- ☐ Sediment Trap
- ☐ Other (Describe):

**Velocity Checks/Flow Diversion:**
- ☐ Check Dams
- ☐ Subsurface Drain
- ☐ Interceptor Swale
- ☐ Pipe Slope Drain
- ☐ Rock Outlet Protection
- ☐ Earth Berms
- ☐ Interceptor Dike
- ☐ Terraced Slopes
- ☐ Other (Describe):
SECTION 4  INSPECTION AND MAINTENANCE

SECTION 5  EMPLOYEE AND SUBCONTRACTOR EDUCATION

REMEMBER:
Attach a project plans sheets and other site maps showing locations of pollution controls and erosion and sediment controls to be used.
Appendix B

Best Management Practices
Appendix B
BMP Fact Sheets

The following fact sheets were adapted from the Construction Methods Handbook developed in 1993 by California’s Storm Water Quality Task Force. The fact sheets give information for prevention and control of pollution which can result from construction activities. The fact sheets do not cover all contractor activities which can pollute and they do not include all possible pollution control measures. These fact sheets are included to help the contractor develop a project specific Pollution Control Plan as required in 00170.30 (c) and 00280 Supplemental.

CONTENTS
PCP1 Dewatering Operations
PCP2 Paving Operations
PCP3 Structure Construction and Painting
PCP4 Material Delivery and Storage
PCP5 Material Use
PCP12 Spill Prevention and Cleanup
PCP20 Solid Waste Management
PCP21 Hazardous Waste Management
PCP22 Contaminated Soil Management
PCP23 Concrete Waste Management
PCP24 Sanitary/Septic Waste Management
PCP30 Vehicle and Equipment Cleaning
PCP31 Vehicle and Equipment Fueling
PCP32 Vehicle and Equipment Maintenance
PCP40 Employee/Subcontractor Training
PCP 1  DEWATERING OPERATIONS

DESCRIPTION
Prevent or reduce the discharge of pollutants to storm water from dewatering operations with sediment controls.

APPROACH
There are two general classes of pollutants that may result from dewatering operation: 1) sediment, and 2) toxics and petroleum products. A high sediment content in dewatering discharges is common because of the nature of the operation. On the other hand, toxics and petroleum products are not commonly found in dewatering discharges unless the site or surrounding area has been used for light or heavy industrial activities or the area has a history of groundwater contamination. Applying the following procedures will help reduce storm water pollution from dewatering discharges:

Sediment
• Use a sediment trap or a sediment basin to remove sediment from water generated by dewatering.
• Use filtration to remove sediment from a sediment trap or sediment basin. Filtration can be achieved with:
  • A sump pit with a perforated or slit standpipe wrapped in filter fabric. Surround the standpipe with stones to help filter the water as it collects in the pit before being pumped out. An increased suction inlet area will help avoid clogging and unacceptable pump operation.
  • Floating suction hose allowing cleaner surface water to be pumped out.

Toxics and Petroleum Products
• In areas suspected of having groundwater pollution, check with the Project Manager for dewatering requirements.

MAINTENANCE
• Maintain sediment controls and filters in good working order.
• Inspect excavated areas daily for signs of contaminated water as evidenced by discoloration, oily sheen, or odors.

LIMITATIONS
• The presence of contaminated water may indicate contaminated soil as well.
PCP 2  PAVING OPERATIONS

DESCRIPTION
Prevent or reduce the discharge of pollutants resulting from paving operations by using measures to prevent run-on and runoff pollution, properly disposing of wastes, and training employees and subcontractors.

APPROACH
Follow all of Oregon Department of Transportation paving recommendations. In addition the following measures protect stormwater:

- Avoid paving during wet weather.
- Store materials away from drainage courses to prevent storm water run-on. See PCP10 (Material Delivery and Storage).
- Protect drainage courses, particularly in areas with a grade, by employing BMP’s to divert runoff or trap/filter sediment.
- Leaks and spills from paving equipment can contain toxic levels of heavy metals, oil and grease. Place drip pans or absorbent/adsorbent materials to collect leaks and spills. See PCP32 (Vehicle and Equipment Maintenance) and PCP12 (Spill Prevention and Control) in this appendix.
- Cover catch basins and manholes when applying seal coat, tack coat, slurry seal, fog seal, etc..
- Shovel or vacuum saw-cut slurry and remove from site. Cover or barricade storm drains during saw-cutting to contain slurry.
- If paving involves Portland cement concrete, see PCP23 (Concrete Waste Management).
- If paving involves asphalt concrete, the following precautions will help prevent pollutant entering storm water:
  - Prevent sand or gravel placed over new asphalt from washing into storm drains, streets, or creeks by sweeping. Properly dispose of this waste by referring to PCP20 (Solid Waste Management).
  - Old asphalt must be disposed of properly. Collect and remove all broken asphalt from the site and recycle whenever possible.
  - Paving involving an on-site mixing plant may need to meet storm water permitting requirements for industrial activities.
- Train employees and subcontractors.

MAINTENANCE

- Inspect employee and subcontractor activities to insure that measures are being followed.
- Keep ample supplies of drip pans or absorbent/adsorbent materials on-site.

LIMITATIONS
There are no major limitations to this best management practice.
PCP 3 STRUCTURE CONSTRUCTION AND PAINTING

DESCRIPTION
Prevent or reduce the discharge of pollutants to storm water resulting from structure construction and painting by 1) enclosing, 2) covering or burying building material storage areas, 3) using good housekeeping practices, 4) using safer alternative products, and 5) training employees and subcontractors.

APPROACH
- Keep the work site clean and orderly. Remove debris in a timely fashion. Sweep the area.
- Use soil erosion control techniques if bare ground is exposed.
- Buy recycled or less hazardous products to the maximum extent practicable.
- Conduct painting operations consistent with local air quality and OSHA regulations.
- Properly store paints and solvents. See PCP10 (Material Delivery and Storage).
- Properly store and dispose of waste materials generated from the construction activity. See the Waste Management BMPs PCP 20 to PCP24.
- Recycle residual paints, solvents, lumber, and other materials to the maximum extent practicable.
- Make sure that nearby storm drains are well marked to minimize the chance of inadvertent disposal of residual paints and other liquids.
- Clean the storm drain system in the immediate construction area after construction is completed.
- Educate employees who are doing the work.
- Inform subcontractors of policies on these matters and include appropriate provisions in their contract to make certain proper housekeeping and disposal practices are implemented.

MAINTENANCE
Maintenance should be minimal.

LIMITATIONS
- Safer alternative products may not be available, suitable, or effective in every case.
- Hazardous waste that cannot be re-used or recycled must be disposed of by a licensed hazardous waste hauler.
- Construction and painting activities can generate pollutants that can reach storm water if proper care is not taken. The source of these contaminants may be solvents, paints, paint and varnish removers, finishing residues, spent thinners, soap cleansers, kerosene, asphalt and concrete materials, adhesive residues, and old asbestos insulation. For specific information on some of these wastes see the following BMP’s in this Appendix. Actions to maintain storm water quality should be consistent with air quality regulations.
  - PCP20 Solid Waste,
  - PCP21 Hazardous Waste, and
  - PCP23 Concrete Waste.
- More specific information on structure construction practices is listed below.

  Erosion and Sediment Control
• If the work involves exposing large areas of soil or if old buildings are being torn down and not replaced in the near future, employ the appropriate soil erosion and control techniques.

**Storm/Sanitary Sewer Connections**
• Carefully install all drainage systems. Cross connections between the sanitary and storm drain systems as well as any other connections into the drainage system are illegal. Color coding or flagging pipelines on the project site can help prevent such connections.

**Painting**
• Air pollution regulations specify painting requirements which, if met, are usually sufficient to protect storm water quality. These regulations may require that painting operations be properly enclosed or covered to avoid drift. Temporary scaffolding helps when hanging drop cloths or draperies to prevent drift. Application equipment that minimizes overspray also helps. When using sealants on wood, pavement, roofs, etc, quickly clean up spills. Remove excess liquid with absorbent/adsorbent material or rags.
• If painting requires scraping or sand blasting of the existing surface, use a drop cloth to collect most of the chips. Properly dispose of the residue. If the paint contains lead or tributyl-tin, hazardous waste disposal is probably required. Refer to the waste management BMP’s in this appendix for more information.
• Mix paint indoors, in a container area or in a flat unpaved area not subject to significant erosion. Do so even during dry weather because cleanup of a spill will never be 100% effective. If using water based paints, clean the application equipment in a sink that is connected to the sanitary sewer or in a containment area where the dried paint can be readily removed. Properly store leftover paints or dispose of properly.

**Roof Work**
• When working on roofs, either sweep accumulated particles out of the gutter or wash the gutter and trap the particles at the outlet of the downspout. A sock or geotextile placed over the outlet may effectively trap the materials. If the downspout is lined tight, place a temporary plug at the first convenient point in the storm drain, pump out the water with a vactor truck and clean the catch basin sump where you placed the plug.
PCP 4 MATERIAL DELIVERY AND STORAGE

DESCRIPTION
Prevent or reduce the discharge of pollutants to storm water from material delivery and storage by 1) minimizing the storage of hazardous materials on-site, 2) storing materials in a designated area, 3) installing secondary containment, 4) conducting regular inspections, and 5) training employees and subcontractors.

This best management practice covers only material delivery and storage. For other information on materials, see PCP11 (Material Use) or PCP12 (Spill Prevention and Control). For information on wastes, see the Waste Management BMP’s in this appendix.

APPROACH
The following materials are commonly stored on construction sites:
- Soil
- Pesticides and herbicides,
- Fertilizers
- Detergents,
- Plaster or other products,
- Petroleum products such as fuel, oil, and grease, and
- Other hazardous chemicals such as acids, lime, glues, paints, solvents, and curing compounds.

Storage of these materials on-site can pose the following risks:
- Storm water pollution,
- Injury to workers or visitors,
- Groundwater pollution and
- Soil contamination.

The following steps should minimize the risk of pollution:
- Designate areas of the construction site for material delivery and storage.
- Place materials near the construction entrances, away from waterways.
- Avoid transport near drainage paths or waterways.
- Surround with earth berms.
- Place in an area which will be paved.
- Storage of reactive, ignitable, or flammable liquids must comply with the fire codes of your area. The Material Safety Data Sheet (MSDS) or the local Fire Marshall will help determine specific requirements.
- Keep an accurate, up-to-date inventory of materials delivered and stored on-site.
- Keep your inventory down.
- Minimize hazardous materials on-site storage.
- Handle hazardous materials as infrequently as possible.
- During the rainy season, consider storing materials in a covered area. Store materials in secondary containments such as an earthen dike, horse trough, or even a children’s wading pool for non-reactive materials such as detergents, oil, grease, and paints. Small amounts of material may be secondarily contained in “bus boy” trays or concrete mixing trays.
• Do not store chemicals, drums, or bagged materials directly on the ground. Place these items on a pallet and when possible, in secondary containment.
• If drums must be kept uncovered, store them at a slight angle to reduce ponding of rainwater on the lids and to reduce corrosion.
• Try to keep chemicals in their original containers, and keep them well labeled.
• Train employees and subcontractors.
• Employees trained in emergency spill cleanup procedures should be present when dangerous materials or liquid chemicals are unloaded.
• If significant residual materials remain on the ground after construction is complete, properly remove materials and any contaminated soil (See PCP22).

MAINTENANCE
• Keep the designated storage area clean and well organized.
• Conduct routine weekly inspections and check for external corrosion of material containers.
• Keep an ample supply of spill cleanup materials near the storage area.

LIMITATIONS
Storage sheds often must meet building and fire code requirements.

PCP 5 MATERIAL USE

DESCRIPTION
Prevent or reduce the discharge of pollutants to storm water by using alternative products, minimizing hazardous material use on-site, and training employees and subcontractors.

APPROACH
The following materials are commonly used on construction sites:
• Pesticides and herbicides,
• Fertilizers,
• Detergents,
• Plaster and other products,
• Petroleum products such as fuel, oil, and grease, and
• Other hazardous chemicals such as acids, lime, glues, paints, solvents, and curing compounds.

Use of these materials on-site can pose the following risks:
• Storm water pollution,
• Injury to workers or visitors,
• Groundwater pollution, and
• Soil contamination.

Taking the following steps should minimize the risk of pollution:
• Use less hazardous, alternative materials as much as possible.
• Minimize use of hazardous materials on-site.
• Use materials only where and when needed to complete the construction activity.
• Follow manufacturer’s instructions regarding uses, protective equipment, ventilation, flammability, and mixing of chemicals.
• Personnel who use pesticides should be trained in their use.
• Do not over-apply fertilizers, herbicides, or pesticides. Prepare only the amount needed. Follow the recommended usage instructions. Apply surface dressings in several smaller applications, as opposed to one large application, to allow time for infiltration and to avoid excess material being carried off-site by runoff. Do not apply these chemicals just before it rains.
• Train employees and subcontractors in proper material use.

MAINTENANCE
Maintenance of this best management practice is minimal.

LIMITATIONS
Alternate materials may not be available, suitable, or effective in every case.

PCP 12  SPILL PREVENTION AND CONTROL

DESCRIPTION
Prevent or reduce the discharge of pollutants to storm water from leaks and spills by 1) reducing the chance for spills, 2) stopping the source of spills, 3) containing and cleaning up spills, 4) properly disposing of spill materials, and 5) training employees.

This best management practice covers only spill prevention and control. However, PCP10 (Material Delivery and Storage) and PCP11 (Material Use), also contain useful information, particularly on spill prevention. For information on wastes, see the Waste Management BMP’s in this appendix.

APPROACH
Make sure that each employee knows what a “significant spill” is for each material they use and what is the appropriate response for “significant” and “insignificant” spills.

The following steps will help reduce the storm water impacts of leaks and spills:

General Measures
• Hazardous materials and wastes should be stored in covered containers and protected from vandalism.
• Place a stockpile of spill cleanup materials where it will be readily accessible.
• Train employees in spill prevention and cleanup.
• Designate responsible individuals.

Cleanup
• Clean up leaks and spills immediately.
• On paved surfaces, clean up spills with as little water as possible. Use a rag for small spills, a damp mop for general cleanup, and absorbent/adsorbent material for larger spills. If the spilled material is hazardous, then the used cleanup
materials are also hazardous and must be sent to either a certified laundry (rags) or disposed of as hazardous waste.

- Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the Waste Management BMP's in this appendix for specific information.

**Reporting**

- Report significant spills to the Project Manager.
- Federal regulations require that any significant oil spill into a water body or onto an adjoining shoreline be reported to the National Response Center (NRC) at 1-800-424-8802 within 24 hours.
- Use the following measures related to specific activities:

  **Vehicle and Equipment Maintenance**
  - If maintenance must occur on-site, use a designated area and/or a secondary containment, located away from drainage courses, to prevent the run-on of storm water and the runoff of spills.
  - Regularly inspect on-site vehicles and equipment for leaks, and repair immediately.
  - Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment on-site.
  - Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
  - Place drip pans or absorbent/adsorbent materials under paving equipment when not in use.
  - Use absorbent/adsorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent/adsorbent materials promptly and dispose of properly.
  - Promptly transfer used fluids to the proper waste or recycling drums. Don’t leave full drip pans or other open containers lying around.
  - Oil filters disposed of in trash cans or dumpsters can leak oil and pollute storm water. Place the oil filter in a funnel over a waste-oil recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask you oil supplier or recycler about recycling oil filters.
  - Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries, even if you think all the acid has drained out. If you drop a battery, treat it as if it were cracked and put it into the containment area until you are sure it is not leaking.

**Vehicle and Equipment Fueling**

- If fueling must occur on-site, use designated areas, located away from drainage courses, to prevent the run-on of storm water and the runoff of spills.
- Discourage “topping-off” of fuel tanks.
- Always use secondary containment, such as a drain pan, when fueling to catch spills/leaks.

**MAINTENANCE**

- Prevention of leaks and spills is inexpensive. Treatment and/or disposal of contaminated soil or water can be quite expensive.
• Keep ample supplies of spill control and cleanup materials on-site, near storage, unloading, and maintenance areas.
• Update your spill prevention and control plan and stock cleanup materials as changes occur in the types of chemicals on-site.

LIMITATIONS
A private spill cleanup company may be necessary.

PCP 20    SOLID WASTE MANAGEMENT

DESCRIPTION
Prevent or reduce the discharge of pollutants to storm water from solid or construction waste by 1) providing designated waste collection areas and containers, 2) arranging for regular disposal, and 3) training employees and subcontractors.

APPROACH
Solid waste is one of the major pollutants resulting for construction activities. Construction debris includes:

• Solid waste generated from trees and shrubs removed during land clearing, demolition of existing structures (rubble), and building construction;
• Packaging materials including wood, paper and plastic;
• Scrap or surplus building materials including scrap metals, rubber, plastic, glass and masonry products; and
• Domestic wastes including food containers such as beverage cans, coffee cups, paper bags, plastic wrappers and cigarettes.

The following steps will help keep a clean site and reduce storm water pollution:
1. Select designated waste collection areas on-site.
2. Inform trash hauling contractors that you will accept only water-tight dumpsters for on-site use. Inspect dumpsters for leaks and repair any dumpster that is not water tight.
3. Locate containers in a covered area and/or in a secondary containment.
4. Provide an adequate number of containers with lids or covers that can be placed over the container to keep rain out or to prevent loss of wastes when it’s windy.
5. Plan for additional containers and more frequent pickup during the demolition phase of construction.
6. Collect site trash daily, especially during rainy and windy conditions.
7. Erosion and sediment control devices tend to collect litter. Remove this solid waste promptly.
8. Make sure that toxic liquid waste (used oils, solvents, and paints) and chemicals (acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris.
9. Salvage or recycle any useful material. For example, trees and shrubs from land clearing can be used as a brush barrier or converted into wood chips.
10. Do not hose out dumpsters on the construction site. Leave dumpster cleaning to trash hauling contractor.
11. Arrange for regular waste collection to prevent containers overflowing.
12. If a container does spill, clean up immediately.
13. Make sure that construction waste is collected, removed, and disposed of only at authorized disposal areas.
14. Train employees and subcontractors in proper solid waste management.

MAINTENANCE
- Collect site trash daily.
- Inspect construction waste area regularly.
- Arrange for regular waste collection.

PCP 21 HAZARDOUS WASTE MANAGEMENT

DESCRIPTION
Prevent or reduce the discharge of pollutants to storm water from hazardous waste through 1) proper material use, 2) waste disposal, and 3) training of employees and subcontractors.

APPROACH
Many chemicals used on-site can be hazardous materials which become hazardous waste upon disposal. These wastes may include:
- Paints and solvents;
- Petroleum products such as oils, fuels, and grease;
- Herbicides and pesticides;
- Acids for cleaning masonry; and
- Concrete curing compounds.
In addition, sites with existing structures may contain wastes which must be disposed of in accordance with Federal State, and local regulations. These wastes include:
- Sandblasting grit mixed with lead-, cadmium-, or chromium-based paints;
- Asbestos; and
- PCB’s (particularly in older transformers).
The following steps will help reduce storm water pollution from hazardous wastes:

Material Use
1. Use all of the product before disposing of the container.
2. Retain the original product label; it contains important safety and disposal information.
3. Do not over-apply herbicides and pesticides. Prepare only the amount needed and follow the recommended usage instructions. Apply surface dressings in several smaller applications, as opposed to one large application, to allow time for infiltration and to avoid excess material being carried off-site by runoff. Do not apply these chemicals just before it rains.
4. “Paint out” brushes as much as possible. Rinse water-based paints to the sanitary sewer. Filter and re-use thinners and solvents. Dispose of excess oil-based paints and sludge as hazardous waste. Do not clean out brushes or rinse paint containers into the dirt, street, gutter, storm drain, or stream.

Waste Recycling/Disposal
1. Select designated hazardous waste collection areas on-site.
2. Hazardous materials and wastes should be stored in covered containers and protected from vandalism.
3. Place hazardous waste containers in secondary containment.
4. Separate wastes. Mixing wastes can cause chemical reactions, make recycling impossible and complicate disposal.
5. Recycle any useful material such as used oil or water based paint.
6. Make sure that toxic liquid wastes (used oils, solvents, and paints) and chemicals (acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris.
7. Arrange for regular waste collection before containers overflow.
8. Make sure that hazardous waste (e.g. excess oil-based paint and sludge) is collected, removed, and disposed of in accordance with local, state and Federal requirements.

Training
- Train employees and subcontractors in proper hazardous waste management.
- Warning signs should be placed as needed in areas recently treated with chemicals.
- Place a stockpile of spill cleanup materials where it will be readily accessible.
- If a container does spill, clean up immediately.

MAINTENANCE
- Inspect hazardous waste receptacles and area regularly.
- Arrange for regular hazardous waste collection.

LIMITATIONS
Hazardous waste that cannot be reused or recycled must be disposed of by a licensed hazardous waste hauler.

PCP 22  CONTAMINATED SOIL MANAGEMENT

DESCRIPTION
Prevent or reduce the discharge of pollutants to storm water from contaminated soil and highly acidic or alkaline soils by inspecting excavations regularly and remediating contaminated soil promptly.

APPROACH
Contaminated soils may occur on your site for several reasons including:
- Past site uses and activities;
- Detected or undetected spills and leaks; and
- Acid or alkaline solutions from exposed soil or rock formations high in acid or alkaline-forming elements.
Prevention of leaks and spills is inexpensive. Treatment and/or disposal of contaminated soil can be quite expensive. The following steps will help reduce storm water pollution from contaminated soil:

- Look for contaminated soil as evidenced by discoloration, odors, differences in soil properties, abandoned underground tanks or pipes, or buried debris.
- Prevent leaks and spills to the maximum extent practicable.

MAINTENANCE

- Inspect excavated areas for signs of contaminated soil.
- Implement PCP12 (Spill Prevention and Control) to prevent leaks and spills as much as possible.

LIMITATIONS

- Contaminated soils that cannot be treated on-site may require transport, treatment and disposal by a licensed hazardous waste handlers.
- The presence of contaminated soil may indicate contaminated water as well. See PCP1 (Dewatering Operations) for more information.

PCP 23 CONCRETE WASTE MANAGEMENT

DESCRIPTION

Prevent or reduce the discharge of pollutants to storm water from concrete waste by 1) conducting off-site washout, 2) performing on-site washout in a designated area, and 3) training employees and subcontractors.

APPROACH

The following steps will help reduce storm water pollution from concrete wastes:

1. Store dry and wet materials under cover, away from drainage areas.
2. Avoid mixing excess amounts of fresh concrete or cement on-site.
3. Perform washout of concrete trucks off site or in designated areas only.
4. Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
5. Do not allow excess concrete to be dumped on-site, except in designated areas.

For on-site washout:

1. Locate washout area at least 50 feet from storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
2. Wash waste into the temporary pit where the concrete can set, be broken up, and then disposed of properly.
3. When washing concrete to remove fine particles and expose the aggregate, avoid creating runoff by draining the water to a bermed or level area.
4. Do not wash sweepings from exposed aggregate concrete into the street or storm drain. Collect and return sweepings to aggregate base stock pile or dispose in the trash.
5. Train employees and subcontractors in proper concrete waste management.

MAINTENANCE
• Inspect subcontractors to ensure that concrete wastes are being properly managed.
• If using a temporary pit, dispose of hardened concrete on a regular basis.

LIMITATIONS
Off-site washout of concrete wastes may not always be possible.

PCP 24 SANITARY/SEPTIC WASTE MANAGEMENT

DESCRIPTION
Prevent or reduce the discharge of pollutants to storm water from sanitary/septic waste by providing convenient, well-maintained facilities, and arranging for regular service and disposal.

APPROACH
Sanitary or septic wastes should be treated or disposed of in accordance with State and local requirements. These requirements may include:
• Locate sanitary facilities in a convenient location.
• Untreated raw wastewater should never be discharged or buried.
• Temporary septic systems should treat waste to appropriate levels before discharging.
• An on-site disposal system(OSDS), must comply with local health agency requirements.
• Temporary sanitary facilities that discharge to the sanitary sewer system should be properly connected to avoid illicit discharges.
• If discharging to the sanitary sewer, contact the local waste water treatment plant for their requirements.
• Sanitary/septic facilities should be maintained in good working order by a licensed service.

MAINTENANCE
• Inspect facilities regularly.
• Arrange for regular waste collection.

LIMITATIONS
There are no major limitations to this best management practice.

PCP 30 VEHICLE AND EQUIPMENT CLEANING

DESCRIPTION
Prevent or reduce the discharge of pollutants to storm water from vehicle and equipment cleaning by 1) using off-site facilities, 2) washing in designated, 3) contained areas only, 4) eliminating discharges to the storm drain by infiltrating or recycling the wash water, and/or 5) training employees and subcontractors.
APPROACH
• Use off-site commercial washing businesses as much as possible. Washing vehicles and equipment outdoors or in areas where wash water flows onto paved surfaces or into drainage pathways can pollute storm water. If you wash a large number of vehicles or pieces of equipment, consider conducting this work at an off-site commercial business which is better equipped to handle and dispose of the wash waters properly.
• If washing must occur on site, use designated, bermed wash areas to prevent wash water contact with storm water, creeks, rivers, and other water bodies. The wash area can be sloped for wash water collection and subsequent infiltration into the ground.
• Use as little water as possible to avoid having to install erosion and sediment controls for the wash area.
• Use phosphate-free, biodegradable soaps.
• Do not permit steam cleaning on-site. Steam cleaning can generate significant pollutant concentrations.
• Educate employees and subcontractors on pollution prevention measures.

MAINTENANCE
Minimal; some berm repair may be necessary.

LIMITATIONS
• Even phosphate-free, biodegradable soaps have been shown to be toxic to fish before the soap degrades.
• Sending vehicles/equipment off-site should be done in conjunction with an aggregate construction entrance.

PCP 31  VEHICLE AND EQUIPMENT FUELING

DESCRIPTION
Prevent fuel spills and leaks and reduce their impacts to storm water by 1) using off-site facilities, 2) fueling in designated areas only, 3) enclosing or covering stored fuel, 4) implementing spill controls, and 5) training employees and subcontractors.

APPROACH
• Use off-site fueling stations as much as possible. Fueling vehicles and equipment outdoors or in areas where fuel may spill/leak onto paved surfaces or into drainage pathways can pollute storm water. If you fuel a large number of vehicles or pieces of equipment, consider using an off-site fueling station. These businesses are better equipped to handle fuel and spills properly.
• If fueling must occur on-site, use designated areas located away from drainage courses to prevent the run-on of storm water and the runoff of spills.
• Discourage “topping-off” tanks.
• Always use secondary containment, such as a drain pan or drop cloth, to catch spills/leaks.
• Place a stockpile of spill cleanup materials where it will be readily accessible.
• Use absorbent/adsorbent materials on small spills rather than hosing-down or burying the spill. Remove the absorbent/adsorbent materials promptly and dispose of properly.
• Carry out all Federal and State requirements regarding stationary above ground storage tanks.
• Avoid mobile fueling of mobile construction equipment around the site; rather, transport the equipment to designated fueling areas.
• Train employees and subcontractors in proper fueling and cleanup procedures.

MAINTENANCE
• Keep ample supplies of spill cleanup materials on-site.
• Inspect fueling areas and storage tanks on a regular schedule.

LIMITATIONS
Sending vehicles/equipment off-site should be done in conjunction with an aggregate construction entrance.

PCP 32  VEHICLE AND EQUIPMENT MAINTENANCE

DESCRIPTION
Prevent or reduce the discharge of pollutants to storm water from vehicle and equipment maintenance by running a “dry site”. This involves 1) using off-site facilities, 2) performing work in designated areas only, 3) providing cover for materials stored outside, 4) checking for leaks and spills, 5) containing and cleaning up spills immediately, and 5) training employees and subcontractors.

APPROACH
• Keep vehicles and equipment clean. Prevent excessive build-up of oil and grease.
• Maintaining vehicles and equipment outdoors or in areas where vehicle or equipment fluids may spill or leak onto the ground can pollute storm water. If you maintain a large number of vehicles or pieces of equipment, consider using an off-site repair shop which is better equipped to handle vehicle fluids and spills properly.
• If maintenance must occur on-site, use designated areas located away from drainage courses to prevent the run-on of storm water and the runoff of spills.
  • Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
  • Place a stockpile of spill cleanup materials where it will be readily accessible.
  • Use absorbent/adsorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent/adsorbent materials promptly and dispose of properly.
• Regularly inspect on-site vehicles and equipment for leaks and repair immediately.
• Check incoming vehicles and equipment (including delivery trucks and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment on site.
• Segregate and recycle wastes such as, greases, used oil or oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic, and transmission fluids.
• Train employees and subcontractors in proper maintenance and spill cleanup procedures.

**MAINTENANCE**

• Keep ample supplies of spill cleanup materials on-site.
• Inspect maintenance areas on a regular schedule.

**LIMITATIONS**

• Sending vehicles/equipment off-site should be done in conjunction with an aggregate construction entrance.
• Outdoor vehicle or equipment maintenance is a potentially significant source of storm water pollution. Activities that can contaminate storm water include engine repair and service, changing or replacing fluids and outdoor storage and parking of equipment and vehicles. For further information on vehicle or equipment servicing see PCP30 (Vehicle and Equipment Cleaning) and PCP31 (Vehicle and Equipment Fueling).

The following information may apply if you must perform vehicle or equipment maintenance on-site:

**Waste Reduction**

• Parts are often cleaned using solvents such as trichloroethylene or methylene chloride. Many parts cleaners are harmful and must be disposed of as a hazardous waste. Reducing the number of solvents makes recycling easier and reduces hazardous waste management costs. Often, one solvent can perform a job as well as two different solvents. Also, if possible, eliminate or reduce the amount of hazardous materials and waste by substituting non-hazardous or less hazardous materials. For example, replace chlorinated organic solvents (1,1,1-trichloroethane, methylene chloride, etc.) with non-chlorinated solvents such as kerosene or mineral spirits which are less toxic and less expensive to dispose of properly.

**Recycling/Disposal**

• Separating hazardous and non-hazardous wastes makes recycling easier and may reduce disposal costs.
• Store used oil, used chlorinated solvents (like 1,1,1-trichloroethane) and used non-chlorinated solvents (like kerosene and mineral spirits) separately.
• Promptly transfer used fluids to the proper waste or recycling drums.
• Placing the oil filter in a funnel over a waste oil recycling drum to drain excess oil before disposal helps prevent oil leaking into storm water. Oil filters can also be recycled.
• Dispose of extra paints and coatings by allowing coatings to dry or harden before disposal into covered dumpsters.
• Store cracked batteries in a non-leaking secondary container. If you drop a battery, place it in the containment area until you are sure it is not leaking.
• Do not bury used tires.
PCP 40  EMPLOYEE/SUBCONTRACTOR TRAINING

DESCRIPTION
Employee/subcontractor training, like maintenance or a piece of equipment, is not so much a best management practice as it is a method by which to implement Best Management Practices.

The specific employee/subcontractor training aspects of each of the source controls are highlighted in the individual fact sheets. The focus of this fact sheet is more general and includes the overall objectives and approach for assuring employee/subcontractor training in storm water pollution prevention. Accordingly, the organization of this fact sheet differs somewhat from the other fact sheets in this appendix.

OBJECTIVES
Employee/subcontractor training should be based on four objectives:

• Promote a clear identification and understanding of the problem, including activities with the potential to pollute storm water.
• Identify solutions (BMP’s);
• Promote employee/subcontractor ownership of the problem and the solutions; and
• Integrate employee/subcontractor feedback into training and BMP implementation.

APPROACH

• Integrate training regarding storm water quality management with existing training programs that may be required by other regulations the Hazardous Waste Operations and Emergency Response standard (29CFR 1910.120), the Spill Prevention Control and Countermeasure Plan (40CFR 112).
• Train employee/subcontractors in standard operating procedures and spill cleanup techniques described in the Pollution Control Plan. Employee/subcontractors trained in spill containment and cleanup should be present during the loading/unloading and handling of materials.
• Personnel who use pesticides should be trained in their use.
• Educating off-site contractors and subcontractors supports the efforts of well trained employees.
APPENDIX C

Acronyms, Definitions, References
ACRONYMS

The following is a list of acronyms you will encounter when reading these directions.

BMP  Best Management Practice
EPA  Environmental Protection Agency
EPCM  Erosion and Pollution Control Manager
ESCP  Erosion and Sediment Control Plan
MSDS  Material Safety Data Sheets
NPDES  National Pollutant Discharge Elimination System
ODOT  Oregon Department of Transportation
PCP  Pollution Control Plan

DEFINITIONS

Best Management Practices (BMPs):
Physical, structural and/or managerial practices employed to avoid or mitigate damage or potential damage from the contamination or pollution of surface waters or wetlands.

Erosion and Sediment Control Plan (ESCP):
Plans, specifications and BMP details intended to prevent and control erosion and sediment related to the project construction activities.

Material Safety Data Sheets (MSDS):
Data sheets which come with materials. The sheets contain information such as pH, flashpoint, reactivity, first aid recommendations which indicate material classification and handling.

National Pollutant Discharge Elimination System:
The part of the Federal Clean Water Act which requires permits (NPDES permits) for point source discharges.

Point Source Pollutants:
Pollution which enters a water body resulting from discernible, confined or discrete conveyances.

Pollution Control Plan (PCP):
Consists of Pollution Control Plan form, narrative, site map and details describing measures to prevent pollution related to contractor activities. Special Provision 00170.30 (c) spells out the Contractor’s responsibilities related to Pollution Control.

Storm Water:
The portion of precipitation that does not naturally percolate into the ground or evaporate; but flows via overland flow, interflow, channels or pipes.

Structural BMPs:
Structural BMPs are actual physical installations rather than procedural/managerial BMPs, such as good housekeeping and employee training.

REFERENCES
Available through:
National Technical Information Service
Springfield, VA  22161

Available through:
US EPA Office of Waste Water Enforcement and Compliance
401 M Street  SW
Mail Code EN-336
Washington, DC  20460.