

Chapter 4.0

SOURCE CONTROLS

Summary of Chapter 4.0

This chapter presents storm source controls required for site uses and characteristics that generate, or have the potential to generate, specific pollutants of concern.

- 4.1 Introduction
- 4.2 Fuel Dispensing Facilities and Surrounding Traffic Areas
- 4.3 Above-Ground Storage of Liquid Materials
- 4.4 Solid Waste Storage Areas, Containers, and Trash Compactors
- 4.5 Outdoor Storage of Bulk Materials
- 4.6 Material Transfer Areas
- 4.7 Equipment and/or Vehicle Washing Facilities
- 4.8 Stormwater and Groundwater Management For Development On Land With Suspected or Known Contamination
- 4.9 Covered Vehicle Parking Structures

Discharge Authorization Request (DAR) Form for Source Controls

To Use This Chapter:

- 1) Determine which characteristics and/or site uses listed in **Section 4.1.1** are included in the project.
- 2) Follow the design methodologies to design source controls for the project.
- 3) The site use may require a Discharge Authorization Request (**DAR**) Form to be submitted with the permit application.

4.1 INTRODUCTION

Some site characteristics and uses may generate specific pollutants of concern or levels that are not addressed solely through implementation of the pollution reduction measures identified in Chapter 2.0. The site characteristics and uses in this chapter have been identified as potential sources for chronic loadings or acute releases of pollutants such as oil and grease, toxic hydrocarbons, heavy metals, toxic compounds, solvents, abnormal pH levels, nutrients, organics, bacteria, chemicals, and suspended solids. This chapter presents source controls for managing these pollutants at their source.

Stormwater discharge benchmarks for pollutants exist in NPDES Industrial Stormwater General Permits issued by the State of Oregon for facilities with industrial activities that are exposed to rainfall and stormwater runoff. The state also has water quality standards listed in Oregon Administrative Rules (OAR) 340 Division 041 for discharges to surface waters.

Eugene Code 6.340-6.380 lists prohibited discharges to the City's storm sewer system. The City has used these standards and benchmarks in the development of the listed source controls so stormwater discharges can better meet these criteria.

Section 4.1.1 lists the site uses and characteristics subject to the design methodologies of this chapter, and will therefore be subject to City review. Sections 4.2 through 4.9 then provide detailed information about the required source controls.

The implementation of this chapter is in addition to the applicable pollution reduction, flow control, and destination requirements.

All structural source controls require a **Discharge Authorization Request (DAR) form**, located at the end of this chapter, to be submitted as part of the development permit application packet. For more details on structural controls, please refer to the **DAR form**. Applicants may propose alternatives to the source controls identified in this chapter. To request an alternative source control the applicant must complete the Special Requests section of the **DAR form**. Proposal of an alternative source control or alternative design element will require an additional review process and may delay issuance of related building or public works permits.

4.1.1 Site Uses and Characteristics That Trigger Source Controls

Projects with the following site uses and characteristics are subject to the design methodologies of this chapter:

- Fuel Dispensing Facilities and Surrounding Traffic Areas (**Section 4.2**)
- Above-Ground Storage of Liquid Materials (**Section 4.3**)
- Solid Waste Storage Areas, Containers, and Trash Compactors (**Section 4.4**)
- Outdoor Storage of Bulk Materials (**Section 4.5**)
- Material Transfer Areas/Loading Docks (**Section 4.6**)
- Equipment and/or Vehicle Washing Facilities (**Section 4.7**)
- Stormwater and Groundwater Management For Development On Land With Suspected or Known Contamination (**Section 4.8**)
- Covered Vehicle Parking Areas (**Section 4.9**)

Detailed descriptions of these site uses and characteristics can be found in each applicable section. Definitions of terms used in Sections 4.2 through 4.9 are provided in **Section 1.3**.

Applicants are required to address all of the site characteristics and uses listed in Sections 4.2 through 4.9. For example, if a development includes both a fuel dispensing area and a vehicle washing facility, the source controls in both Sections 4.2 and 4.7 will apply.

4.1.2 Source Control Goals and Objectives

The specific source control standards are based on the following goals and objectives:

- 1) Prevent stormwater pollution by eliminating pathways that may introduce pollutants into stormwater.

- 2) Protect soil, groundwater and surface water by capturing acute releases and reducing chronic contamination of the environment.
- 3) Direct wastewater discharges and areas with the potential for relatively consistent wastewater discharges (such as vehicle washing facilities) to the wastewater system.
- 4) Direct areas that have the potential for acute releases or accidental spills, and are not expected to regularly receive flow or require water use (such as covered fuel islands or covered containment areas), to an approved method of containment or destination.
- 6) Safely contain spills on-site, avoiding preventable discharges to wastewater facilities, surface water bodies, or underground injection control structures (UICs).
- 7) Emphasize structural controls over operational procedures. Structural controls are not operator dependent and are considered to provide more permanent and reliable source control. Any proposals for operation-based source controls need to describe the long-term viability of the maintenance program.

4.1.3 Signage

Informational signage is required for certain site uses and activities that may pollute stormwater. Signage addresses good housekeeping rules and provides emergency response measures in case of an accidental spill.

All signage shall conform to the standards described in the following box. Additional signage for specific activities is noted in applicable sections.

Signs shall be located and plainly visible from all activity areas. More than one sign may be needed to accommodate larger activity areas. Signs shall be water-resistant and shall include the following information:

- Safety precautions for self protection and spill containment.
- Immediate spill response procedures—for example: “Turn the valve located at...” or “Use absorbent materials”
- Emergency contact(s) and telephone number(s)—for example: “Call 911” and “City of Eugene Spill Response Number 541-682-4800”

Any applicable spill response supplies must be clearly marked and located where the signage is posted and near the high-risk activity area. More than one spill response kit may be necessary to accommodate larger activity areas.

Pollution Control

IN THE EVENT OF A SPILL

USE Safety Precautions

- Wear protective gear
- Keep vehicles and people out of spill
- Contain materials with the spill kit
 - 1 Seal off drains
 - 2 berm to contain the spill
 - 3 Cleanup with absorbant materials

- ① Turn off valve located at _____
(your location- ie: NE corner of parking lot.)
- ② CALL: supervisor at 503-XXX-XXX and Environmental Services Emergency Spill Response at 503-823-7180



SAMPLE

Spill sign samples recommend PMS 185 red and black on white

Pollution Control

IN THE EVENT OF A SPILL

- ① Turn off valve located at _____
(your location- ie: NE corner of parking lot.)
- ② CALL: supervisor at 503-XXX-XXX and Environmental Services Emergency Spill Response at 503-823-7180

USE Safety Precautions

<ul style="list-style-type: none"> • Wear protective gear • Keep vehicles and people out of spill 	<ul style="list-style-type: none"> • Contain materials with spill kit <ol style="list-style-type: none"> 1 Seal off drains 2 berm to contain the spill 3 Cleanup with absorbant materials
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SAMPLE

4.1.4 Request for Alternative Design Method of Source Control

Applicants must notify the City's Public Works Department of their request in writing, specifying the reason for the request and supporting it with technical and factual data. The Discharge Authorization Request (**DAR**) **Form**, located at the end of this chapter, should be used when requesting an alternative design to the source control design methodologies.

Staff will check the DAR Form and supporting information submittal for completeness prior to review and decision. The applicant should expect to be contacted within five (5) working days if additional documentation is needed.

If the request cannot be satisfied with this process, the adjustment review process, as described in **Appendix A**, will be implemented.

4.2 FUEL DISPENSING FACILITIES AND SURROUNDING TRAFFIC AREAS

4.2.1 Design

1) COVER

The fuel dispensing area shall be covered with a permanent canopy, roof, or awning so precipitation cannot come in contact with the fueling activity area. Rainfall shall be directed from the cover to an approved stormwater destination.

- **Covers 10 feet high or less** shall have a minimum overhang of 3 feet on each side. The overhang shall be measured relative to the perimeter of the hydraulically isolated fueling activity area it is to cover.
- **Covers higher than 10 feet** shall have a minimum overhang of 5 feet on each side. The overhang shall be measured relative to the perimeter of the hydraulically isolated fueling activity area it is to cover.

2) PAVEMENT

A paved fueling pad shall be placed under and around the fueling activity area with asphalt or concrete and shall meet all applicable building code requirements. Sizing of the paved areas shall be adequate to cover the activity area, including placement and number of the vehicles or pieces of equipment to be fueled by each pump. Fuel pumps shall be located a minimum of seven feet from the edge of the fueling pad.

3) DRAINAGE

The paved area beneath the cover shall be hydraulically isolated through grading, berms, or drains. This will prevent uncontaminated stormwater from running onto the area and carrying pollutants away. Drainage from the hydraulically isolated area shall be directed to an approved City wastewater system, or authorized pretreatment facility. Surrounding runoff shall be directed away from the hydraulically isolated fueling pad to a stormwater destination that meet all stormwater management practices of this manual and other applicable code requirements.

4) SIGNAGE

Signage shall be provided at the fuel dispensing area and shall be plainly visible from all fueling activity areas. Detailed information about signage is located in **Section 4.1.4**, and examples have been provided.

5) SPILL CONTROL MANHOLE

A spill control manhole shall be installed on the discharge line of the fueling pad (before the domestic waste line tie-in). The tee section shall extend 18 inches below the outlet elevation, with an additional 3 feet of dead storage volume below the tee to provide storage for oil and grease. The manhole shall be located on private property. For more information about spill control manholes, see **Exhibit 2-25**.

6) SHUT-OFF VALVES

A. **Shut-off valves** are required to protect the City sewer systems or onsite infiltration facilities of spill risks from chemicals and other constituents that provide a danger for wide spread contamination, system damages or risk to the public health. Manual shut-off valves shall not be permitted unless a “Special Request” for an adjustment is approved by the City.

Shut-off valves will be required under the following situations:

- Site or activity areas are corrosives or oxidizers are used or stored (for example, concentrated acids are corrosives having a pH of less than or equal to 2.0 and bases such as sodium or ammonium hydroxide having a pH of greater than or equal to 12.5, common oxidizers are hydrogen peroxide and bleach); or
- Substances which are water soluble or float on water. These substances can spread rapidly into downstream conveyance and destination systems causing wide spread impacts, and difficult clean up situations (for example, oil and grease); or
- Substances such as solvents and petroleum products that are known to infiltrate through soils and contaminate groundwater.

B. **Traffic pathways that surround the fueling pad, also designated as high-use/high-risk areas, will require a shut-off valve on the storm drainage system.** Valves installed on storm drainage systems shall be installed downstream of all private pollution reduction facilities to accommodate spill containment. These valves should be left open to facilitate stormwater flows during normal conditions, and immediately closed in the event of a spill.

C. **Fueling pads will require a shut-off valve downstream of the spill control manhole.** Valves installed on wastewater systems shall be installed before the domestic waste line tie-in. These valves must be kept closed, and only opened to allow incidental drainage activities that do not pose to be a threat or risk to the destination system. Immediately close the valve when drainage activities are completed.

Shut-off valves shall be located on private property and downstream of the exposed area’s collection system. All valves shall be installed and maintained as per manufacturers recommendations. For more information about shut-off valves and associated valve boxes, contact Building & Permit Services at 541-682-5086.

7) ADDITIONAL REQUIREMENTS

A) **Installation, alterations, or removal of above-ground fuel tanks larger than 55 gallons, and any related equipment,** are subject to additional permitting requirements by the Eugene Fire Marshall’s Office. For technical questions and permitting, call the Fire Marshall’s Office Permit Center at 541-682-5411, or visit them at Permit & Information Center, 99 W. 10th Avenue, Eugene, OR 97401.

B) Bulk fuel terminals, also known as tank farms, will require the following:

- Secondary containment equal to 110 percent of the product's largest container or 10 percent of the total volume of product stored, whichever is larger.
- A separate containment area for all valves, pumps and coupling areas with sub-bermed areas either in front of or inside the main containment areas. These sub-bermed areas are required to have rain shields and be directed to a City wastewater system for disposal. If no City wastewater facility is available, drainage shall be directed to a temporary holding facility for proper disposal and may require a DEQ permit from the Underground Injection Control (UIC) program.
- An impervious floor within all containment areas. Floors must be sealed to prevent spills from contaminating the groundwater.
- Truck loading and off-loading areas. These areas shall follow cover, pavement, drainage, spill control, and shut-off valve requirements identified for fuel dispensing facilities.
- Shut-off valves installed for the drainage of the tank yard, shall be installed downstream of the drainage system of the primary containment area, and kept closed. Valves installed for the drainage of the truck pad and sub-bermed containment areas shall be installed on the wastewater line downstream of the spill control manhole.
- A batch discharge authorization before draining a containment area. This authorization will determine appropriate disposal methods, identify pretreatment requirements (if applicable), and authorize the discharge. Pretreatment may be required for oil and grease removal, and testing may be required to establish the specific characteristics of the discharge.

Underground fuel tanks less than 4,000 gallons in size are subject to additional permitting requirements by Oregon's Department of Environmental Quality (DEQ) and tanks larger than 4,000 gallons are referred to the Federal Environmental Protection Agency (EPA). For technical questions and permitting, call DEQ's NW Region main office at 1-800-844-8467 and ask for the Underground Storage Tank Permitting Department.

4.3 ABOVE-GROUND STORAGE OF LIQUID MATERIALS

4.3.1 Design

1) CONTAINMENT

Liquid materials shall be stored and contained in such a manner that if the container(s) is ruptured, the contents will not discharge, flow, or be washed into a receiving system. A containment device and/or structure for accidental spills shall have enough capacity to capture a minimum of 110 percent of the product's largest container or 10 percent of the total volume of product stored, whichever is larger.

Containers, such as double-walled containers, with internal protection are exempt from these spill containment requirements.

2) COVER

Storage containers (other than tanks) shall be completely covered so rainfall cannot come in contact with them. Runoff shall be directed from the cover to a stormwater destination that meets all applicable code requirements.

- **Covers 10 feet high or less** shall have a minimum overhang of 3 feet on each side. The overhang shall be measured relative to the perimeter of the hydraulically isolated activity area.
- **Covers higher than 10 feet** shall have a minimum overhang of 5 feet on each side. The overhang shall be measured relative to the perimeter of the hydraulically isolated activity area.

3) PAVEMENT

A paved storage area is required. The storage area shall be paved with asphalt or concrete and shall meet all applicable building code requirements. Sizing of the paved areas shall be adequate to cover the area intended for storage.

The applicant shall clearly identify any alternative method by submitting a **DAR Form**, located at the end of this chapter.

4) DRAINAGE

All paved storage areas shall be hydraulically isolated through grading, berms, or drains to prevent uncontaminated stormwater run-on to a storage area.

Covered storage areas: Significant amounts of precipitation are not expected to accumulate in covered storage areas, and drainage facilities are not required for the contained area beneath the cover. If the applicant elects to install drainage facilities, the drainage from the hydraulically isolated area shall be directed to an approved City wastewater facility or authorized pretreatment facility.

Uncovered storage areas with containment: Water will accumulate in uncovered storage areas during and after rain. Any *contaminated* water cannot simply be drained from the area. It must be collected, inspected, and tested at the expense of the property owner before proper disposal can be determined. Some type of monitoring may also be needed to determine the characteristics and level of contamination of the stormwater.

All discharges to the wastewater system shall be considered batch discharges and shall require approval and pretreatment prior to discharge. Pretreatment requirements shall be set as part of the discharge approval process, based on the types and quantities of material to be discharged. A discharge evaluation shall be performed before connection to a wastewater facility. Testing may be required to establish characteristics of the wastewater or contaminated stormwater and to verify that local discharge limits are not exceeded. For batch discharge applications, call PW's staff at 541-682-5291.

5) SIGNAGE

Signage shall be provided at the liquid storage area and shall be plainly visible from all surrounding activity areas. Detailed information and examples are located in **Section 4.1.4**.

6) ADDITIONAL REQUIREMENTS

A) **Covered storage areas:** If the applicant elects to install drainage facilities to an approved City wastewater facility, a **shut-off valve** may be required for the covered storage area. PW will make this determination based on the type of material stored and the proposed system receiving the discharge.

Uncovered storage areas: A **shut-off valve** shall be installed in the storage area so excess stormwater can be drained out of the activity area and directed either to the storm drainage facilities (*if clean*) or into the City wastewater system or authorized pretreatment facility (*if contaminated*). Except when excess stormwater is being discharged, the valve shall always be kept closed so any spills within the activity area can be effectively contained.

B) **Storage of hazardous materials** located in designated groundwater resource protection areas may be subject to additional requirements.

Tank farms **shall follow the criteria established for Bulk Fuel Terminals, under Section 4.2.**

C) **Storage of reactive, ignitable, or flammable liquids** shall comply with the Uniform Fire Code as adopted by the State of Oregon. Source controls presented in this section are intended to complement, not conflict with, current fire code requirements. None of these requirements shall exclude or supersede any other requirements in this manual, other City permit requirements, or state and federal laws pertaining to water quality. Contact the Eugene Fire Marshall (541-682-5411) and/or PW staff (541-682-5291) for further information and requirements.

4.4 SOLID WASTE STORAGE AREAS, CONTAINERS, AND TRASH COMPACTORS

4.4.1 Design

For approval of solid waste storage and handling activity areas in the City of Eugene, the following design requirements will apply. See below for a clarification of each requirement.

ACTIVITY/ USE	REQUIREMENTS			
	(1) Cover	(2) Pavement	(3) Isolated	(4) Wastewater Drain
Multi-residential (with shared trash areas)	X	X	X	X*
Commercial	X	X	X	X
Industrial	X	X	X	X
Compactors (regardless of use)	X	X	X	X
Can and bottle return stations	X	X	X	X

* Multi-residential ONLY. In the event gravity service to the wastewater lines cannot be obtained, a "Special Request" can be made to direct the drainage from the hydraulically isolated activity area to the development's stormwater pollution reduction facility. For more information, refer to **Additional Requirements** below.

1) COVER

A permanent canopy, roof, or awning must be provided to cover the solid waste storage activity area and shall be constructed to cover the activity area so rainfall cannot come in contact with the waste materials being stored. The cover shall be sized relative to the perimeter of the hydraulically isolated activity area it is to cover. Runoff shall be directed from the cover to a stormwater destination that meets all applicable code requirements.

2) PAVEMENT

A paved waste storage area is required when a structural cover or trash compactor is used. The area shall be paved with asphalt or concrete and meet all applicable building code requirements. Sizing of the paved area shall adequately cover the activity area intended for refuse storage, or the trash compactor(s) and associated equipment.

3) ISOLATION

Hydraulic isolation must be provided for the solid waste storage activity areas and shall be designed to prevent uncontaminated stormwater runoff from entering the area and carrying pollutants away. Runoff occurring outside the hydraulically isolated area shall be directed to a stormwater destination that meets all applicable code requirements. This can be achieved by reverse grading at the perimeter of an activity area, perimeter curbing or berming, or by the use of area drains to collect and divert runoff.

4) DRAINAGE

Drainage must be provided for the hydraulically isolated solid waste storage area and directed to the city's wastewater facility or authorized pretreatment facility. A wastewater drain is required for those areas that may be subject to refuse or suspected pollutants that pose a risk if the structural integrity of the trash receptacle is damaged or if its contents are exposed to rainfall.

Non-gravity Option

Activity areas that do not have gravity wastewater service can install a pressurized system. These types of installations will require the following to be provided at the time of building permit application:

- 1) Verification or evidence that gravity service cannot be obtained; and,
- 2) Details of an electronic sump pump system equipped with a float switch; and,
- 3) A completed DAR form.

Pressurized system installations are considered "permanent equipment" and deemed the property owner's liability in the event of system failure or if the property becomes vacated.

Building & Permit Services will review all sump pump or sewage ejector installations for compliance with Uniform Plumbing Code and Oregon State Plumbing Specialty Code. The PW staff will review for compliance with this chapter of the Stormwater Management Manual.

5) ADDITIONAL REQUIREMENTS

Multi-residential developments with shared trash areas may be allowed an alternative to the wastewater drain for the hydraulically isolated solid waste storage area. This activity area can drain to the site's privately owned and operated stormwater pollution reduction facility if gravity service to the wastewater pipe of the development cannot be obtained. In order to be considered for the alternative, information showing that gravity service cannot be obtained and a completed **DAR form** that has both the General Information and Special Request sections completed must be submitted. All requirements previously outlined for multi-residential uses will apply.

4.5 OUTDOOR STORAGE OF BULK MATERIALS

Any bulk materials storage location that is not completely enclosed by a roof and sidewalls is an outdoor storage area.

4.5.1 Bulk Materials Categories

Bulk materials are separated into three categories based on risk assessments for each material stored: high-risk, low-risk, and exempt.

High-Risk Materials	Low-Risk Materials	Exempt Materials
<ul style="list-style-type: none"> • Recycling materials with potential effluent • Corrosive materials (<i>i.e.</i> lead-acid batteries) • Storage and processing of food items • Chalk/gypsum products • Feedstock/grain • Material by-products with potential effluent • Asphalt • Fertilizer • Pesticides • Lime/lye/soda ash • Animal/human wastes 	<ul style="list-style-type: none"> • Recycling materials without potential effluent • Scrap or salvage goods • Metal • Sawdust/bark chips • Sand/dirt/soil (including contaminated soil piles) • Material by-products without potential effluent • Unwashed gravel/rock • Compost 	<ul style="list-style-type: none"> • Washed gravel/rock • Finished lumber • Rubber and plastic products (hoses, gaskets, pipe, <i>etc.</i>) • Clean concrete products (blocks, pipe, <i>etc.</i>) • Glass products (new, non-recycled) • Inert products • Outdoor storage of materials permitted outright by code

4.5.2 Design

1) COVER

Low-risk materials must be covered with a temporary plastic film or sheeting at a minimum.

High-risk materials are required to be permanently covered with a canopy or roof to prevent stormwater contact and minimize the quantity of rainfall entering the storage area. Runoff shall be directed from the cover to a stormwater destination that meets all applicable code requirements.

- **Covers 10 feet high or less** shall have a minimum overhang of 3 feet on each side. The overhang shall be measured relative to the perimeter of the hydraulically isolated activity area.
- **Covers higher than 10 feet** shall have a minimum overhang of 5 feet on each side. The overhang shall be measured relative to the perimeter of the hydraulically isolated activity area.

2) PAVEMENT

Low-risk material storage areas are not required to be paved.

High-risk material storage areas shall be paved beneath the structural cover.

3) DRAINAGE

Low-risk material storage areas are allowed in areas served by standard stormwater management systems. However, all erodible materials being stored must be protected from rainfall.

If materials are erodible, a structural containment barrier shall be placed on at least three sides of every stockpile to act as a barrier to prevent uncontaminated stormwater from running onto the storage area and carrying pollutants away. If the area under the stockpile is paved, the barrier can be constructed of asphalt berms, concrete curbing, or retaining walls. If the area under the stockpile is unpaved, sunken retaining walls or ecology blocks can be used. The applicant shall clearly identify the method of containment on the building plans, and on the **DAR form**, located at the end of this chapter.

For **high-risk** material storage areas, the paved area beneath the structural cover shall be hydraulically isolated through grading, structural containment berms or walls, or perimeter drains to prevent uncontaminated stormwater from running onto the area and carrying pollutants away. Significant amounts of precipitation are not expected to accumulate in covered storage areas, and drainage facilities are not required for the containment area beneath the cover. If the applicant elects to install drainage facilities, the drainage from the hydraulically isolated area shall be directed to the City's wastewater facility or authorized pretreatment facility.

4) ADDITIONAL REQUIREMENTS

- A) **Storage of pesticides and fertilizers** may need to comply with specific regulations outlined by the Oregon Department of Environmental Quality (DEQ). For answers to technical questions, call DEQ's NW Region main office at 1-800-844-8467.
- B) **A sampling manhole** or other suitable stormwater monitoring access point may be required to monitor stormwater runoff from the storage area. This may apply to certain types of storage activities and materials or if an alternative source control is proposed. This requirement complies with Eugene Code, which requires appropriate stormwater destination. PW staff will review for applicability of this requirement.

- C) **Signage** shall be provided at the storage area if hazardous materials or other materials of concern are stored. Signage shall be located so it is plainly visible from all storage activity areas. More than one sign may be needed to accommodate large storage areas. Detailed information and examples are provided in Section 4.1.3.
- D) If the applicant elects to install drainage facilities to the City's wastewater facility, a **shut-off valve** may be required for the structurally covered storage area. Eugene will make this determination based on the type of material stored and the proposed system receiving the discharge.

5) **ALTERNATIVE PROTECTION MEASURES**

In lieu of covering mineral resource mining, recovery, stockpiling, and processing operations and low-risk material storage areas receiving land use approval, the applicant may propose alternative protection measures that demonstrate that stormwater runoff from the site will not contaminate adjoining properties, surface waters, and ground water as part of their land use application.

4.6 MATERIAL TRANSFER AREAS/LOADING DOCKS

4.6.1 Material Transfer Areas

These requirements apply to all material transfer areas and any other building access point(s) with the following characteristics:

- The area is designed (size, width, etc.) to accommodate a commercial truck (1 ton and larger) or trailer being backed up to or into it; and,
- The area is expected to be used specifically to receive or distribute materials to and from commercial trucks and/or trailers.

Typical material transfer areas associated with buildings include:

- 1) **Loading Docks** - loading/unloading facilities with docks, and
- 2) **Bay Doors and Other Interior Transfer Areas** - large bay doors and other transfer areas without docks.

4.6.2 Design

1) PAVEMENT

A paved material transfer area shall be placed underneath and around the loading and unloading activity area with asphalt or concrete that meets all applicable building code requirements. This will reduce the potential for soil contamination with potential impacts on groundwater and will help control any acute or chronic release of materials present in these areas.

2) ISOLATION

Loading Docks

The first three feet of the paved area, measured from the building or dock face, shall be hydraulically isolated through grading, berms, or drains to prevent uncontaminated stormwater from running onto the area and carrying pollutants away.

Bay Doors and Other Interior Transfer Areas

Bay doors and other interior transfer areas shall be designed so that stormwater runoff does not enter the building. This can be accomplished by grading or drains. Interior surfaces may not drain or be washed down to the exterior of the building.

3) COVER

The **hydraulically isolated areas in front of loading docks** are required to be permanently covered with a canopy or roof to prevent stormwater contact and to minimize the quantity of rainfall entering the loading dock area. Runoff shall be directed from the cover to a stormwater destination that meets all applicable code requirements.

- **Covers 10 feet high or less** shall have a minimum overhang of 3 feet on each side. The overhang shall be measured relative to the perimeter of the hydraulically isolated activity area.
- **Covers higher than 10 feet** shall have a minimum overhang of 5 feet on each side. The overhang shall be measured relative to the perimeter of the hydraulically isolated activity area.

4) DRAINAGE

Loading Docks

Drainage from the hydraulically isolated area shall be directed to the City's wastewater facility or authorized pretreatment facility. Surrounding runoff and drainage from the access ramp shall be directed away from the hydraulically isolated area to a stormwater destination that meets all applicable requirements of this manual.

The requirement for the drainage from the hydraulically isolated area of the loading dock to be directed to the City's wastewater facility, or authorized pretreatment facility may be waived if PW determines there is no gravity wastewater service available and an appropriately sized, underground temporary storage structure (such as a catch basin with no outlet or dead-end sump) is provided. A completed DAR form will be required.

Non-Gravity Option

Activity areas that cannot achieve gravity wastewater service may be allowed to install a pressurized system. These types of installations will require the following to be provided at the time of building permit application:

- 1) Proof that gravity wastewater service cannot be obtained; and,
- 2) Details of an electronic sump pump system equipped with a float switch; and,
- 3) A completed **DAR form**.

Pressurized system installations are considered "permanent equipment" and deemed the property owner's liability in the event of system failure or if the property becomes vacated.

The Building & Permit Services will review all sump pump or sewage ejector installations for compliance with Uniform Plumbing Code and Oregon State Plumbing Specialty Code. The City will review for compliance with this chapter of the Stormwater Management Manual.

Bay Doors and Other Interior Transfer Areas

Because interior material transfer areas are not expected to accumulate precipitation, installation of floor drains is not required or recommended. It is preferable to handle

these areas with a dry-mop or absorbent material. If interior floor drains are installed, they shall be plumbed to the City's wastewater facility or authorized pretreatment facility. Interior transfer areas may not be sloped to drain to the exterior of the building.

5) SIGNAGE

Signage shall be provided at the material transfer area and shall be plainly visible from all surrounding activity areas. Detailed information and examples are located in **Section 4.1.3**.

6) ADDITIONAL REQUIREMENTS

A) Bay doors and other interior transfer areas shall provide a 10-foot "no obstruction zone" beyond the entrance within the building. This will allow the transfer of materials to occur with the truck or trailer end placed at least 5 feet inside the building, with an additional staging area of 5 feet beyond that. The "no obstruction" zone shall be clearly identified on the stormwater management plan and on the building plan at the time of the building permit application. The area shall be identified at the facility by painting the no obstruction zone with bright or fluorescent floor paint.

B) Shut-off valves will be required under the following situations:

- 1) Site activity areas are exposed to corrosives or oxidizers that can harm conveyance system components (such as battery acid).
- 2) Substances that do not settle or remain in one location, but are capable of being dissolved in or float on top of water (such as oil and grease). These substances can spread rapidly into downstream systems, causing widespread impacts and difficult clean-up situations.
- 3) Substances that are known to infiltrate through soils and contaminate groundwater.

Valves located in material transfer areas are typically left open to facilitate drainage during normal conditions, and immediately closed in the event of a spill.

Prior to transfer activities of harmful substances, the valves should be closed and only re-opened after the transfer is complete. The shut-off valves must be located on private property and downstream of the exposed area's collection system.

All valves shall be installed and maintained in accordance with manufacturer specifications. For more information about shut-off valves and associated valve boxes, contact the Building & Permit Services at 541-682-5086.

4.7 EQUIPMENT AND/OR VEHICLE WASHING FACILITIES

4.7.1 Design

1) COVER

The washing area shall be covered with a permanent canopy or roof so precipitation cannot come in contact with the washing activity area. Precipitation shall be directed from the cover to a stormwater destination that meets all applicable code requirements.

- **Covers 10 feet high or less** shall have a minimum overhang of 3 feet on each side. The overhang shall be measured relative to the perimeter of the hydraulically isolated washing activity area it is to cover.
- **Covers higher than 10 feet** shall have a minimum overhang of 5 feet on each side. The overhang shall be measured relative to the perimeter of the hydraulically isolated washing activity area it is to cover.

2) PAVEMENT

A paved wash pad shall be placed under and around the washing activity area with asphalt or concrete that meets all applicable building code requirements. Sizing of the paved area shall adequately cover the activity area, including the placement of the vehicle or piece of equipment to be cleaned.

3) DRAINAGE

The paved area beneath the cover shall be hydraulically isolated through grading, berms, or drains to prevent uncontaminated stormwater from running onto the area and carrying pollutants away. Drainage from the hydraulically isolated area shall be directed to the City's wastewater facility, or authorized pretreatment facility. Surrounding runoff shall be directed away from the hydraulically isolated washing pad to a stormwater destination that meets all applicable requirements of this manual.

4) OIL CONTROLS

All vehicle and equipment washing activities will be reviewed for needed oil controls to comply with the City's wastewater discharge limits. The following design criteria are established for oil/water separators discharging to a wastewater facility:

A) Washing Areas Protected with a Cover or Located Inside a Structure

- 1) Baffled oil/water separators and spill control (SC-Type) separators shall not be allowed for use with equipment and/or vehicle washing applications. *Note: Activities and processes of a washing facility change over time and the introduction of heat and surfactants may occur.*

- 2) Coalescing plate separators shall be designed to achieve 100 ppm non-polar oil and grease in the effluent from the peak flow generated by the washing activity. Testing information must be submitted by the manufacturer of the unit that supports the 100 ppm effluent standard at the calculated flow rate.
 - a. Standard flow from a 5/8" hose is estimated to be 10 gpm.
 - b. For specially designed washing units, check the vendor specifications for maximum flow rates.
- 3) Any pumping devices shall be installed downstream of the separator to prevent oil emulsification.
- 4) Separator details must be shown on the building plans submitted for permit, and shall match manufacturer specifications and details, including the unit flow rate, effluent water quality, and maximum process flow rate.

B) On-site Wash Recycling Systems

Wash recycling systems may be used for oil control as long as they can meet effluent discharge limits for the City's wastewater system. A detail of the wash recycling system and vendor specifications identifying effluent efficiencies shall be submitted as part of the building plans at the time of building permit application.

4.8 STORMWATER AND GROUNDWATER MANAGEMENT FOR DEVELOPMENT ON LAND WITH SUSPECTED OR KNOWN CONTAMINATION

4.8.1 Review and Permit Process

In addition to local, state, and federal regulations requiring special handling and management of contaminated site soils, a review of groundwater and surface drainage may be necessary. As a result of these regulations, sites with suspected or known contamination will require a more detailed review process and may delay issuance of related building permits.

To research contaminant information, parties should refer to DEQ's Facility Profiler database, which can be found at: <http://deq12.deq.state.or.us/FP20/StartPage.aspx>

If records indicate that a No Further Action (NFA) or Record of Decision (ROD) exist for your site, you must contact DEQ prior to pre and post construction activities to ensure conditions of record are not violated. For technical questions related to site contamination and clean-up, contact the Land Quality Division of DEQ.

All regulatory Divisions or Departments of DEQ, as referenced in this section, can be reached by calling DEQ's Northwest Region Office at 1-800-844-8467.

Note: Even if DEQ does not have a site included in its tracking database, this does not mean that contamination may not be present. At a minimum, if commercial or industrial history exists, a Phase I site assessment should be performed prior to design.

Contaminants have the potential to become entrained and transported through exposure to construction activities and post-construction design elements of a development. The requirements in this section apply to excavation and stockpiling of contaminated soils, and disposal or re-use facilities related to groundwater, foundation or footing drains, interior floor drains in basements or sub-grade structures, construction dewatering, and surface stormwater treatment and conveyance systems.

4.8.2 Design

Contaminants, media, and site conditions are unique to each parcel of land; therefore sites at risk for contamination shall be reviewed on a case-by-case basis.

1) SOIL MANAGEMENT

Stockpiles of contaminated soils shall be covered with temporary plastic film or sheeting to prevent stormwater from coming into contact with them.

Stockpile perimeters shall have a containment barrier on all four sides of every stockpile to prevent stormwater run-on and material run-off. Barriers can consist of concrete curbing, silt fencing, or other berming material, depending on the activity, size, and resources available.

Areas under stockpiles of contaminated soils are not required to be paved. However, an impervious layer shall be placed beneath the stockpile to protect uncontaminated areas from potential leachate.

2) CONSTRUCTION DEWATERING

All construction dewatering discharges resulting from groundwater or precipitation (rainfall) shall be evaluated for contamination before disposal methods can be approved.

If on-site infiltration is the proposed method for disposal, authorizations must be obtained from the City and the Land Quality Division of DEQ.

Infiltration systems for private construction dewatering must be located and maintained on private property, outside the public rights-of-way.

If on-site sub-surface injection is the proposed method for disposal, authorizations must be obtained from the City and the Water Quality Division of DEQ.

Private sub-surface injection systems (a.k.a. Underground Injection Controls) must be located and maintained on private property, outside the public rights-of-way.

If a receiving stream is the proposed method for disposal, authorizations must be obtained from the City, the Army Corp of Engineers, and both Land Quality and Water Quality Divisions of DEQ.

If an off-site City sewer system is the proposed method for disposal, authorization must be obtained from the City. Authorizations will be permitted through a discharge authorization letter. All groundwater discharge applications will go through an evaluation process before a discharge to the City sewer system will be permitted. Evaluations for discharges from sites with suspected contamination shall be based on the following:

- a) Discharges to a storm sewer system will be required to meet in-stream water quality standards, as stated in OAR 340-41, Table 20. Table 20 can be found on the internet at www.deq.state.or.us/wq/wqrules/340Div41Tbl20.pdf
- b) Discharges to a sump system will be required to meet safe drinking water standards, as stated in the National Safe Drinking Water Act. The safe drinking water standards can be found on the internet at: www.epa.gov/safewater/mcl.html#mcls
- c) Discharges to a wastewater system will only be allowed if extensive pretreatment is required and the discharge is approved through the City's Wastewater Discharge Permit process. All groundwater and surface water discharges to a wastewater system will be require a Wastewater Discharge Permit, and will be subject to sediment removal requirements and discharge volume charges. Discharges will be charged at wastewater volume rates, as stated in City Code.

- d) Lab analysis reports will be required, as defined at the end of this section.
- e) A temporary sampling point is required if multiple discharges are proposed. The temporary sampling point shall be agreed upon between the City staff member processing the Wastewater Discharge Permit and the applicant.

Source control requirements will be identified as part of the review process of the laboratory analysis reports and the building permit application. Source Controls, sampling points and destination shall be identified on the erosion control plan of the building permit application.

For technical assistance on obtaining a batch discharge authorization for construction dewatering activities, contact PW staff at 541-682-5291.

3) POST-CONSTRUCTION SURFACE DRAINAGE SYSTEMS

If on-site infiltration is the proposed method for disposal, authorizations must be obtained from the City and the Land Quality Division of DEQ.

Private infiltration systems must be located and maintained on private property, outside the public rights-of-way. If crossings of public rights-of-way are necessary, authorizations and permits must be obtained.

If on-site subsurface injection is the proposed method for disposal, authorizations must be obtained from the City and the Water Quality Division of DEQ.

Private Underground Injection Controls must be located and maintained on private property, outside the public rights-of-way. If crossings of public rights-of-way are necessary, authorizations and permits must be obtained.

If a receiving stream is the proposed method for disposal, authorizations must be obtained from the City, the Army Corp of Engineers, and both Land Quality and Water Quality Divisions of DEQ.

If crossings of public rights-of-way are necessary, authorizations and permits must be obtained.

If an off-site City stormwater or wastewater system is the proposed method for disposal, authorization must be obtained from the City. The determination of where you can dispose of the surface drainage shall be based on the following:

- a) Surface drainage systems, that are not exposed to contaminated soils or subsurface discharges that are not expected to contain contaminants, can connect to the off-site City stormwater system..
- b) Surface drainage systems, that are exposed to contaminated soils or subsurface discharges that are expected to contain contaminants, must go

through the same evaluation criteria as stated under 4.8.2 2) Construction Dewatering (a-e) with the following replacement for e):

- e) A permanent monitoring point is required to ensure compliance with local discharge regulations. Refer to 4.8.2 (7) for more information on permanent monitoring points.

4) POST-CONSTRUCTION WATER RECLAIM OR RE-USE SYSTEMS

Water reclamation or re-use systems provide innovative ways to use natural resources and save money. However, using groundwater as a resource from sites at risk for contamination may require additional source controls and environmental compliance regulations depending on the nature of the contaminants and the extent of the remediation that has been completed.

Authorizations for re-use systems will need to be obtained from the City, the Oregon Water Resource Department, and DEQ.

If surface drainage systems are the proposed resource, discharges are not expected to contain contaminants and do not pose a threat to City infrastructure. Review will verify that there is no interaction between groundwater and the surface.

Non-potable uses for plumbing fixtures and industrial equipment, *i.e.* cooling towers or boilers, will require the following:

- a) A discharge meter shall be installed on the outlet of the re-use system for sewer billing purposes.
- b) Industrial equipment bleed-offs or drain valves shall have discharges routed to the wastewater line of the facility.
- c) Overflows from the re-use system, prior to use, are not considered wastewater and shall have discharges routed to the storm destination system of the facility.

Irrigation systems may encourage transportation of contaminants and should obtain authorization from the Land Quality Division of DEQ prior to installation.

If sub-surface drainage systems are the proposed resource, discharges may contain contaminants and shall be evaluated for contamination before disposal methods can be approved.

Non-potable uses for plumbing fixtures and industrial equipment, *i.e.* cooling towers or boilers, will require the following:

- a) A discharge meter shall be installed on the outlet of the re-use system for sewer billing purposes.

- b) Industrial equipment bleed-offs or drain valves shall have discharges routed to the wastewater line of the facility. Discharges will be required to meet local discharge limits, as stated in City Code.
- c) Overflows from the re-use system, prior to use, may contain contaminants so the requirements stated under **Post-Construction Subsurface Drainage Systems** will apply.
- d) A permanent monitoring point may be required to ensure compliance with local discharge regulations. Refer to 4.8.2 (7) for more information on permanent monitoring points.

Irrigation systems may encourage transportation of contaminants and should obtain authorization from the Land Quality Division of DEQ prior to installation.

If groundwater is proposed for commercial or industrial uses of a development, i.e. non-potable uses or irrigation, authorization or a permit should be obtained through the Oregon Water Resource Department (WRD) prior to use.

Minimum requirements that warrant a permit for industrial and commercial groundwater wells include, but are not limited to, irrigation of areas greater than ½ acre, and use of more than 5,000 gpd of water. Unique groundwater reuse systems, anything other than a standard supply well installation, shall be reviewed on a case-by-case basis to determine permitting requirements (if applicable).

For assistance in obtaining authorization for the use of groundwater, contact Lane County Water Master at 541-682-3620. For more information on water rights and groundwater regulations the Oregon Water Resource Department website can be found on the Internet at: www.wrd.state.or.us

5) POST CONSTRUCTION SUB-SURFACE DRAINAGE SYSTEMS

Structures proposed below grade, in an area at risk for contamination, can greatly impact and add unexpected costs to the surface drainage systems, water reclaim or re-use systems and subsurface drainage systems of a project.

All surface, sub-surface and re-use systems shall be evaluated for contamination risks before disposal and re-use methods can be approved.

If on-site infiltration is the proposed method for disposal, authorizations will need to be obtained from the City and the Land Quality Division of DEQ.

Private infiltration systems will need to be located and maintained on private property, outside the public rights-of-way. If crossings of public rights-of-way are necessary, authorizations and permits will need to be obtained.

If on-site subsurface injection is the proposed method for disposal, authorizations must be obtained from the City and DEQ.

Private subsurface injection systems (or Underground Injection Controls) must be located and maintained on private property, outside the public rights-of-way. If crossings of public rights-of-way are necessary, authorizations and permits must be obtained.

If a receiving stream is the proposed method for disposal [destination], authorizations must be obtained from the City, the Army Corp of Engineers, and both Land Quality and Water Quality Divisions of DEQ.

If crossings of public rights-of-way are necessary to obtain access to an approved discharge point of a receiving stream, authorizations and permits must be obtained.

If an off-site City stormwater and wastewater system is the proposed method for disposal, authorization must be obtained from the City. Evaluations for discharges from sites with suspected contamination shall be based on the same criteria as stated under Construction Dewatering, Section 4.8.2 (2), items a) through d), with the following replacement for e):

e) A permanent monitoring point may be required to ensure compliance with local discharge regulations. Refer to 4.8.2 (7) for more information on permanent monitoring points.

6) LABORATORY ANALYSIS REPORTS

Laboratory analysis reports are required to identify the characteristics and levels of contamination in the soils and groundwater of a site.

An additional review process will be applied to these reports to determine regulatory authority and requirements. Testing and analysis are highly recommended prior to building permit applications. DEQ permitting and/or review may be required if contaminants are found, and levels of contamination appear to exceed the City's local discharge regulations. This may delay issuance of related building permits.

Lab analysis reports shall include the following information:

- a) Analysis reports shall identify the elevation of the seasonal water table and identify the depth of any perched water aquifers.

- b) Analysis reports shall identify the method of laboratory testing, the detection level and analytical method for detection, and the depth of any found contaminants in the soils.
- c) Minimum test parameters for base line contaminants shall include: metals (arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, silver, and zinc), TPH (total petroleum hydrocarbons), and BTEX (benzene, toluene, ethylbenzene and xylene).
- d) Test parameters may be required to include other contaminants as identified through historical data, research and environmental assessments.
- e) If post-construction subsurface drainage or dewatering systems are proposed to discharge to a City separated storm sewer system, test parameters will be required to include the in-stream water quality standards as identified under OAR 340-41, Table 20. Table 20 can be found on the internet at: <http://www.deq.state.or.us/wq/rules/div041/table20.pdf>
- f) If post-construction subsurface drainage or dewatering systems are proposed to discharge to a City sump system, test parameters will be required to include the safe drinking water standards as identified in the National Safe Drinking Water Act. These standards can be found on the internet at: www.epa.gov/safewater/mcl.html#mcls

7) PERMANENT MONITORING POINTS

To ensure compliance with local discharge regulations, a suitable monitoring point may be required to monitor groundwater discharges to an off-site City sewer system. Monitoring requirements will be identified as part of the review process of the laboratory analysis reports and the building permit application. If monitoring is necessary, a permanent structure (such as a sampling manhole or flow through vault) shall be installed on the discharge line of the subsurface drainage system.

Structure type and location will need to be approved by the assigned City Source Control plans examiner, complying with Eugene Code. For technical assistance on suitable monitoring points, contact PW staff at 541-682-5291.

8) ADDITIONAL REQUIREMENTS

All structural controls of this section require a Discharge Authorization Request (DAR) form, located at the end of this chapter. Typical controls needing a DAR form would be containment areas, shut-off valves, oil/water separators, etc. If you request an alternative or adjustment to any of the source controls identified in this section. These types of requests will require an additional review process and may delay issuance of related building or public works permits.

4.9 COVERED VEHICLE PARKING STRUCTURES

4.9.1 Design

1) DRAINAGE

Top Floor Drainage of a Multi-Level Parking Structure

Stormwater runoff from the top floor shall be directed to a stormwater destination that meets all water quality requirements of this manual and any other applicable code requirements.

Lower Floor Drainage of a Multi-Level Parking Structure

Significant amounts of precipitation are not expected to accumulate in covered vehicle parking areas, and drainage facilities are not required for the lower floors. If the applicant elects to install drainage facilities, the drainage from the lower floors shall be directed to an approved City wastewater facility.

Adjacent, Uncovered Portions of the Site

The surrounding uncovered portions of the site shall be designed so stormwater does not enter the covered parking areas. This can be accomplished through grading or drains.

DISCHARGE AUTHORIZATION REQUEST

for Source Control(s)

Discharge Authorizations are required for source controls in areas that have site characteristics and facility uses that have activities at risk for source point pollutant releases that are regulated or prohibited by local, state and federal regulations.

NOTE: A separate Authorization shall be filled out for each activity area, and Special Requests are available on the second page of this form.

GENERAL INFORMATION (to be completed for all Discharge Authorization Requests)

Applicant's Name: _____ Date: _____

Facility Name: _____ Owner/Operator Name: _____

Facility Address: _____

Business Mailing Address: _____

Phone No.: _____ Type of business/facility: _____

Building Permit No. (if applicable): _____

SOURCE CONTROL INFORMATION

Installation of Source Control(s) are a result of:

- Tenant Improvements to an existing facility and/or building.
- New Development of a site or property that was unimproved.
- Re-Development of a site or property that had prior uses.
- Code Compliance in response to local, state or federal notification.
- Other: _____

Proposed Source Control(s) (check all that apply):

- | | |
|--|--|
| <input type="checkbox"/> Oil/Water Separator | <input type="checkbox"/> Containment Area |
| <input type="checkbox"/> Dock Leveler Pit with Retrofit | <input type="checkbox"/> Sedimentation Manhole with Retrofit |
| <input type="checkbox"/> Wall Valve for Containment Area | <input type="checkbox"/> Discharge Line Shut-Off Valve |
| <input type="checkbox"/> Collection Device/ Structure | <input type="checkbox"/> Cooling Towers |
| <input type="checkbox"/> Other: _____ | <input type="checkbox"/> Other: _____ |

[NOTE: Additional City approved "Standard Maintenance" appendices will be required for each Source Control listed above, or provide a vendor's Maintenance document (if available). Contact PW at 541-682-5291 for applicable appendices.]

Describe the site activity (ies) the source control(s) apply to:

(DISCHARGE AUTHORIZATION REQUEST FORM CONT.)

Attach a site plan with the location of the Source Control. Be sure to identify the location in reference to a permanent structure, for assistance in field verification. *(A hand-drawn sketch, not to scale, is acceptable as long as it is legible.)*

SPECIAL REQUEST *(check only if applicable)*

- Request to *remove* or *abandon* existing source control(s).
- Request to propose *alternative* source control(s).
- Request to *ADJUST* source control requirement(s).
- Request for review of *ADJUSTMENT* qualifications.

Please provide a brief explanation *(Use additional pages if necessary.)*: _____

TO BE COMPLETED BY CITY:

- Approved Denied

Date: _____ Signature: _____ Dept.: _____

Comments: _____
