Vancouver Energy

Operations Spill Prevention, Control, and Countermeasures Plan

EFSEC Application for Site Certification No. 2013-01
Docket No. EF131590
26 June 2015

Prepared for

Tesoro Savage Petroleum Terminal LLC
5501 NW Old Lower River Road
Vancouver, Washington 98660

Prepared by

BergerABAM
210 East 13th Street, Suite 300
Vancouver, Washington 98660

Job No. A13.0267.02

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Vancouver Energy
Operations Spill Prevention, Control, and Countermeasures Plan

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Certification by Licensed Professional Engineer[1]

By means of this certification, I attest that I am familiar with the requirements of 40 CFR 112; that I, or my agent, have visited and examined Vancouver Energy (Facility); that this operations spill prevention, control, and countermeasures plan (SPCCP) has been prepared in accordance with good engineering practice, including consideration of applicable industry standards and with the requirements of this part; that procedures for required inspections and testing have been established; and that the SPCCP is adequate for this Facility.

My certification of this SPCCP in no way relieves the owner/operator of the Facility of their duty to prepare and fully implement the SPCCP in accordance with the requirements of 40 CFR Part 112. I in no way assume any liability of whatsoever kind or nature by my certification.

The owner/operator, by "Management Approval" contained on the following page, acknowledges this certification and the compliance measures described herein.

This SPCCP is valid only to the extent that the Facility owner or operator maintains, tests, and inspects equipment, containment, and other devices as prescribed in this SPCCP and completed any implementation requirements.

Signature _____

Printed Name _____

Date _____

Registration _____

[1] 40 CFR 112 requires that a final SPCCP be reviewed and certified by a licensed professional engineer for the SPCCP for it to be effective to satisfy the applicable requirements. The statement is indicative of the certification that will be provided as part of the final SPCCP.

Management Approval and Commitment

Owner/Operator Responsible for Facility:	Tesoro Savage Terminal LLC (Applicant/Company) 901 West Legacy Center Way Midvale, Utah 84047
Facility Name:	Vancouver Energy
Facility Address:	5501 Northwest Old Lower River Road Vancouver, WA 98660

- By signature below, the Facility Manager approves this SPCCP and acknowledges that the elements identified within this SPCCP have been implemented, and further approves the identified person to be designated as accountable for oil spill prevention at the Facility.
- This page may be used for the initial Management Approval or for subsequent change of management and/or change of designated person accountable.
- I hereby certify that this SPCCP will be implemented by the Applicant/Company.

Designated Person Accountable for Oil Spill Prevention at the Facility:

Name: TBD

Title: TBD

Signature: _____

Date: _____

Management Approval:

Name: TBD

Title: Facility Manager

Signature: _____

Date: _____

Five-Year Management Review

Five-year SPCCP reviews and plan amendments resulting from change in the facility design, construction, operation, or maintenance that materially affects its potential for a discharge as described in §112.1(b) will be documented below with the date of review and signature of individual performing the review.

All revisions that occur as a result of this review will be documented on the “Revision Summary” that follows this page.

Acknowledgment of Five-Year SPCCP Review Completion

- As required by 40 CFR Part 112.5(b), management will review this SPCCP at least every five years and will document completion of the review in the form below.
- Changes to the SPCCP are documented on the “Revision Summary” that follows this page.
- These reviews include an evaluation of more effective prevention and control technology that would significantly reduce the likelihood of a spill event at the Facility.
- By signature below, signee confirms that management has completed the review and evaluation of this SPCCP.
- As a result of this review and evaluation, technical changes in Facility design, construction, operation, or maintenance that would materially affect the Facility’s potential for discharge into the navigable waters of the United States or adjoining shorelines will be recertified by a registered professional engineer.
- If no amendment is required, the box “will not” will be indicated in the appropriate space below with date and signature.

_____ _____

(Signature) (Date)

(☐ will, ☐ will not) amend the SPCCP as a result.

_____ _____

(Signature) (Date)

(☐ will, ☐ will not) amend the SPCCP as a result.

_____ _____

(Signature) (Date)

(☐ will, ☐ will not) amend the SPCCP as a result.

_____ _____

(Signature) (Date)

(☐ will, ☐ will not) amend the SPCCP as a result.

Revision Summary

No.	Date	Section Amended	Amended By	Description
00	26 June 2015	N/A	N/A	Submittal for Application Review

Certificate of Substantial Harm Determination

Facility Name	Vancouver Energy
Facility Address	5501 Northwest Old Lower River Road Vancouver, WA 98660

A facility could, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines pursuant to 40 CFR 112.20(e), 40 CFR 112.20(f)(1).

		Yes	No
1.	Does the Facility transfer oil over water to or from vessels and have a total oil storage capacity greater than or equal to 42,000 gallons?	☒	☐
2.	The Facility's total oil storage capacity is greater than or equal to 1 million gallons and does not have secondary containment for each aboveground storage area sufficiently large to contain the capacity of the largest aboveground oil storage tank within each storage area plus sufficient freeboard to allow for precipitation?	☐	☒
3.	Does the Facility have a total oil storage capacity greater than or equal to 1 million gallons and is located at a distance (as calculated using the appropriate formula or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?	☒	☐
4.	The Facility's total oil storage capacity is greater than or equal to 1 million gallons and is located at a distance (as calculated using the appropriate formula or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake?	☐	☒
5.	The Facility's total oil storage capacity is greater than or equal to 1 million gallons and has had a reportable oil discharge in an amount greater than or equal to 10,000 gallons within the last five years?	☐	☒

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Signature Title

Printed Name Date

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1. Plan Purpose and Scope

1.1 Introduction

This document is a PRELIMINARY version of the spill prevention, control, and countermeasures plan (SPCCP) that will be prepared and implemented in accordance with applicable laws and regulations prior to the beginning of operations of Vancouver Energy (Facility). This preliminary version was developed based on Facility design completed at the time of writing. This preliminary SPCCP is intended to be indicative of the planning and response strategies to be implemented by Tesoro Savage Petroleum Terminal LLC (Applicant) at the Facility.

SPCCPs are typically finalized after all approvals have been received to construct a facility, and are based on final facility design. SPCCPs are usually written in the present tense, reflecting actual facility configurations and documented operation procedures. This preliminary version has been written in the present tense to reflect this approach; use of the present tense does not intend to convey approval of the plan contents at present by any regulatory agency that will be involved in the review of this plan at a future time.

The final SPCCP will be updated based on additional consultation conducted during the permitting effort for the Facility and the final Facility design.

This SPCCP has been developed in accordance with the regulatory requirements of 40 CFR Part 112 and the State of Washington Administrative Code (WAC) 173-180 Part F. Cross reference summaries to these requirements are provided in Appendix C.

1.2 Facility Description

Facility provides transloading services for pipeline quality crude oil from railcars to marine vessels. The Facility is located at the Port of Vancouver USA (Port) within the City of Vancouver in Clark County, Washington. The Port is located on the north bank of the Columbia River at approximately River Mile 103.5 (RM 103.5). State Route 501 (SR 501) (Lower River Road) is located immediately to the north of the site. Interstate 5 is located approximately 2.5 miles east of the Facility. Rail access to the site is available from the east. A vicinity map is included as Figure 1 in Appendix A.

The Facility sites within the Port cover approximately 47.4 acres and include elements within the following “area” groupings. The areas are illustrated in Figures 2.1 through 2.4 in Appendix A. A more detailed discussion of the operations with the Facility areas is included in Section 2.

- Area 200 – Rail Unloading – located at Terminal 5 of the Port
- Area 300 – Storage – located at Parcel 1A of the Port
- Area 400 – Marine Terminal – located at berths 13 and 14 at the Port
- Area 500 – Transfer Pipelines – located in locations between areas 200, 300, and 400
- Rail Infrastructure – located at Terminal 5 of the Port

The Facility receives an average of four unit trains per day and unloads an average of 360,000 barrels (bbl) of crude oil per day. Six nominal capacity 380,000 bbl tanks are used to store crude oil on site. A transfer pipeline system is used to convey crude oil from Area 200 to storage tanks in Area 300, and from Area 300 to Area 400 for vessel loading. The transfer pipeline system can also be operated to move oil directly from Area 200 to Area 400. The Facility operates 24 hours per day, 7 days per week.

Facility Information is summarized in Table 1.1 below.

Table 1.1. Facility Information Summary

Facility	Vancouver Energy 5501 Northwest Lower River Road Vancouver, Clark County, Washington 98660
Facility Phone Number	TBD
Type of Facility	Oil Transloading
Types of Oil Handled	Crude Oil
Facility Owner	Tesoro Savage Petroleum Terminal LLC 901 West Legacy Center Way Midvale, Utah 84047
Owner Phone Number	801-944-6600
Qualified Individual	TBD
Qualified Individual Title	Facility Manager
Date of Facility Start-up	TBD

1.3 Conformance with State Rules and Other Requirements

The Facility is in compliance with the regulations set forth in the Oil Pollution Act of 1990 and conforms with the following applicable requirements and other effective discharge prevention and containment procedures listed in 40 CFR 112 or any applicable more stringent state rules, regulations, and guidelines:

The Washington State Energy Facility Site Evaluation Council's (EFSEC) Site Certification Agreement for the Facility, which addresses compliance with the following local, state and federal requirements:

- City of Vancouver Water Resources Protection Ordinance, VMC Chapter 14.26
- Washington Department of Ecology, WAC 173-180 Facility Oil Handling Standards
- Washington Department of Ecology, WAC 173-182 Oil Spill Contingency Plan
- 33 CFR 154, Facilities Transferring Oil or Other Hazardous Materials in Bulk
- 33 CFR 154, Subpart F – Response Plans for Oil Facilities
- 33 CFR 156, Oil and Hazardous Material Transfer Operations

1.4 Relationship to Other Plans

The focus of this SPCCP is on spill prevention, control, and countermeasures designed and implanted to reduce the potential for oil spill spills and environmental exposure. It is recognized that this plan is not a standalone document, and that it relies on the concurrent implementation of numerous other documented procedures and operations manuals, as discussed in the following sub-sections. The plans described below, in part, fulfill the requirements of WAC 173-180 that are not covered by this Plan.

1.4.1 Oil Spill Contingency Plan

In the event an actual spill occurs, the Facility will implement its "Operations Facility Oil Spill Contingency Plan" (Contingency Plan), which has been prepared in accordance with the Oil Pollution Act of 1990 and WAC 173-182. The Contingency Plan is a separately maintained document which provides details and information for responding to a spill event. The Facility's Contingency Plan meets the requirements of a Response Plan as required by WAC 173-182 and 33 CFR 154, Subpart F.

For the purpose of SPCCPs, the Environmental Protection Agency (EPA) considers a release (or spill) to be a "discharge of oil into or upon the navigable waters of United States or adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf

Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States.

Any discharge (spill), as defined above, which also meets the following criteria, must be reported to the EPA Region 10 Administrator.

- If the volume a single spill discharge of oil is more than 1,000 gallons, or
- If discharges of more than 42 gallons of oil in each of two discharges occur within any 12-month period.

The reporting procedures to be used are documented in the Oil Spill Contingency Plan.

1.4.2 Oil Handling Manual

The Facility also maintains and implements an "Oil Handling Manual" (OHM), prepared in accordance with 33 CFR 154 and 156. The OHM is a separately maintained document that provides details pertaining to Facility operations, including incident response actions.

1.4.3 Other Local, State, and Federal Spill Plans

This SPCCP has been prepared in accordance and used in conjunction with the Lower Columbia River, Washington Geographic Response Plan and the Washington statewide master oil and hazardous substance spill contingency plan.

1.5 Plan Review and Update Procedures

The "Designated Person Accountable for Oil Spill Prevention" (identified on the Management Approval page in the forward to the plan), with support from the Facility Manager will coordinate the following SPCCP review and update procedures.

- **Technical Amendments.** This SPCCP will be revised when there are changes in the Facility's design, construction, operation, or maintenance that materially affects the Facility's potential for the discharge of oil into or upon the navigable waters of the United States or adjoining shorelines. Such amendments will be completed and implemented as soon as possible, but not longer than six months after such a change occurs.
- **Non-Technical Amendments.** Non-technical amendments include changes that do not materially impact the Facility's potential for the discharge of oil, as described above, and may include changes, such as phone numbers, personnel changes, and similar non-technical changes.
- **Plan Review.** At least once every five years, the Facility will complete a review and evaluation of this SPCCP. The review will include, at a minimum, a review of more effective prevention and control technology, which may significantly reduce the likelihood of a discharge event from the Facility, if such technology has been field-proven at the time of the review. Based on the results of the review, the Facility will make any necessary amendments within six months of the review and implement the amendments, as soon as possible, but not longer than six months following preparation of the amendment.
- **Revision Record.** Technical amendments to the SPCCP and documentation of a Plan Review are documented in the "Revision Summary" included in the Forward to the SPCCP. Non-technical amendments are not included in the "Revision Summary."
- **Plan Certification.** Technical amendments are certified by a registered professional engineer (PE) and are documented in the "Revision Summary" located in the Forward to this SPCCP. Amendments are detailed with a stand-alone technical PE certification page behind the initial "Certification by Licensed Professional Engineer." Non-technical amendments do not require a PE certification.

1.6 Plan Distribution Procedures

Distribution of the SPCCP will be coordinated by Facility Management, and will include identification of a copy of number assigned to each designated plan holder. A Distribution List is included in the Forward to this document.

A complete copy of the SPCCP is maintained at the Facility, and it will be available to the EPA Regional Administrator for on-site review, as requested.

1.7 Emergency Plan

In the event of any natural or man-made emergency, including, but not limited to, earthquakes, floods, tank rupture, fire, unintended Facility release, water pollution caused by an accident, etc., the notification delineated by the Facility Oil Spill Contingency Plan and the Emergency Response Plan shall be executed, including the notifications to the Applicant's personnel listed in the SPCCP. The following supplements the notifications in the Facility Oil Spill Contingency Plan.

Table 1.2. Emergency Plan

General Emergencies	If an oil spill or release occurs, the Operations Facility Oil Spill Contingency Plan should be used to make necessary notifications and for direction on necessary response actions and implementation of an Emergency Response Plan.	
	For adjacent property owners:	Phone Number
	• Port of Vancouver	360-992-1120
	• NGL Supply	360-694-2844
	• Clark Public Utilities	360-992-3000
	• Clark County Jail Work Center	360-397-2138
	• Tidewater Terminal Company	360-693-1491
	• Farwest Steel	360-735-8744
	• Subaru of America	360-737-7630
	• CalPortland	360-694-1627
	• Tristar Transload	360-823-1000
	• Kelly Pipe	360-737-1848
	• Waste Connections Columbia Resource Center	360-737-1727
	For Facility security:	
	• Port of Vancouver	360-992-1120
	• Vancouver Police Department	911
Employee Evacuation	The first step to be taken in the event of a major disaster involving the facility will be to evacuate the property. All product transfers should be secured. The emergency shutdown should be activated. Evacuation locations are found in the Facility Oil Spill Contingency Plan.	
Safeguarding Records	Protecting and safeguarding records will be the responsibility of the Facility Manager. That person will be determined at a later date.	
Equipment	Safeguarding the equipment at the Facility will be the responsibility of the Facility Manager. That person will be determined at a later date.	
Press and Visitors	All contacts with the press and the handling of visitors during the emergency is the responsibility of the Facility Manager. That person will be designated at a later date.	

End of Section 1.0

2. Facility Operations and Physical Layout

2.1 Facility Layout

The function of the Facility is to receive a range of 15 to 45 API unload pipeline quality from railcars, provide temporary aboveground storage of crude oil, and transfer crude oil to marine vessels for shipment. Facility plans, provided in Appendix A, identify the locations for operations within different "areas" of the overall facility, with each area serving different functions as follows.

Area 200 – Unloading and Office: The proposed administration office is located at 5501 NW Lower River Road. Immediately south of the administration office is the rail unloading facility. The primary function of the rail unloading facility is to unload crude oil from railcars.

Area 300 – Storage Area: Six aboveground storage tanks (ASTs) will be used for the storage of crude oil. Each AST has 380,000 bbl capacity. The storage area is located approximately 1 mile east of the rail unloading facility.

Area 400 – Marine Terminal: Vessel loading operations are conducted at berths 13 and 14. The equipment and operations from the first valve inside onshore secondary containment and continuing out over the water are not included in this SPCCP. Piping running from the first valve inside onshore secondary containment to the tank farm is within the EPA jurisdiction and the scope of this SPCCP.[2]

Area 500 – Transfer Pipelines: Transfer pipelines are used to transfer crude oil from the rail unloading facility to the storage area, from the storage area to the marine terminal, and from the rail unloading area to the marine terminal.

Area 600 – West Boiler: The west boiler building generates and delivers steam to the rail unloading facility to heat crude oil up to 150 degrees to ensure a steady transfer to the storage area. The building is located west of the administration building.

Rail Infrastructure: A series of loop tracks are used to move railcars through the rail unloading facility.

2.1.1 Area 200 – Unloading and Office

Area 200 is located at 5501 NW Old Lower River Road in Vancouver, and includes the administrative and support buildings, parking, rail access to the rail unloading facility, and the rail unloading facility. Area 200 is accessible from an unnamed private road owned and maintained by the Port. Area 200 facilities cover an area approximately 7.6 acres in size.

The rail unloading facility is a covered structure through which the trains are pulled and secured for unloading. The structure is approximately 1,850 feet long by 91 feet wide with a maximum height of approximately 50 feet. The building structure is open on the north, west, and east sides, and the southern wall is partially enclosed with built segments along the wall acting as a weather break.

Each of three tracks includes 30 unloading stations for handling crude oil. Each station uses a completely closed loop of piping to prevent any atmospheric contact with the product during unloading. The entire 1,850 feet of the rail unloading facility includes full coverage rail collection pans, and the interior ground surfaces are constructed of concrete to contain any accident releases, as well as provide catchments for all stormwater that drips from railcars or is blown into the rail unloading facility by the wind.

All mechanical piping is located in concrete secondary containment trenches, and the pump basins used to transfer crude oil from the rail unloading facility to Area 300 storage area are in belowgrade concrete basins. The collection piping from the rail drip pans and rail unloading facility floor drains is mostly located

[2] Applicant has also prepared a preliminary oil spill contingency plan that addresses potential releases from marine loading activities.

in these concrete trenches with discharge pumps located in the pump basins. Water collected from within the rail unloading facility is collected in these systems and pumped to two containment tanks located in the area of the administrative/support buildings. Other than from office buildings, there is no hydraulic connection to storm or sanitary sewers from within the rail unloading footprint.

Several accessory structures and equipment pads are located adjacent to the rail unloading facility, including electrical house (E-houses) control rooms, fire pump and foam building, electrical equipment pads, and mechanical equipment pads.

The administrative/support buildings are located north of the rail unloading facility adjacent to Old Lower River Road. This area consists of three proposed modular structures, parking, and associated landscaping. In addition, the containment tanks for discharges from the rail unloading facility are located near the parking lot. A pedestrian bridge connects the administrative/support buildings to the rail unloading facility.

2.1.2 Area 300 – Storage Area

Area 300 contains storage tanks and associated containment areas, and includes a single pump basin used to transfer crude oil from the storage tanks to the marine terminal and associated support buildings and equipment pads.

The storage area includes six double-bottom, internal floating-roof ASTs for storing crude oil. The tanks are approximately 50 feet in height and 240 feet in diameter. Each tank has a capacity to store 380,000 bbl of crude oil; the maximum volume of oil to be stored is 380,000 bbl.

The containment area includes an earthen perimeter berm approximately 6 feet in height, which is tall sized to contain the release of 110 percent of one entire tank volume and a 100-year rainfall event. Intermediate berms approximately 2 feet tall are positioned between each tank to segregate the containment area. This capacity reflects the most stringent of Washington spill prevention and control and National Fire Protection Association (NFPA) requirements.

Each tank has a fixed roof to keep precipitation from reaching the inside of the tank and an internal floating roof (with dual seals) to control vapor emissions from the tank to the atmosphere. The floating roof is designed to avoid tipping during operations.

The double-bottomed tanks include a leak detection system between the tank floors and are equipped with cathodic protection to prevent corrosion. The entire tank containment area is lined with an impervious membrane to prevent any potential spills from leaving the containment area via infiltration into the ground.

Stormwater flows to a control structure, which passes the water at a controlled flow rate through two parallel oil/water separators for free oil removal. The water then passes into a stormwater pump station equipped with two submersible pumps that discharge to a treatment system. This water is comingled with the parking lot runoff prior to treatment and treated for turbidity, heavy metals, and volatile organics (benzene).

Crude oil stored in the tanks is pumped to the dock for transfer to a ship or barge. Approximately three to six variable speed pumps pump the crude oil, at least one of which would be on standby.

The pumps are housed in the tank storage pump basin located on the west side of the storage tank area. Stormwater collected in the pump basin flows by gravity through an oil-water separator. There is a manual isolation valve so that the basin can be isolated during maintenance activities or if there was a release of crude oil. The flow is routed through the treatment and discharge system associated with the containment berm sump.

The support buildings (including a storage building, fire water pump and foam building, control room/E-house, electrical pads, and mechanical pads) are constructed outside the containment area on

slab-on-grade foundations. A small storage tank of 500 gallons or less is located adjacent to the emergency fire pump and inside the pump building to hold ultra-low sulfur diesel fuel used to fuel the fire pump. The pump basin is isolated from the containment area by its concrete walls; the basin providing secondary containment for the pump machinery.

2.1.3 Area 400 – Marine Terminal

Crude oil is transferred by 36-inch-diameter pipeline to vessels at Berth 13, located at Area 400. Hoses supported by cranes or a pulley system are connected to the manifold used to transfer the crude oil from the piping system to the vessel being loaded. The hoses are connected to the grounding grid to protect against the buildup of static electricity. The loading system incorporates automatic shutoff valves with a maximum 30 seconds until shutoff. The pipelines serving the dock undergo annual hydrostatic testing as required by federal standards. A catchment capable of holding 3 bbl of discharge is positioned on the deck level for the containment of inadvertent releases, in addition to stormwater, that may fall in the catchment area. The catchment is a steel plate welded on deck with walls to provide containment. The contents of the containment are discharged within 1 hour of completion of any transfer, and flow by gravity upland to a treatment system and storm pump station for discharge to treatment swales, or for haul off if there was a release of crude oil

A fire pump and foam building located near the dock-side control house encompasses an emergency fire pump and fire protection systems associated with the marine terminal. A small storage tank of 500 gallons is located adjacent to the emergency fire pump to hold ultra-low sulfur diesel fuel.

Prior to oil transfer, a fence boom is placed between the vessel and the shoreline, and floating booms connect with the fence boom on the downstream end (but open on the upstream, offshore side of the moored vessel due to currents).

Marine vessels are generally empty, having inert (noncombustible) gases occupying the cargo tanks, when they arrive at the berth. When the vessel tanks are filled with crude oil, the vapors from previous cargo, vapors from the crude being added to the tank, and the inert gases are displaced from the tank. These vapors are collected and sent to the marine vapor combustion unit (MVCU) system, which combusts the hydrocarbons in the vapors. Piping from the dock conveys the vapors to the MVCUs located north of the access trestle and roadway. Once in the MVCUs, the vapors from the vessel hold are mixed with small amounts of natural gas and combusted in the MVCUs. The resulting combustion gases are be expelled from the MVCU stack. Eight units are installed on a 100- by 50-foot concrete slab, housing equipment that has eight steel stacks approximately 25 feet in height.

2.1.4 Area 500 – Transfer Pipelines

A combination of above- and belowground steel transfer pipelines convey crude oil from the rail unloading structure in Area 200 to the storage tanks in Area 300 and from the storage tanks to the marine vessel loading system in Area 400. The system includes the following.

- Three 24-inch-diameter, approximately 1,800-foot-long pipelines collect the crude oil unloaded at the rail unloading stations; one of these pipelines is electrically heat-traced to ensure that the viscosity of the crude oil is maintained at approximately 150°F while it is conveyed from the unloading structure.
- Three 24-inch-diameter, approximately 5,500-foot-long pipelines would connect the railcar unloading facility to the storage tanks in Area 300; one of these pipes would be electrically heat-traced to ensure that the viscosity of the crude oil requiring heating would be maintained while it is conveyed from the unloading facility to the storage area.
- One 36-inch-diameter, approximately 5,300-foot-long pipeline connects the storage tanks with the vessel loading system in Area 400.
- One 6- to 12-inch-diameter, approximately 5,300-foot-long pipeline returns crude oil from the vessel loading system back to the storage tanks; this pipeline is provided to handle loading process shutdowns and provide pressure relief and prevent pipe hammer in the pipe conveyance system.

- One 10-inch-diameter, approximately 600-foot-long pipe delivers hydrocarbon vapor generated during loading of vessels to the MVCU (described in Section 2.3).

Piping is constructed to the specifications of American Standards Testing and Materials (ASTM) A53 or A106. Aboveground runs of piping are supported so that the bottom of the piping is a minimum of 1 foot off the ground on vertical supports located every 20 to 25 feet. The vertical supports are fixed on spread footings. Where multiple pipes are placed within the routing, pipelines are either placed side-by-side or stacked. Expansion loops are constructed along the transfer pipeline runs to accommodate thermal expansion of the pipelines during operation. Where road or rail crossings occur and in other areas of limited space, the pipelines are located underground or raised above the ground in accordance with standard American Railway Engineering and Maintenance-of-Way Association (AREMA) clearances. Secondary containment with leak detection is provided for pipeline segments installed underground. Runs of aboveground pipeline are standard-walled to ensure ease of inspection and maintenance and designed in accordance with the applicable requirements of WAC 173-180-340 and 49 Code of Federal Regulations (CFR) 195.246 through 49 CFR 195.254. Transfer pipelines have cathodic protected at all underground sections to prevent corrosion.

To allow greater flexibility in operations, the transfer piping system is designed to allow crude oil being unloaded in Area 200 to be directly conveyed to Area 400, Marine Terminal, for loading onto vessels. This capability allows occasional topping off of vessel loads, and may allow the Facility to begin limited operation during the construction of the Area 300 storage tanks.

The piping system and associated supports and foundations are designed to applicable seismic protection standards and are electrically grounded to protect against the buildup of static electricity during crude oil conveyance. Manual and automatic isolation valves are located on the piping system at the exit of the railcar unloading facility and at the entrance to the storage tank area and Area 400.

2.1.5 Area 600 – Boiler Building

Area 600 (Boiler Building) contains a boiler building with a natural-gas boiler. The boiler is used to generate steam for heated crude unloading operations inside Area 200. Area 600 also includes an E-house and associated parking.

2.1.6 Rail Infrastructure

Three rail loops (Tracks 4105, 4106, and 4107), ranging from approximately 7,700 to 8,100 feet in length, service the Area 200 unloading facility. These rail loops exist inside of several other loops owned and operated by the Port. In addition, the following rail infrastructure is part of the Facility.

- A connection with cross-over switches allows for departure on any of two of the departure tracks.
- Two tracks (designated as Tracks 4109 and 4110) located off the loop tracks serve as a temporary staging location for railcars that have deficiencies and have been removed from the unit train prior to the cars being released back to the rail carrier. (Track 4109 is approximately 200 feet long, and Track 4110 is approximately 700 feet long.)

2.2 Type of Oil and Storage Capacity

The Facility handles Groups 2, 3, and 4 persistent oils, as defined in WAC 173-182-030 (42), with a specific gravity less than 1 and an API gravity ranging from 15 to 45.

2.2.1 Bulk Oil Storage

Crude oil is stored at the site in six double-bottom, internal floating-roof ASTs. The tanks are approximately 50 feet in height and 240 feet in diameter. Each tank has capacity to store 380,000 bbl of crude oil. The maximum volume of oil to be stored is 360,000 bbl, based on capacity reductions due to the presence of a floating roof and other internal tank equipment and appurtenances. **Table B-1a** in Appendix B provides a list of the six bulk storage tanks with their contents and capacities.

2.2.2 Other Storage Facilities

Three double-walled 500-gallon diesel tanks are used at the Facility to store ultra-low sulfur diesel for powering emergency fire water pumps. Each of the tanks is located adjacent to the associated fire water pump it serves, one at each of the following locations: Area 200 – Unloading and Office, Area 300 – Storage Area, and Area 400 – Marine Terminal. These fuel tanks are listed in **Table B-1a** in Appendix B.

Table B-1b presents a list of other containers, their contents, and capacities. The locations of all containers are presented on figures for each area in Appendix A.

2.2.3 Mobile and Portable Containers

Mobile oil storage tanks are not used at the facility. Portable containers may be used to temporarily store products recovered during response actions; such storage will occur on portable containment devices or within a containment structure.

2.2.4 Buried Tanks

There are no underground storage tanks installed at the Facility.

2.2.5 Partially Buried Tanks

There are no partially buried storage tanks installed at the Facility.

2.3 Equipment Failure Considerations

The 40 CFR 112.7(b) requires that the plan identify a prediction of the direction, rate of flow, and total quantity of oil that could be discharged from the Facility as a result of each type of major equipment failure "where experience indicates a reasonable potential for equipment failure (such as loading or unloading equipment, tank overflow, rupture, or leakage, or any other equipment known to be a source of a discharge)." Within the meaning of 40 CFR 112.7(b), the analysis required "will depend on the experience of the facility and how sophisticated the facility equipment is."[3] Consequently, while this Plan conforms to the language of the regulation, which is applicable to any facility, given the design, engineering and character of the facility and the site as described herein, "experience" does not indicate a "reasonable potential for equipment failure" for this Facility.

[3] EPA Guidance, Federal Register Vol. 67, No. 137 at 47100 (July 17, 2002). "'Experience' includes the experience of the facility and the industry in general." "[T]he required explanation will be tailored to the type of equipment used and the experience with that equipment."

It is the Applicant's policy to conduct all facility operations in a safe and conscientious manner. Inherent in the storage and handling of crude oil, however, is the potential for spills from equipment failure or human error. Potential spill scenarios and applicable preventative measures are summarized in **Table B-3 in Appendix B**. The following scenarios were considered[4]:

- Storage Tank Leak or Failure
- Storage Tank Overflow
- Tank Bottom Chronic Leak
- Spill or Railcar Failure at the Rail Unloading Facility
- Leak from Transfer Pipeline, Unloading Area to Storage Area[5]
- Leak from Transfer Pipeline, Storage Area to Marine Terminal
- Bulk Diesel Storage Tank Failure
- Bulk Diesel Storage Tank Overfill
- Transformer Container Leak

End of Section 2.0

[4] Discharge scenarios, including those with release to waters of the U.S., are also considered as part of the Facility oil spill contingency plan.
[5] Leaks from the transfer pipeline would also include transfers from the Rail Unloading Area directly to the Marine Terminal.

3. Spill Prevention Training

Personnel training and spill prevention procedures are in place at the Facility as described in the following subsections. A summary of training and exercises pertaining to spill response is also contained in Appendix A of the Facility Oil Spill Contingency Plan. Training and certification for Facility operators complies with the requirements of WAC 173-180 Part E.

3.1 Person Accountable for Discharge Prevention at this Facility

The Applicant has assigned a qualified and trained staff person to be accountable for discharge control and prevention for the facility. This individual reports to the Facility Manager. An example Employee Training and Discharge Prevention Training Record is included as **Table B-4** in Appendix B.

3.2 Initial Training

All new maintenance and operating personnel receive training on the proper operation and maintenance of the Facility's spill prevention equipment and procedures. New employees are provided documented orientation covering these materials within one week of their start of employment. The training is presented in-person at the Facility by training personnel. The initial training covers the following minimum subjects.

- Operation and maintenance of equipment to prevent oil discharges;
- Oil discharge procedures and protocols;
- Applicable oil spill prevention laws, rules, and regulations (State and Federal);
- General Facility operations, including the contents of the Facility's Oil Handling Manual;
- Orientation to this SPCCP and the Facility's Oil Spill Contingency Plan

SPCCP training records are maintained by the Facility Manager.

3.3 Discharge Prevention Briefings

The SPCCP is the subject of annual training for all oil-handling employees in the Facility. One person is assigned to this Facility to provide discharge prevention briefings. Spill response drill training and exercises are held at least annually. These exercises highlight and describe known discharges or failures, malfunctioning components, and any recently developed precautionary measures. Spill/incident reports are also highlighted periodically during safety meetings.

An example record of this training is included in **Table B-4** in Appendix B. Training records are maintained for at least three years.

3.4 Alcohol and Drug Use Awareness and Treatment Program

All personnel (including supervisors and contractors) associated with the operation and maintenance of the storage, pipeline, and transfer operations covered by this SPCCP are subject to drug and alcohol testing as dictated by Facility policy.

The Facility has an established Safety Health and Environmental Policy, which includes provisions to promotion of a safe, productive and drug-free work environment. Every employee is provided initial training to ensure understanding of this policy, and is provided annual drug training to ensure ongoing understanding and compliance with elements and procedures associated with the alcohol and drug awareness policy.

3.4.1 Alcohol and Drug Use Policy

Management will test employees and prospective employees for the presence of drugs or alcohol in accordance with the provisions of this policy and as a condition of employment. All employees are subject to drug testing. Management does so to maintain a safe, productive, high-quality, and secure drug-free work environment. Anyone who violates this policy may be terminated, even for the first offense. The policy is summarized below.

A. Employees shall not use, manufacture, possess, sell, store, trade, or offer for sale illegal drugs.

B. Employees shall not use, manufacture, possess, sell, or consume alcohol on the job.

C. Employees shall not report to work under the influence of illegal drugs or alcohol.

D. Employees shall not use prescription drugs illegally.

E. Any employee who tests positive for illegal drugs or alcohol is subject to disciplinary action, which may include termination of employment and may have legal consequences.

F. Any employee who attempts to alter, adulterate, or substitute the specimen provided for drug or alcohol testing is subject to disciplinary action, which may include termination of employment and may have legal consequences.

G. Any employee or job applicant who refuses to consent to testing for illegal drugs or alcohol is subject to disciplinary action, which may include termination.

H. Failure to notify management prior to commencing employment of a previous conviction for a criminal drug violation for activities that occurred in the workplace may result in termination.

I. Vacancy announcements will state that substance abuse testing is required.

J. Notification that drug abuse testing is a requirement for (of) employment shall be posted in a conspicuous location.

K. Applicants and employees shall be informed that copies of drug policy are available in the personnel office or other suitable location.

3.4.2 Alcohol and Drug Use Policy Procedures

The following programs, procedures, and rules are implemented as part of the policy:

A. **Type of Test and Identification of Those Being Tested:** The Company may designate the type of sample to be used in the testing program. Prior to testing, employees and prospective employees may be required to provide personal identification.

B. **Pre-Employment Testing:** All prospective employees are to be tested as a condition of employment. Prospective employees who refuse to take a test or whose test is positive will be denied employment. Tests that yield a “dilute” result give the Company the option to withdraw an offer of employment. Attempts to alter, adulterate, or substitute the specimen provided will give the Company the option to withdraw an offer of employment.

C. **Random Testing:** All employees will be subject to random testing. Random testing will be performed using a system imposed without individualized suspicion that a particular individual is using illegal drugs, and may either be

   1 Uniform-unannounced testing of designated employees occupying a specified area, element or position; or
   2 A statistically random sampling of such employees based on a neutral criterion, such as social security numbers.
   3 Annual random testing shall be conducted, at a minimum, on 30 percent of the average staff, and 50 percent substance/10 percent alcohol on all employees.

D. **Post-accident Testing:** Employees involved in an accident or a claim of work-related injury or illness must submit to testing. Post-accident alcohol testing should be done within 2 hours of the accident, and always within 8 hours. Post-accident drug testing should be done as timely as practical and within 24 hours of the accident. Use the form at the end of this section to determine whether a DOT or non-DOT test needs to be performed for each employee. The bottom section of the form should be sent with the employee to the collection facility.

E. **Reasonable Suspicion Testing:** An employee may be required to submit to a drug and/or alcohol test if the Company has reasonable suspicion that the employee is impaired due to the influence of drugs or alcohol. Testing for reasonable suspicion is based on the observations of a trained supervisor who identifies specific, clearly stated observations concerning appearance, behavior, speech, or body odor.

F. **Refusal to Test:** An employee who refuses to be tested when so required or requested will be suspended, pending investigation and will be subject to disciplinary action, which may include termination. Attempts to alter, adulterate, substitute the specimen, or leave the collection facility without providing a sample will be deemed a Refusal to Test.

G. **Insufficient Sample or Shy Bladder (for Urine Samples Only):** (Refer to CFR 40.193) If the employee is unable to provide the required quantity of urine for testing, the collection agent will discard the partial sample. The collection agent shall instruct the employee to drink up to 40 ounces of fluid, distributed reasonably over a period of up to 3 hours, or until the individual has provided a sufficient sample, whichever comes first. If the employee refuses to provide a new urine specimen or leaves the collection site before the collection is complete, the collection agent shall terminate the collection and notify the employer that the employee has refused to submit to testing. *If the employee has not provided an adequate sample within 3 hours of the first attempt, the test shall be treated as a Refusal to Test and the collection agent shall discontinue the test and notify the employer.* The employer, after consulting with the Medical Review Officer (MRO), will direct the employee to obtain an evaluation within five days from a licensed physician, acceptable to the MRO, who has expertise in the medical issues raised by the employee's inability to provide a sufficient specimen. If the doctor cannot determine any medical reason why the employee could not provide a sufficient sample within the allotted time, the test shall stand as a *Refusal to Test.*

   Note: Neither the collection agent nor any employee shall grant permission for the employee to leave the collection site without providing a sample within the 3-hour time limit. Leaving the collection site under any circumstances without providing a sample will constitute a *Refusal to Test*. For more information on this topic, please refer to CFR 40.193 or contact the Service Support Center.

H. **Analysis of Samples:** Testing and analysis of the sample will be done by scientifically accepted analytical methods. "Positive" tests will be confirmed or verified by gas chromatography-mass spectroscopy or other comparable and reliable methods.

I. **Positive Result of Test:** Upon receipt of a verified or confirmed positive drug or alcohol test result, or upon the refusal of an employee or prospective employee to provide a sample, the Company may use that test result or refusal as the basis for disciplinary action, including termination. If a test is deemed positive, the employee may within five days request that the sample be re-tested. The request for re-testing must be made to the MRO who shall then direct the laboratory which analyzed the specimen to provide the specimen to another Department of Health and Human Services certified laboratory for analysis. The cost of the re-testing shall be borne solely by the employee. However, if the reanalysis or re-test is negative the employee shall be reimbursed the cost of the same. Termination due to an adulterated, dilute or positive test or a refusal to test, will preclude an individual from rehire with the Company.

J. **"Dilute" Result of Test:** Upon receipt of a drug test that yields a "dilute" result, the Company may require a re-test of the individual. "The guidelines state that employees having observed collections must be instructed to raise clothing, just above the naval; lower clothing, to mid-thigh; then turn around to show the same gender observers they do not have prosthetic devices for beating the test. If no device is detected, the employee is permitted to return clothing to its proper observed-collection position. Then the observed collection will take place." In pre-employment drug testing, tests that yield a "dilute" result give the Company the option to withdraw an offer of employment.

K. **Substance Abuse Training:** The Company will provide training for all employees on substance abuse as it relates to our policy.

L. **Confidentiality:** It is the Company's policy to make all reasonable efforts to assure the confidentiality of all information, interviews, reports, statements, and test results which are developed, received, or generated as a consequence of the implementation of this policy. Use of any information generated as a result of this policy will be restricted to the pursuit and achievement of those purposes and objectives defined in this policy.

M. **Notification of Supervisor:** Anyone taking or using mind altering medication, whether or not prescribed by the employee's physician for a medical condition, which is known or advertised as possibly affecting or impairing judgment, coordination, or other senses, or which may adversely affect ability to perform work in a safe and productive manner, must notify his or her supervisor or other appropriate management official prior to starting work or entering the Company's or client facilities.

   The management official, after consulting the MRO, if appropriate, will decide if the employee can remain at work or on the Company Premises or work sites and what work restrictions, if any, are deemed necessary. Any employee violating this policy will be subject to discipline, including termination.

N. **Other:**

   1 Employees arrested for using, possessing or trafficking drugs may be suspended pending company investigation of facts & circumstances or in a court judgment.
   2 Employees convicted of possessing or trafficking drugs may be terminated.
   3 The Company maintains the right to search any Company property at any time and also search an employee's personal belongings, and his/her vehicles for alcohol, drugs, or related paraphernalia while such are on Company property or otherwise in the employee's possession while the employee is in the service of the Company. Failure to allow reasonable search may be considered a violation of this policy.

End of Section 3.0

4. Maintenance, Testing, and Inspections

Facility inspection, testing, and recordkeeping requirements are detailed throughout this SPCCP, and are more specifically described in the Facility's Oil Handling Manual. A summary of inspections and testing procedures is provided below.

4.1 Daily Inspections and Product Inventory Control Documentation

1. Gauges tanks and record temperature and meter readings on all tanks. While performing gauging duties, visually inspect tanks, product lines, pumps, valves, and other equipment. Complete Daily Gauging and Terminal Inspection Sheet.
2. Input gauge, temperature, and meter data into the computer control system.
3. Input receipts or deliveries into the computer.
4. Distribute bills of lading to the appropriate offices.
5. Generate daily delivery and inventory report. Compare computer calculations with manual totals on delivery sheet.
6. Monitor schedule for pending receipts.
7. Input meter readings into the computer system, generate meter report. Distribute appropriate copies. Record copy to terminal file.
8. Compare movement and inventory data with daily delivery information to verify that inventories are accurate.
9. Send daily reports to appropriate offices and file one report locally.

4.2 Weekly Procedures

1. Back up computer system on disk and put into a secured storage.
2. Inspect any Dangerous (Hazardous) Waste accumulation drum(s), record inspection results on posted inspection form.

4.3 Monthly Procedures

A monthly equipment inspection checklist is provided in **Table B-5** (or equivalent) in Appendix B.

1. Take physical inventory by hand gauging all tanks.
2. Inspect tank roofs and rooftop equipment while doing hand gauging.
3. Check all valve packing for leaks. Correct per Manufacturer's Service Manual. Stroke each valve five turns to assure operational readiness.
4. Check all flanges and fittings for leaks and repair/replace as necessary.
5. Complete wharfage report. Send copy to Port.
6. Complete terminal exchange reports and balance with movement and inventory report.
7. Monitor cathodic protection readings and record in log.
8. Hold safety meeting.
9. Conduct SPCC monthly inspection of storage tanks, secondary containment systems, piping, unloading systems, drainage systems, etc. and record in log.

4.4 Quarterly Procedures and Preventative Maintenance

1. Conduct safety inspection and record in log.
2. Perform MVCU maintenance and adjustments (contract maintenance).
3. Pump and motor inspection and maintenance (see following guidelines).

4.5 Annual Procedures

1. Test foam fire protection system(s) (contract maintenance and inspection).
2. Test back flow preventer valve (contract maintenance and inspection).
3. Test fire extinguishers (contract maintenance and inspection).

4. Pressure test dock hose, shoreline and all underground product lines for leaks per U.S. Coast Guard (USCG) pressure requirements. Stencil latest hydro test date on hose and pipes.
5. USCG dock inspection (scheduled by USCG).
6. Port facility environmental inspection (scheduled by Port).

4.6 Quarterly Pump and Motor Inspection and Maintenance Checks

1. Inspect Pumps and Motors for Leaks and Proper Lube Oil Level.
    a. Mechanical Seals: If seal is leaking, replace per manufacturers recommendations.
    b. Bolted Joints: Inspect case, seal flush lines, and suction and discharge connections for leakage. Tighten bolts or replace gaskets as required.
    c. Lube Oil Leaks: Inspect motor and pump bearings for oil leaks and proper oil level.
2. Pump and Motor Noise and Vibration Checks
    a. Roller Bearings: Damaged bearings may emit a high-pitched squealing or a lower pitched growling noise. Bearing housings may get warm or even hot to touch. Roller bearings with these indications are either worn or damaged and should be replaced.
    b. Cavitation: Cavitation may sound like rocks in the pump and will produce erratic discharge pressure. Prolonged cavitation will result in damage to the impeller and possible bearing damage. Throttling the discharge of the pump or increasing pressure to the suction can reduce cavitation. A plugged suction screen will also cause cavitation.
    c. High Overall Vibration: Excessive vibration may be caused by cavitation, bearing damage, misalignment, bent shafts, looseness, or out of balance. Pumps and motors must not be run with excessive vibrations. If vibration is occurring, check each of the above possible causes and correct.
3. High Temperature at Pumps and Motors
    a. Pump Casing High Temperature: High temperature of the pump case may be caused by low flow through the pump. Check for blocked or throttled discharge and signs of cavitation. High temperatures may be evident by seal or gasket failure and/or a vapor lock.
    b. Pump and Motor Bearing High Temperature: High temperature in pumps or motor bearings usually is caused by loss of cooling (no product in line) or damaged bearings. Check for both if pump or motors are running hot.
    c. Motor Frame: High temperatures can be caused by overload on the motor. If this is suspected, contact electrician and check amperage draw against nameplate ratings.
4. Fittings and Mount Looseness at Pumps and Motors
    a. Normal operating conditions can loosen fittings with time. Check all guards, motor and pump base plates, mounting bolts, and all appurtenances for bolt tightness. Replace bolts, washers, nuts, etc. as appropriate.
5. External Corrosion at Pumps and Motors
    a. Exposed pumps and motors, valves and flanges, and pipe work can corrode. Check exposed metal in base plates, as well as equipment for signs of corrosion. Paint, re-enforce, or replace as needed.

4.7 Testing and Inspection of Aboveground Tanks

- Exteriors of the bulk storage tanks are observed and recorded during tank farm daily routines.
- Monthly SPCC inspections are performed and documented by operators
- In-service inspections are conducted to industry standards; API Standard 653 (Tank Inspection, Repair, Alterations, and Reconstruction) for the crude oil ASTs, and STI SP-001 for the diesel ASTs.
- Applicant has established testing schedules to assure that ASTs are tested in accordance with existing industrial and regulatory standards.

- Documentation is maintained on all Facility tanks storing oil including monthly inspections, in-service inspections and internal inspections.

The crude oil ASTs will be inspected periodically by API 653 certified tank inspectors in accordance with API Standard 653 to assess their physical condition and determine their suitability for continued use.

The basic requirements that will be used to test the tanks include

- Radiograph examination of shell butt welds; Vacuum box testing of floor seams; and
- Hydrostatic or vacuum box testing of the tank shell.

The general requirements for safety, external inspection, and internal inspection are:

- Emphasize safety as the most important aspect of inspection program;
- Consider all tanks as permit-required confined space;
- Use inspectors with appropriate training;
- Use access structures that comply with Occupational Safety and Health Administration provisions; and
- Employ a test plate of the same thickness as the tank segment to be scanned when using ultrasonic equipment to detect corrosion metal loss within the desired threshold

External (visual) tank inspection and data collection will include

- The bottom course of shell joints;
- Acoustic emission testing for mapping and locating defects in the shell;
- Inspection of shell for bulges and distortion;
- Ultrasonic spot testing of roof and shell for thickness determination;
- Inspection of tank appurtenances for defects and evidence of leakage;
- Tank plumbness, secondary containment volume and permeability survey; and
- Integrity of labels and placards.

Internal tank inspection will include

- Inspection of the shell for pitting, bulges and distortions;
- Inspection of bottom plate for corrosion damage;
- Visual inspection of the floor for evidence of leakage;
- Visual inspection of floor-to-shell weld and shell joints;
- Inspection of the interior of the roof, nozzles and piping; and
- Survey of tank shell and floor edge for settlement-induced distortion.

The diesel ASTs will be inspected periodically in accordance with STI SP-001. In accordance with SP-001, for 500-gallon shop fabricated tanks, documented periodic owner/operator visual inspections are sufficient to meet the requirements. Intermittent inspection and testing by an STI-certified tank inspector will not be required if appropriate periodic visual inspections are performed and documented.

4.8 Aboveground Pipeline Inspection

All aboveground valves, piping, and appurtenances are inspected on a regular basis in accordance with Facility inspection and maintenance procedures, and in compliance with API 570 (Piping Inspection Program). Daily visual inspections are performed in the normal course of business. Inspections include the assessment of the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. Integrity and leak testing was conducted at the time buried piping was installed and will be conducted at the time of any modification, construction, relocation, or replacement.

4.9 Maintenance, Inspection, and Testing Records

The Applicant maintains test and inspection reports for the required three years. A qualified supervisor or inspector is assigned to sign and maintain inspection and testing reports.

End of Section 4.0

5. Spill Prevention Procedures Technologies

In accordance with 40 CFR 112.1 and WAC 173-180-630 (12), the Facility must implement procedures, equipment, and other measures to control and prevent for oil discharge. This section describes specific technologies designed to limit or reduce the potential for an oil spill or release. Such technologies include operational procedures, facility design considerations, secondary containment, and proper design of drainage facilities. The Facility elements have been designed in accordance with standard industry criteria and complies with the requirements of WAC 173-180 Part C.

5.1 Operational Prevention Procedures

5.1.1 Visible Discharges

Visible discharges that result in a loss of oil from the storage tanks, transfer line, or pipelines, including, but not limited to, seams, gaskets, pipes, valves, rivets, and bolts, are promptly corrected in accordance with Facility monitoring, inspection, and repair procedures. Any accumulation of oil in a diked area is promptly removed by trained employees. Visual inspections of these systems are conducted daily during the normal course of business.

5.1.2 Buried Pipeline Inspections

If buried piping is ever exposed, a thorough inspection is conducted by trained employees to detect deterioration due to corrosion. If corrosion damage is detected, additional examination and corrective action will be implemented.

5.1.3 Relief Valves

For transferring product from the rail unloading area, a predetermined pipeline connection (PLC) setpoint from a pressure transmitter signal will automatically power off the facility pump at approximately 100 psi. The pressure transmitter is located on the 10-inch pump discharge pipeline at the pump basin. In addition to the pump shutdown, the system has a pressure relief valve downstream of each pump that will recirculate the crude in the event that the pump discharge piping is blocked and the pressure transmitter fails. This pressure relief valve is set at approximately 110 psi. The system also has thermal pressure relief valves relieving thermal expansion in blocked portions of the piping between the rail unloading area (Area 200) and the storage area (Area 300). These valves are set at varying pressures depending on their location in the piping system.

For transferring product from the storage area (Area 300) to the marine terminal area (Area 400), a predetermined PLC setpoint from a pressure transmitter signal will automatically power off the facility pump at approximately 100 psi. The pressure transmitter is located on the 36-inch pump discharge pipeline at the pump basin. In addition to the pump shutdown, the system has a pressure relief valve on the pump discharge header that will recirculate the crude in the event that the pump discharge piping is blocked and the pressure transmitter fails. This pressure relief valve is set at approximately 110 psi. The system also has thermal pressure relief valves relieving thermal expansion in blocked portions of the piping between the storage area (Area 300) and the marine terminal are (Area 300). These valves are set at varying pressures depending on their location in the piping system.

5.1.4 Routine Handling Discharge Prevention Measures

Written procedures for routine product handling have been prepared; employees receive training based on the written procedures prior to working at the facility. All transfers of product are through steel pipes or

using systems specifically designed for hydrocarbon use, such as steel reinforced rubber hoses. Railcar unloading hoses are fitted with dry fit connectors.

Written procedures, which are readily available to all employees in the administration office, are summarized below.

5.1.4.1 General Transfer Operating Procedures

- All tank valves will be maintained in the closed position when not in use.
- All tank water draw valves will be closed and locked when not in use
- All rail deliveries to the facility will be monitored at all times by trained facility employees. Audible alarms will be activated by the tank high level alarm systems. In response to an alarm, the facility employees will divert flow to another tank or stop pumping operations.
- All marine loading activities will be monitored at all times by trained employees. The marine loading operations will be performed in accordance with a wharf operations manual.

5.1.4.2 Procedures for Oil Receipt from Rail

- The new facility has developed detailed written procedures for the receipt of rail deliveries. These procedures are extensive and described in detail in the Facility's Oil Handling Manual, and are only highlighted here. Copies of written procedures will be available at time of completion.
- Unit train locomotives will be attended at all times within the Facility site during unloading operations.
- The designated responsible facility employee will arrange to open the tank receiving valve.
- During receipt of crude oil: Qualified employees will be on duty at all times. Communications will be maintained by two-way radio between rail unloading and control room employees.
- After completion of pumping, valves on the transfer line will be closed. The tanks are electronically gauged. All transfers will be recorded as required by the facility operating procedures

5.1.4.3 Procedures for Oil to Berth Transfers

- The new facility will have developed detailed written procedures for the marine loading operations. Marine loading operations are beyond the scope of this SPCCP. Copies of written procedures will be available at time of completion. These procedures are extensive and only the tank farm aspects are highlighted here.
- The designated responsible facility employee will arrange to open the source tank valve.
- During transfer of crude oil: Qualified employees will be on duty at all times. Communications will be maintained by two-way radio and video surveillance between berth and the control room employees.
- After completion of pumping: Valves on the transfer line will be closed. The tanks are electronically gauged. All transfers will be recorded as required by the facility operating procedures.

5.1.5 Countermeasures for Discharge Discovery, Response, and Cleanup

All six bulk storage tanks at the Facility are fitted with liquid level gauges and equipped with high-level alarms. Alarms are sounded and monitored in the continuously manned control rooms, which allows for immediate manual shutdown of pumps and closure of valves (see emergency shutdown discussion in Section 5.1.10 below). If any abnormal situation is detected during a product transfer, all activities are stopped and an emergency shutdown is initiated. Transfer operations are not resumed until the system has been inspected and repaired, and the Facility Manager has deemed the system fit for continued operations. If leakage or uncontrolled discharge is detected, the transfer is immediately terminated or not initiated.

Trained employees patrol the storage area on a regular basis and immediately report any discovered releases.

Should a release occur to the bermed bulk storage area, released materials are collected in approved temporary storage containment or using a vacuum truck and removed for disposal off site at an approved location.

The double-walled diesel storage tanks are monitored by employees on a regular basis. An operator and the delivery driver are present during diesel deliveries, and rely on deployable sorbent from a spill kit for secondary containment and response.

Areas surrounding transformer locations are monitored by employees on a regular basis. In the event of a mineral oil leak, operators deploy sorbent to block and absorb the oil.

Small discharge discoveries that do not pose significant safety or environmental concern, are assessed and evaluated individually in terms of necessary response and cleanup procedures.

The Facility Oil Spill Contingency Plan addresses the specific procedures to be followed for notification and response actions in the event of a spill.

5.1.6 Methods of Disposal of Recovered Materials

Methods and procedures to recover and dispose of oil and oily water are detailed in the Facility Oil Spill Contingency Plan. In the event of an oil spill, the operator will rely on the Facility Oil Spill Contingency Plan to implement appropriate notifications.

5.1.7 Vehicles Entering Facility

Warning signs are erected to warn drivers of aboveground piping and that they are entering an oil transfer operation facility.

5.1.8 Diesel Fuel Delivery

Deliveries of diesel to the diesel storage tank will be infrequent. The truck delivering the diesel will be staged adjacent to the tank and associated fire pump building. An operator and the delivery driver will be present during the transfer, and will rely on deployable sorbent from a spill kit for secondary containment. Contractors delivering fuel are required to follow their own spill plan and carry a spill kit.

5.1.9 Inspection for Brittle Fracture or Other Catastrophe

If ever a field-constructed aboveground container at this Facility undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge or failure due to brittle fracture or other catastrophe, or has discharged oil, or has failed due to brittle fracture failure or other catastrophe, the container will be evaluated for risk of discharge or failure due to brittle fracture or other catastrophe and appropriate action will be taken.

The Applicant has adopted this recommendation to the maximum extent practical for this Facility. Applicant's tank assessments for the likelihood of brittle fracture are based on applicable criteria set forth in API 653 and the use of prudent engineering judgment. An assessment for brittle fracture is required on all field constructed aboveground containers during change of service, inspection, repairs, alteration and complete tank reconstruction. During original construction, major repairs, alteration and complete tank reconstruction a hydrostatic test is required. Major tank repairs and alterations can forgo a hydrostatic test after additional nondestructive testing has been performed and accepted and repairs approved by an authorized tank inspector and engineer experienced in storage tank design. Experience shows that once an existing tank has demonstrated the ability to withstand the combined effects of maximum liquid level and lowest operating temperature without failing, the risk of failure due to brittle fracture with continued service is minimal.

5.1.10 Emergency Shutdown System

While unloading railcars and pumping oil to the storage facility or directly to the marine terminal, operators can manually stop the process by pressing an emergency shutdown (ESD) push button. When pressed,

automated valves will close at each of the rail offload stations, isolating the crude inside the railcars from the pump header, shut down the rail transfer pumps, and close the 24-inch valves at the beginning of the rail transfer lines, isolating the rail area process from the transfer pipeline.

When an ESD push button has been pressed, the control room will receive an alert stating which station's push button has been pressed, and an alarm will sound throughout the rail unloading area with horns and beacons.

Within the tank storage area, the ESD system will be manually activated by pressing an ESD push button. When an ESD is pressed, all automated valves on the storage tanks will close isolating the crude in the tanks, the marine vessel loading pumps will shut down, and the control rooms will receive an alert stating which push button has been pressed and that an ESD occurrence has taken place.

While loading a marine vessel at the berth, operators may manually stop the process by pressing one of the ESD push buttons on the dock. An ESD can also be initiated by the vessel. When pressed, the marine vessel loading pumps will shut down, the automated valve near the dock will close and an alert will be sent to the control rooms indicating which ESD push button was pressed.

If a facility-wide emergency is necessary, there is a facility-wide button to press within each area. When a facility-wide ESD is necessary, all operations will be stopped as outlined above for all areas of the Facility.

5.2 Railcar Unloading Facility

The rail unloading facility (Area 200) is a covered structure through which the trains are pulled and secured for unloading. The structure is approximately 1,850 feet long by 91 feet wide with a maximum height of approximately 50 feet. The building structure is open on the north, west, and east sides, and the southern wall is partially enclosed with built segments along the wall acting as a weather break.

Each of the three tracks includes 30 unloading stations for handling crude oil. Each station uses a completely closed loop of piping to prevent any atmospheric contact with the product during unloading. The entire 1,850 feet of the rail unloading facility includes full coverage rail collection pans, and the interior ground surfaces are constructed of concrete to contain any accident releases, as well as provide catchments for all stormwater that drips from railcars or is blown into the rail unloading facility by the wind.

All mechanical piping is located in concrete secondary containment trenches, and the pump basins used to transfer crude oil from the rail unloading facility to Area 300 storage are in below-grade concrete basins. The collection piping from the rail drip pans and rail unloading facility floor drains is also located in these concrete trenches with discharge pumps located in the pump basins. Water collected from within the rail unloading facility is collected in these systems and pumped to two containment tanks located in the area of the administrative/support buildings. Other than from office buildings, there is no hydraulic connection to storm or sanitary sewers from within the rail unloading footprint.

Several accessory structures and equipment pads are located adjacent to the rail unloading facility, including electrical house (E-house) control rooms, fire pump and foam building, electrical equipment pads, and mechanical equipment pads.

The administrative/support buildings are located north of the rail unloading facility adjacent to Old Lower River Road. This area consists of three proposed modular structures, parking, and associated landscaping. In addition, the containment tanks for discharges from the rail unloading facility are located near the parking lot. A pedestrian bridge connects the administrative/support buildings to the rail unloading facility.

The entire 1,850 feet of the rail unloading facility includes full coverage rail collection pans, and the interior ground surfaces are constructed of concrete. Any releases of product are contained, as is stormwater that drips from railcars or is blown into the rail unloading facility by the wind.

Pumps used to transfer crude oil from the rail unloading facility to Area 300 storage are situated within below grade concrete basins. The collection piping from the rail drip pans and rail unloading facility floor drains is direct-buried that feeds to a header pipe located within the concrete secondary containment. Collection discharge pumps are co-located within the underground concrete pump basins. Water collected from within the rail unloading facility is directed to two containment tanks located in the area of the administrative/support buildings. Collected water is taken to approved sites for recycling/disposal.

5.2.1 Rail Unloading Rack

The Facility receives oil from railroad tank cars. Employees trained in unloading procedures, including emergency shutdown, transfer crude oil from the railcar by using the railcar rack system. Unloading hoses are manually connected to the valves on the cars using dry-fit connectors, one hose per tank car. Dry-fit connectors are designed so that the crude oil in the hose cannot come into contact with the atmosphere. The connector is designed such that crude oil will not flow without a secure connection. Each hose is equipped with an automatic shutoff valve. Containment pans are located under each railcar stationed for unloading; the pans drain to spill holding tanks with the capacity to contain the entire contents of a single tank car.

5.2.2 Prevention of Early Departure

Railcars are not uncoupled from the main engine. The locomotives will be shut down, braking systems will be engaged on the locomotive, and an appropriate number of railcars will be secured to prevent early departure. Chocks are also placed at the first and last railcars indexed in the rail unloading building. Communication between the locomotive engineer(s) and facility employees will be maintained throughout the unloading process to prevent early departure.

5.2.3 Prevent Discharges at Departure

This Facility is used for unloading crude oil from railroad tank cars only. Before an empty railcar leaves the rail unloading building it is thoroughly inspected for leaks or the presence of oil on the surface of the railcar. This includes all valves, inlets, or outlets on the car. If necessary, equipment is tightened or adjusted and a record maintained of maintenance activity that occurred. This Facility does not clean the interiors of the railroad tank cars.

5.2.4 Railcar Unloading Secondary Containment

The railcar unloading facility is composed of a covered structure through which the trains are pulled and safely secured while the unloading occurs. Unloading is accomplished with a closed-loop system, i.e., the crude oil will be contained in an enclosed system from when it leaves the railcar to when it enters the storage tanks. Collection pans are located between the rails and connected to piping that conveys releases to the spill control and holding tanks located near the office area. A 9-foot-wide by 5-foot-deep concrete trench is located underneath each rail unloading area and runs the length of the railcar unloading facility. The trench provides secondary containment in the event of a spill or leak. The trench containment system has capacity to contain at least the entire volume of a single railcar (approximately 750 bbl).

Any spills from the collection pans or trench are pumped to the spill holding tanks located adjacent to the administrative/support area, (total holding capacity of approximately 1,000 bbl). These connected tanks provide secondary containment to the piping system that receives inadvertent releases captured in the collection pans and trenches. The combined volume of the tanks can contain the entire contents of a

single tank car. Crude oil captured in a collection pan or containment trenches flows by gravity into a dedicated line, and is pumped from the unloading facility to the spill holding containment tanks.

5.3 Bulk Storage Facilities

5.3.1 Design and Construction

The storage area (Area 300) contains six double-bottom, internal floating-roof ASTs for storing crude oil. The tanks are approximately 50 feet in height and 240 feet in diameter. Each tank has capacity to store 380,000 bbl of crude oil. The maximum volume of oil to be stored is 360,000 bbl. The bulk storage tanks have been designed and constructed in accordance with API Standard 650 (Welded Tanks for Oil Storage), are constructed of compatible with the crude oil. The tanks are maintained at atmospheric pressure.

Two of the crude oil bulk storage tanks are equipped with electric heating coils to facilitate transfer of heavy crude when necessary. Internal temperature sensors ensure crude oil temperatures do not exceed operating parameters. The steam/condensate return from the heating lines is discharged to the boiler system. Condensate return is passed through a proprietary package treatment system prior to discharge to the sanitary sewer. Prior to discharge to the City sanitary system, an additional oil-water separator ensures that discharged water quality meets the discharge limits. Visual inspection and telemetry controls including flow and pressure monitor the steam limes for possible leaks.

The crude oil storage tanks are equipped with high liquid level pump cutoff devices set to stop flow at a predetermined content level.

Each tank has a fixed roof to keep precipitation from reaching the inside of the tank and an internal floating roof (with dual seals) to control vapor emissions from the tank to the atmosphere. The floating roof is designed to avoid tipping during operations.

The double-bottomed tanks include a leak detection system between the tank floors and are equipped with cathodic protection to prevent corrosion. The entire tank containment area is lined with an impervious membrane to prevent any potential spills from leaving the containment area via infiltration into the ground.

Crude oil stored in the tanks is pumped to the dock for transfer to a ship or barge. Approximately three to six variable speed pumps pump the crude oil, at least one of which would be on standby.

The pumps are housed in the tank storage pump basin located on the west side of the storage tank area. Stormwater that collects in the pump basin drains through an oil/water separator and discharges to the sanitary sewer. Stormwater evacuated from the basin is routed through the treatment and discharge system associated with the containment berm sump described above.

5.3.2 Bulk Storage Secondary Containment

With the exception of one manually operated valve, the entire storage area (Area 300) is situated within bermed secondary containment. A drip pan is situated below the valve not in containment.

The bulk storage containment berm is approximately 6 feet in height. The bermed containment area is designed with capacity to contain at least 110 percent of the volume of the largest tank in addition to the volume of runoff generated from a 24-hour rainfall event with a 100-year return period. Intermediate berms are installed within the larger containment area to isolate each tank. The entire tank containment area is lined with an impervious membrane to prevent any spills from leaving the containment area via the ground.

Stormwater in the bulk storage containment area is collected into a central collection system, which discharges to a control structure. The control structure discharges at a controlled flow rate through two

parallel oil/water separators for free oil removal. The water then passes into a stormwater pump station equipped with two submersible pumps that discharge to a treatment system. This water, which is comingled with the parking lot runoff prior to treatment, is treated for turbidity, heavy metals, and volatile organics (benzene)., The collection sumps and pump area is inspected for sheen prior to pump operation (pump operation is manual on and auto off). Inspections are conducted and documented (**Table B-5**) by authorized personnel on a continuous basis. Staff observe the operations at the site, and are instructed to inspect the sump for an oil sheen prior to pump operation. Pump operation proceeds when ponding in the sumps is observed.

Stormwater flows to a control structure, which passes the water at a

The containment area includes an earthen perimeter berm approximately 6 feet in height, which is tall in size to contain the release of 110 percent of one entire tank volume and a 100-year rainfall event. Intermediate berms approximately 2 feet tall are positioned between each tank to segregate the containment area. This capacity reflects the most stringent of Washington spill prevention and control and NFPA requirements.

5.4 Diesel Storage Tanks

The three double-walled diesel storage tanks for emergency fire water pumps tank are located on concrete slabs.

The diesel tanks each have a level gauge that is monitored by the Facility operators and will be visually indicated at the tank. The operator and driver will follow Facility operating procedures to gauge tank level prior to filling.

5.5 Oil Transfer Facilities

A combination of above- and belowground steel transfer pipelines convey crude oil from the rail unloading structure in Area 200 to the storage tanks in Area 300 and from the storage tanks to the marine vessel loading system in Area 400. The system includes the following.

- Three 24-inch-diameter, approximately 1,800-foot-long pipelines collect the crude oil unloaded at the rail unloading stations; one of these pipelines is electrically heat-traced to ensure that the viscosity of the crude oil is maintained at approximately 150ºF while it is conveyed from the unloading structure.
- Three 24-inch-diameter, approximately 5,500-foot-long pipelines would connect the railcar unloading facility to the storage tanks in Area 300; one of these pipes would be electrically heat-traced to ensure that the viscosity of the crude oil requiring heating would be maintained while it is conveyed from the unloading facility to the storage area.
- One 36-inch-diameter, approximately 5,300-foot-long pipeline connects the storage tanks with the vessel loading system in Area 400.
- One 6- to 12-inch-diameter, approximately 5,300-foot-long pipeline returns crude oil from the vessel loading system back to the storage tanks; this pipeline is provided to handle loading process shutdowns and provide pressure relief and prevent pipe hammer in the pipe conveyance system.
- One 10-inch-diameter, approximately 600-foot-long pipeline delivers hydrocarbon vapor generated during loading of vessels to the MVCU.

Piping is constructed to the specifications of ASTM A53 or A106. Aboveground runs of piping are supported so that the bottom of the piping is a minimum of 1 foot off the ground on vertical supports located every 20 to 25 feet. The vertical supports are fixed on spread footings. Where multiple pipes are placed within the routing, pipelines are either placed side-by-side or stacked.

Expansion loops are constructed along the transfer pipeline runs to accommodate thermal expansion of the pipelines during operation. Where road or rail crossings occur and in other areas of limited space, the pipelines are located underground or raised above the ground in accordance with standard AREMA clearances. Secondary containment with leak detection is provided for pipeline segments installed

underground. Runs of aboveground pipeline are standard-walled to ensure ease of inspection and maintenance and designed in accordance with the applicable requirements of WAC 173-180-340 and 49 CFR 195.246 through 49 CFR 195.254. Transfer pipelines are equipped with cathodic protection at all underground sections to prevent corrosion.

To allow greater flexibility in operations, the transfer piping system is designed to allow crude oil being unloaded in Area 200 to be directly conveyed to Area 400, Marine Terminal, for loading onto vessels. This capability allows occasional topping off of vessel loads and may allow the Facility to begin limited operation during the construction of the Area 300 storage tanks.

The piping system and associated supports and foundations are designed to applicable seismic protection standards and are electrically grounded to protect against the buildup of static electricity during crude oil conveyance. Manual and automatic isolation valves are located on the piping system at the exit of the railcar unloading facility and at the entrance to the storage tank area.

Runs of aboveground pipeline are standard-walled, to ensure ease of inspection and maintenance, and in accordance with the applicable requirements of WAC 173-180-340 and 49 CFR 195.246 through 49 CFR 195.254. Runs of underground piping are located in steel casings with incorporated leak detection. The terminal locations for underground transfer pipes are located within a concrete vaults that provides containment for leaks.

All flanges and aboveground valves associated with the transfer piping (Area 500) are equipped with drip pans. Areas underlying the pipelines are designed with surface drain inlets that will retain up to five gallons of oil in the event of a leak.

Cathodic protection has been provided for underground piping to prevent corrosion. Spill containment measures along the pipeline alignment comply with 40 CFR 112.7 by providing secondary containment, inspections, and contingency planning. Spill kits are located at the unloading area, storage area and marine terminal area.

Stormwater catch basins in the vicinity of the aboveground pipeline are fitted with sumps and 90-degree elbows at each outlet point to prevent spilled oil from entering the stormwater system.

5.6 Marine Terminal

The face of the dock at the marine terminal (Area 400) includes a containment area for the work areas, including the connections to the hose tower as well as for the first valve along the pipeline alignment, and all flanges and transfer hose areas. The containment area is sized to contain the release of at least three 3 bbl within a curbed area.

The dock area (outside of the first block valve inside onshore secondary containment) and associated spill prevention and response measures are addressed in the dock operations manual and the Facility Oil Spill Contingency Plan. The following is a summary of dock containment and response measures included.

- A catchment basin constructed at or below the deck level for the containment of inadvertent releases in addition to stormwater that may fall in the catchment area. Within 1 hour of completion of any transfer, materials captured in the catchment and are discharged by pumping them into the return line for return to the storage tanks.
- A spill response boat stationed at the dock to install a containment boom around the berthed ship prior to loading of product. The spill response boat is also equipped with additional boom and oil spill recovery equipment and absorption materials.

5.7 Other Controls

Electric power transformers are staged on concrete pads. In the event of a mineral oil leak, operators would deploy sorbent to block and absorb the mineral oil. Reliance on active secondary containment measures for this purpose is appropriate because the Facility is staffed 24/7.

Other than the storage area berm and concrete unloading trench and diesel containment, there are no oil spill retention ponds located at the Facility. Trained spill response staff and sorbent materials are present at the site at all times to provide active secondary containment for electrical transformers and for additional discharge control. Pipeline alignments are routed over areas in which surface drain inlets are designed to retain crude oil in the event of leaks or drips.

5.8 Facility Drainage

5.8.1 Diked Storage Area Drainage

Drainage from the berm surrounding the storage area is controlled by valves kept in the closed position, which are not opened until a visual inspection has been conducted by trained staff for the presence of oil. Pumps are used to transfer stormwater from the bermed area to the treatment system sumps located outside of the berm. The pumps are manually activated, and prior to transfer, the condition of the accumulation in the sumps is inspected to ensure no oil will be discharged. Drainage from the diked storage area is documented in **Table B-6** in Appendix B.

Stormwater from the bermed bulk storage area is drained from the sumps by pumps to the stormwater treatment systems located outside of the bermed area. The valves at the sumps are locked in the closed position when not in use. Stormwater is inspected for evidence of oil prior to discharging to the treatment systems. Treated stormwater is released to an existing drainage system within the Port. Trained employees will monitor all discharges from the bermed area and ensure that drain valves are closed and locked after drainage. Records will be kept documenting events when the bermed storage area is drained.

Each diesel tank is double-walled and is located undercover. The tanks are not directly exposed to rainfall and do not receive stormwater runoff.

Flapper-type valves are not used in the storm drainage system that drains the berm surrounding the Storage Area. Manual valves with an open/close design are installed for the berm drainage system.

5.8.2 Drainage Facilities for Undiked Areas

Undiked areas of the Facility include paved and gravel roads, administration building, rail unloading facility, pipeline rights of way and dock. Storm drainage systems in these areas with a potential for oily runoff are equipped with oil/water separators and water quality facilities designed to capture oil prior to discharge. These systems are inspected and cleaned periodically. These areas are outside the 100-year floodplain and are not prone to flooding.

5.8.3 Drainage Treatment Facility – Pumping Systems

As described above, drainage from diked areas relies on a pump system to transfer accumulated water to a water quality treatment system and to discharge point. To prevent potential loss of containment dike capacity due to water transfer pump failure, active pumps backed up by a pump on standby are provided.

End of Section 5.0

6. Facility Security

The Facility is staffed 24 hours per day, 7 days a week. Operations at the marine terminal are staffed during vessel loading operations.

Security placards and emergency contact names and 24-hour telephone numbers are posted at the Facility office. Facility security measures are implemented in accordance with the Port's security program. Security cameras and lighting are installed throughout the Facility to monitor facility premises involved in oil handling and storage.

Access to the Port's marine terminals is allowed primarily through the main security gate at the 26th Avenue overpass. The Port's security plan and policies require that all people entering the Port's terminal areas show photo identification and have a valid business purpose to be on the facility. This is accomplished through the Port's screening process, administered to anyone who enters the Port's marine terminals. In addition, this area is secured with fencing, video camera monitors and 24/7 stationary and mobile patrols.

The Facility has implemented an Operations Site Security Plan pursuant to 33 CFR 105. Security measures anticipated at the site include fencing to prevent any public access to project facilities. The northern side of the Terminal 5 rail loop facilities is fenced to prevent public access. Security gating is provided at the rail loop access at the Gateway overpass. Parking for the Facility's operations and maintenance staff is provided at the administration and support buildings. All other persons, such as vendor equipment employees, maintenance contractors, material suppliers, and all others, must acquire permission for access from a designated site employee prior to entrance. Access to each project area is granted on a project/job need basis by the Plant Manager.

Locations where oil handling and storage occur are fenced by a chain link fence with three strands of barbed wire above to prevent unauthorized entry. Fencing is provided around the Administration Building, Rail Unloading Facility, and the Storage Area. Access to the Marine Terminal is through locked gates. All gates are locked 24 hours a day, and there is no unattended public access for these areas. Persons entering the Facility must be granted authorization from a responsible Facility employee. It is possible for the public to have access to a portion of the transfer pipelines; however, the pipelines are monitored both by Facility staff and electronic monitors.

All employees who perform work (including contractors and consultants) within Area 400 – Marine Terminal are required to have a Transportation Worker Identification Credential (TWIC) or be escorted at all times by a person with the appropriate TWIC credentials.

All valves and pump controls are enclosed within the locked security areas. Outlet valves which could lead to an oil spill are protected by facility security fencing, blind flanges, and all valves that could direct the outward flow of the tank contents directly to the surface are securely locked in the closed position.

Automated pump starters associated with the rail unloading, storage area, and vessel loading facilities are authorized through the secure terminal automation system at each location.

No normal transportation loading/unloading connections are idle or not in use at the Facility. All tank and PLCs, such as drains or vents, are securely capped or blank-flanged when not in service or placed in standby service for extended periods of time.

The Facility is equipped with low-level lighting around exits, and general outdoor lighting for operating areas, roadways, fuel storage areas, and ship loading, railcar unloading, and parking areas. This lighting is provided for operator access and safety under regular operating conditions and assists in the detection of leaks. Spot lighting is provided for illumination-level enhancement, where needed, around loading

equipment maintenance areas and stairwells and catwalks. This lighting will be higher in intensity than general outdoor lighting, but will be limited to specific areas and assist in the detection of oil leaks.

The lighting systems installed at the Facility are appropriate to both prevent acts of vandalism and assist in the discovery of oil discharges.

Warning signs have been erected to advise drivers that they are entering an oil transfer operation facility, and to be aware of aboveground piping.

End of Section 6.0

7. Industry Standards

The EPA suggested industry standards that have been implemented by the facility are summarized below.

40 CFR Section	Section Description	Organization Name	Standard No.	Standard Name (Reason for use)
112.2	Definitions	API	653	Tank Inspection, Repair, Alteration, Reconstruction (Help in understanding term alteration)
112.2	Definitions	NFPA BOCA API API	30 none 2015 1604	Flammable & Combustible Liquids Code National Fire Prevention Code Safe entry and Cleaning of Petroleum Storage Tanks Removal and Disposal of Used Underground Storage Tanks (Useful for permanent closure of tanks)
112.2	Definitions	API	653	Tank Inspection, Repair, Alteration, Reconstruction (Helpful to understand "repair")
112.2.7(c)	Secondary Containment	NFPA BOCA API	30 None 2610	Flammable & Combustible Liquids Code National Fire Prevention Code Construction, Operations, Maintenance, & Inspection of Terminal & Tank Facilities (Assist with secondary containment)
112.7(d)	Contingency Planning	API API API ASME ASME STI UL	653 575 570 B31.3 B31.4 SP001 142	Tank Inspection, Repair, Alteration, Reconstruction Inspection of Atmospheric and Low Pressure Tanks Piping Inspection Code - Inspection, Repair, Alteration, & Rerating of In-service Piping systems Process Piping Liquid Transportation systems for Hydrocarbons etc. Inspection of In-Service Shop Fabricated Aboveground Tanks for Storage of Combustible & Flammable Liquids Steel Aboveground Tanks for Flammable & Combustible Liquids (Helpful for integrity testing)
112.7(g)	Security (excluding oil production facilities	API	2610	Construction, Operations, Maintenance, & Inspection of Terminal & Tank Facilities (Assist in Security purposes)
112.7(h)	Loading/unloading (excluding offshore)	NFPA API	30 2610	Flammable & Combustible Liquids Code Construction, Operations, Maintenance, & Inspection of Terminal & Tank Facilities (Assist in loading/unloading area)
112.7(i)	Brittle fracture	API API	653 920	Tank Inspection, Repair, Alteration, Reconstruction Prevention of Brittle Fracture in Pressure Vessels (Assist with brittle fracture evaluation)
112.8(b)(1)	Diked Storage Area Drainage	NFPA API	30 2610	Flammable & Combustible Liquids Code Construction, Operations, Maintenance, & Inspection of Terminal & Tank Facilities (Assist with facility drainage)
112.8(c)(1)	Construction & Materials Used for Containers	API API STI STI UL	620 650 F911 R931 58	Design and Construction of Large, Welded, Low-Pressure Storage Tanks Welded Steel Tanks for Oil Storage Standard for Diked Aboveground Steel Tanks Double Wall Aboveground Storage Tank Installation

40 CFR Section	Section Description	Organization Name	Standard No.	Standard Name (Reason for use)
		UL UL PEI	142 1316 200	Standard for Steel Underground Tanks for Flammable & Combustible Liquids Steel Aboveground Tanks for Flammable and Combustible Liquid Glass Reinforced Plastic USTs for Petroleum Products Installation of AST for Motor Vehicle Fueling (Assist w/ materials and construction of containers)
112.8(c)(2)	Secondary Containment Bulk Storage Containers	NAPF BOCA API PEI	30 none 2610 200	Flammable and Combustible Liquids Code National Fire Prevention Code Construction, Operations, Maintenance, and Inspection of Terminal and Tank Facilities Installation of AST for Motor Vehicle Fueling (Assist w/ secondary containment for bulk storage containers)
112.8(c)(6)	Integrity Testing	API API STI	653 575 SP001	Tank Inspection, Repair, Alteration, Reconstruction Inspection of Atmospheric & Low Pressure Tanks Inspection of In-Service Shop Fabricated Aboveground Tanks for Storage of Combustible & Flammable Liquids (Assist with integrity testing)
112.8(c)(8)	Good Engineering Practice – Alarm Systems	NFPA API API	30 2350 none	Flammable & Combustible Liquids Code Overfill Protection for Storage Tanks in Petroleum Facilities Manual of Petroleum Measurement Standards (Assist with alarm systems, discharge prevention systems and inventory control systems)
112.8(c)(11)	Mobile Containers	NFPA BOCA	30 none	Flammable & Combustible Liquids Code National Fire Prevention Code (Assist with secondary containment for mobile containers)
112.8(d)(1)	Buried Piping, Etc. (Excludes production facilities)	NACE STI	0169 892	Control of external corrosion on Underground or submerged metallic piping systems Corrosion Protection of underground piping networks associated with liquid storage and dispersing systems (Assist corrosion protection for buried piping)
112.8(d) (4)	Inspection of Aboveground Valves and Piping	API API ASME ASME	570 574 B31.3 B31.4	Piping Inspection Code - Inspection, Repair, Alteration, & Rerating of In-service Piping systems Inspection Practices for Piping System Components Process Piping Liquid Transportation for Hydrocarbons, etc. (Assist with inspection & testing of valves, piping, appurtenances)

End of Section 7.0

8. List of Acronyms and Abbreviations

API: American Petroleum Institute

Applicant/Company: Tesoro Savage Petroleum Terminal LLC

AREMA: American Railway Engineering and Maintenance-of-Way Association

ASME: American Society of Mechanical Engineers

AST: aboveground storage tank

bbl: barrel/barrels

BOCA: Building Officials and Code Administrators

CFR: Code of Federal Regulations

EFSEC: Energy Facility Site Evaluation Council

E-house: electrical house

EPA: U.S. Environment Protection Agency

ESD: emergency shutdown

Facility: Vancouver Energy

I-5: Interstate 5

MRO: Medical Review Officer

MVCU: marine vapor combustion unit

NACE: National Association of Corrosion Engineers

NFPA: National Fire Protection Association

PE: professional engineer

PEI: Petroleum Equipment Institute

PLC: pipeline connection

Port: Port of Vancouver USA

RM 103.5: River Mile 103.5

SPCCP: spill prevention, control, and countermeasures plan

SR 501: State Route 501

TWIC: Transportation Worker Identification Credential

UL: Underwriters Laboratories

USCG: U.S. Coast Guard

WAC: Washington Administrative Code

End of Section 8.0

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Vancouver Energy

Operations Spill Protection, Control, and Countermeasure Plan

EFSEC Application for Site Certification No. 2013-01
Docket No. EF131590

Appendix A
Figures

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Figure 1. Vicinity Map

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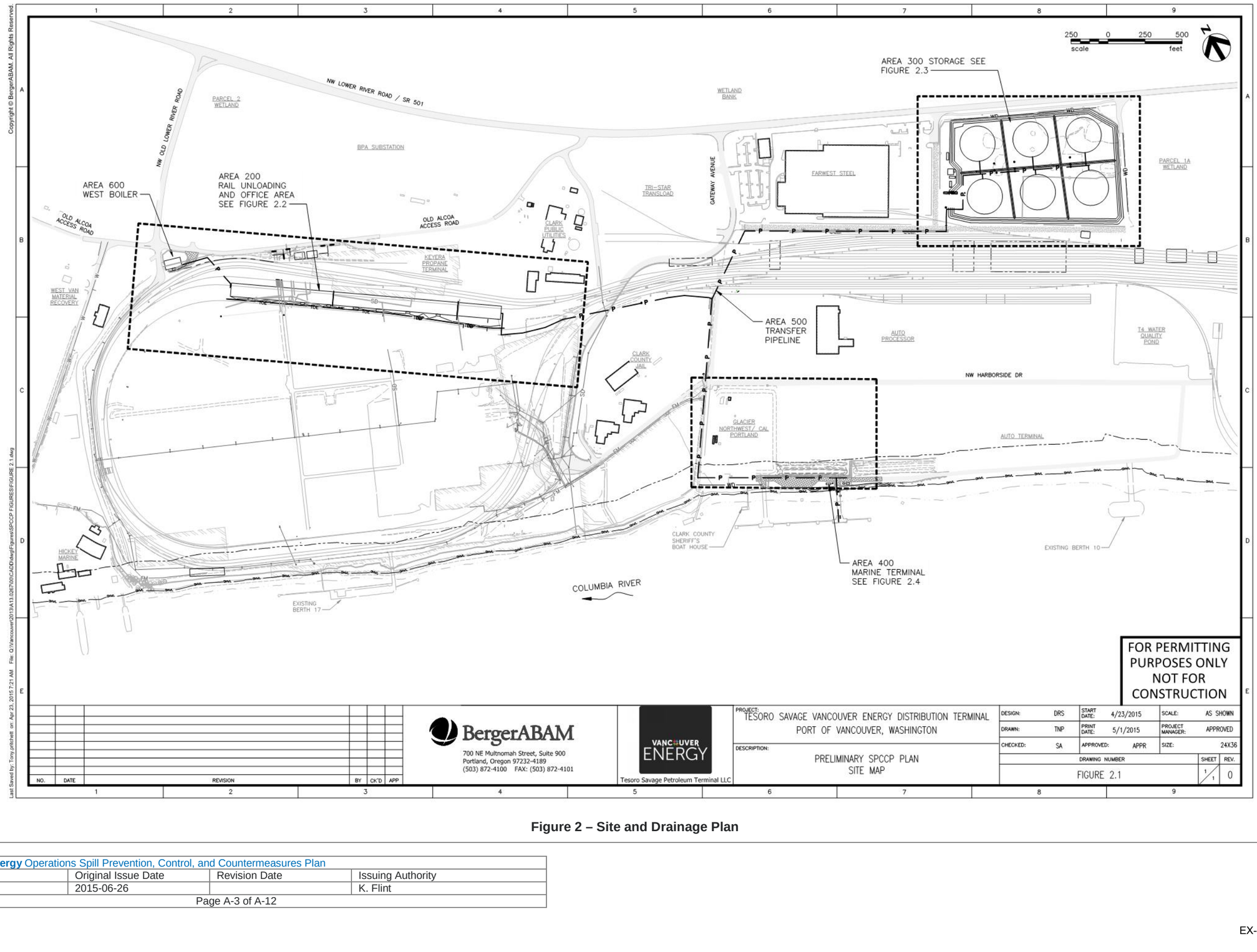

Figure 2 – Site and Drainage Plan

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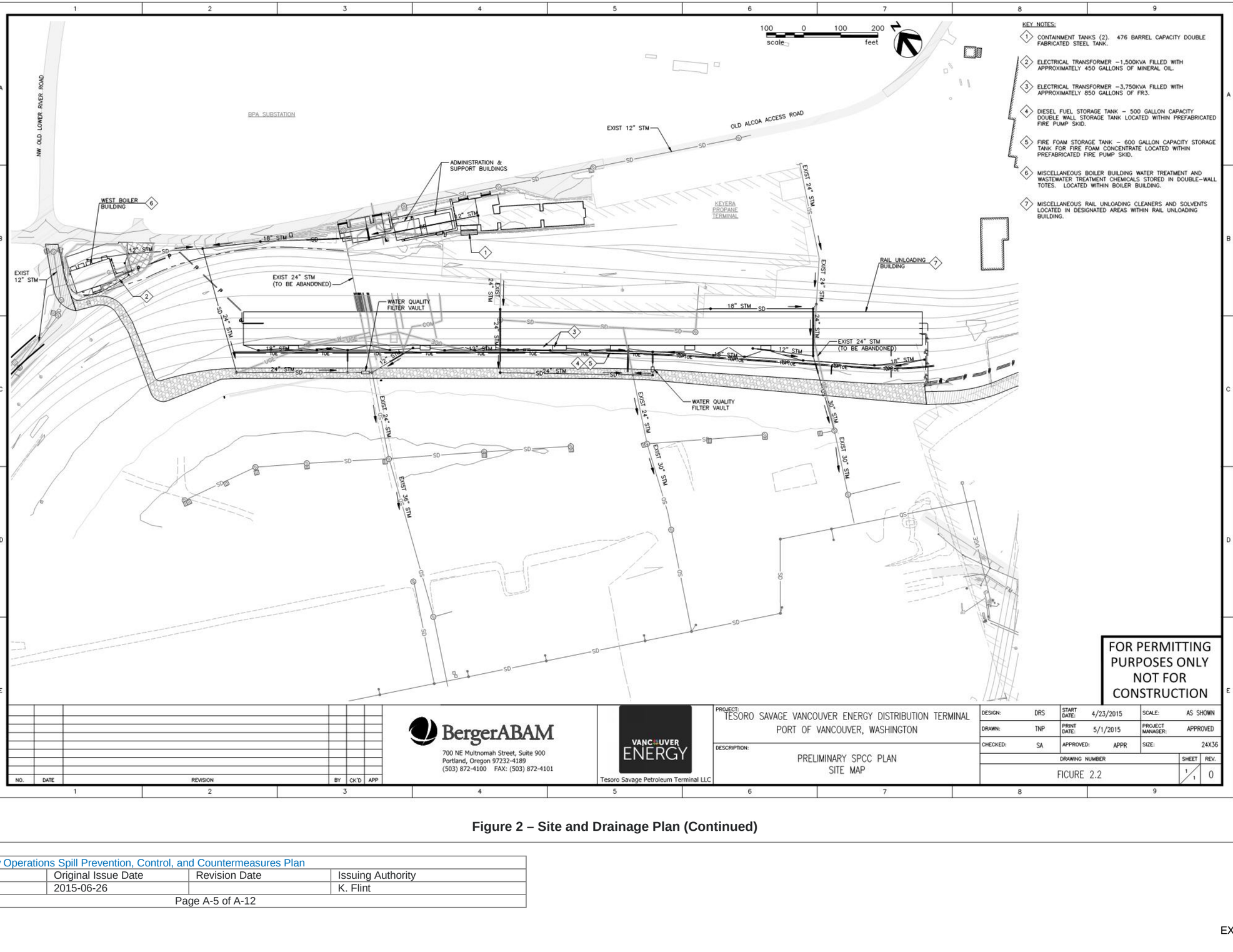

Figure 2 – Site and Drainage Plan (Continued)

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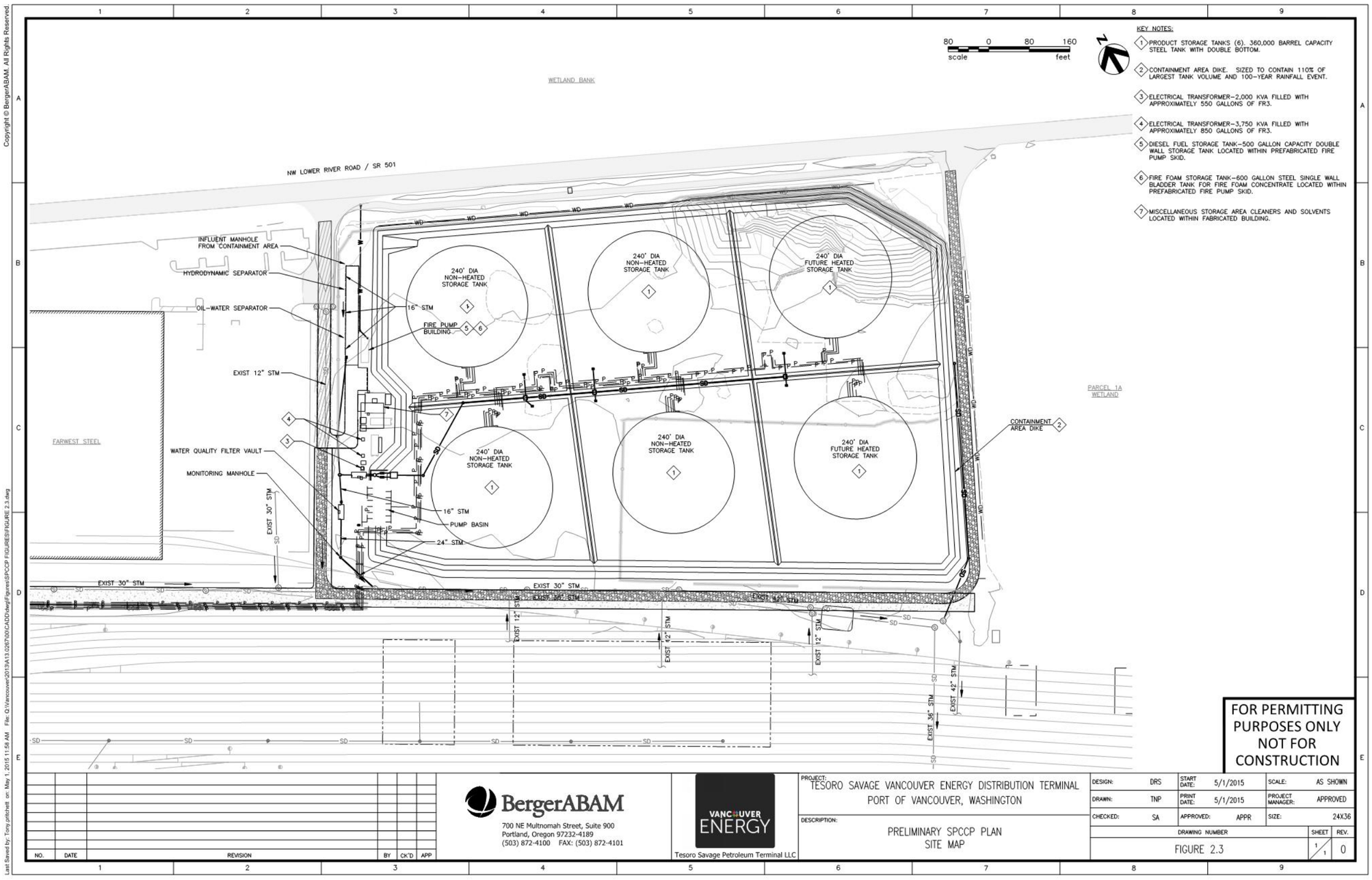

Figure 2 – Site and Drainage Plan (Continued)

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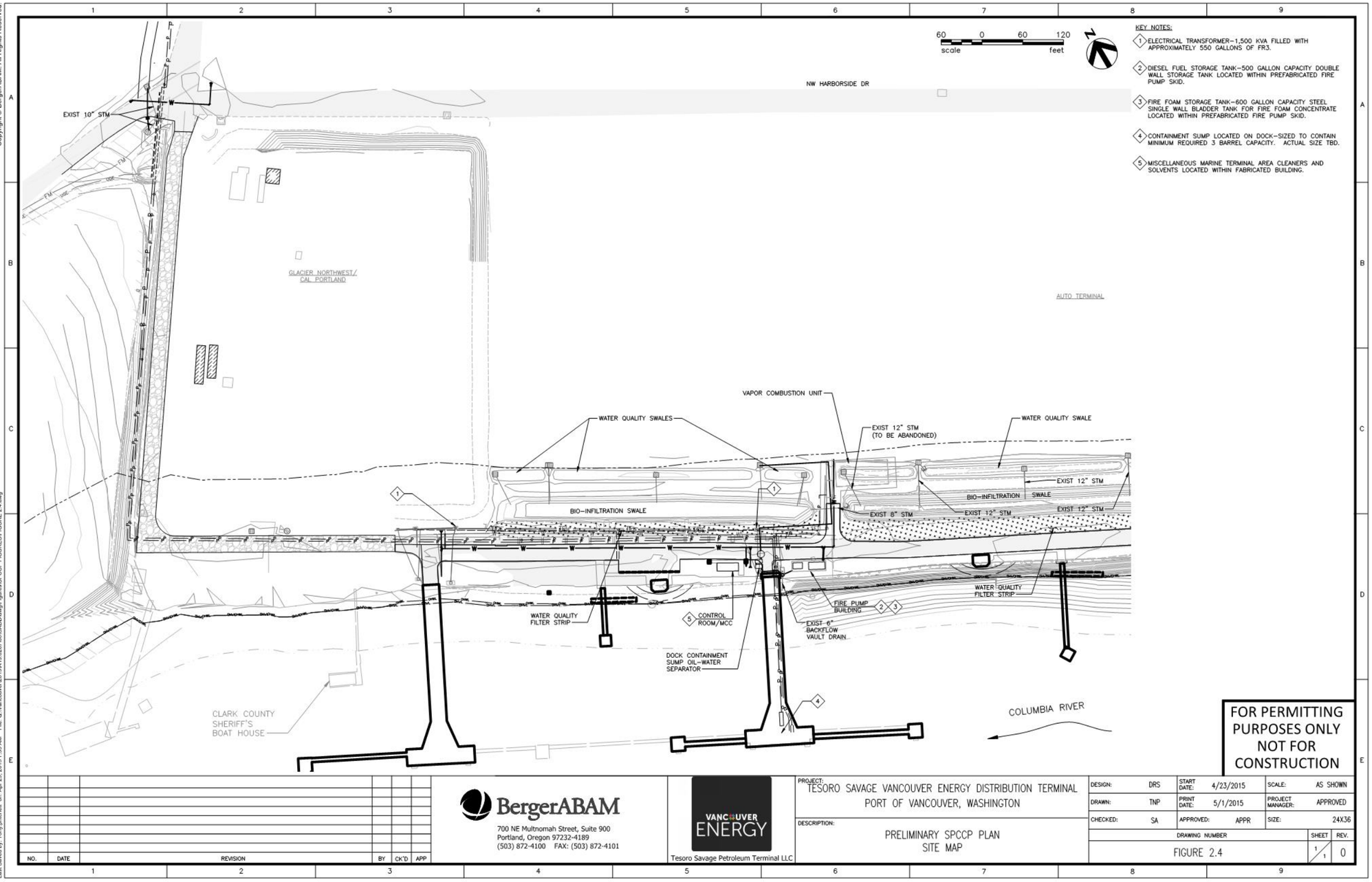

Figure 2 – Site and Drainage Plan (Continued)

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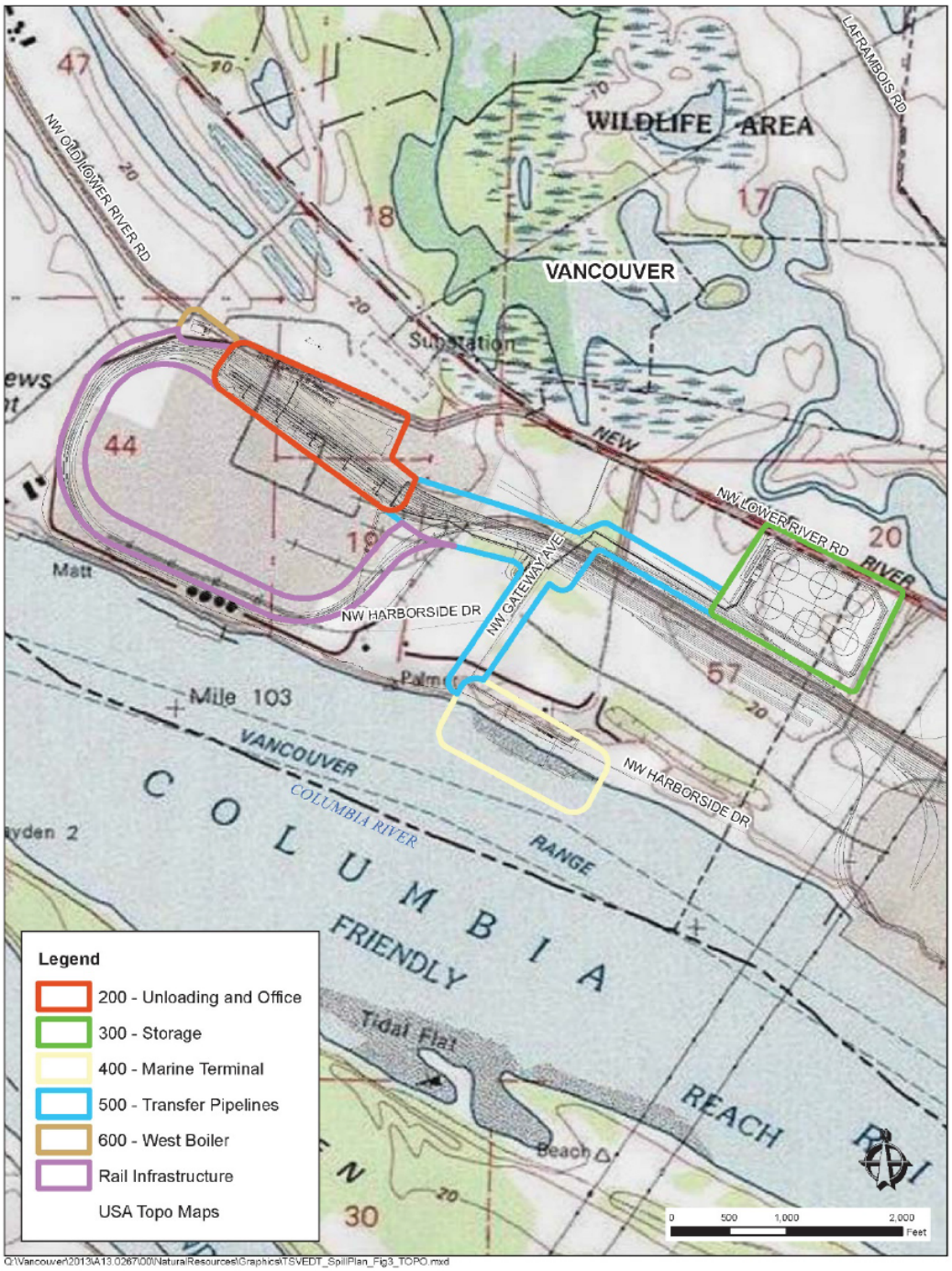

Figure 3 – USGS Topographic Map

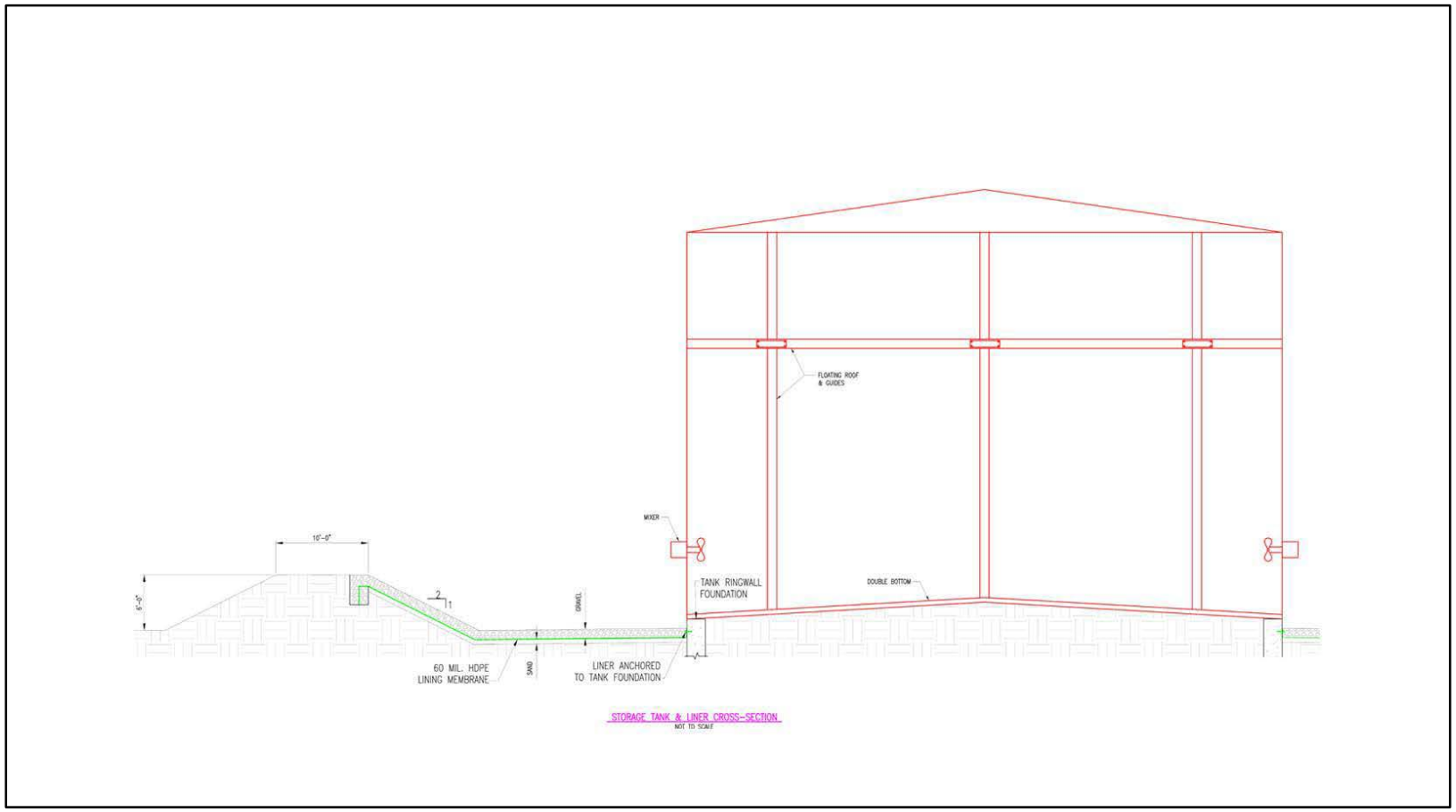

Figure 4 – Containment Berm

Vancouver Energy

Operations Spill Protection, Control, and Countermeasure Plan

EFSEC Application for Site Certification No. 2013-01
Docket No. EF131590

Appendix B
Tables

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Table B-1a – Bulk Storage Container Summary

Tank No.	Description	Liquid Stored/ Treated	Discharge Control	Construction Material	Height/ Length (feet)	Diameter (feet)	Measured Volume (bbl)	Date Installed
300-TK-001	Aboveground Storage Tank	Crude Oil	Containment Berm	Steel	50	240	360,000	TBD
300-TK-002	Aboveground Storage Tank	Crude Oil	Containment Berm	Steel	50	240	360,000	TBD
300-TK-003	Aboveground Storage Tank	Crude Oil	Containment Berm	Steel	50	240	360,000	TBD
300-TK-004	Aboveground Storage Tank	Crude Oil	Containment Berm	Steel	50	240	360,000	TBD
300-TK-005	Aboveground Storage Tank	Crude Oil	Containment Berm	Steel	50	240	360,000	TBD
300-TK-006	Aboveground Storage Tank	Crude Oil	Containment Berm	Steel	50	240	360,000	TBD
TBD	Fuel Tank	Ultra-Low Sulfur Diesel	Double-Walled	Steel	TBD	TBD	500 gallons	TBD
TBD	Fuel Tank	Ultra-Low Sulfur Diesel	Double-Walled	Steel	TBD	TBD	500 gallons	TBD
TBD	Fuel Tank	Ultra-Low Sulfur Diesel	Double-Walled	Steel	TBD	TBD	500 gallons	TBD

Table B-1b –Container Summary

Tank No.	Description	Liquid Stored/Treated	Discharge Control	Construction Material	Height/ Length (feet)	Diameter (feet)	Measured Volume (gallons)	Date Installed
Area 200 Transformer A	Oil filled transformer	Mineral oil	Deployable sorbent	steel	TBD	TBD	450	TBD
Area 200 Transformer B	Oil filled transformer	Mineral oil	Deployable sorbent	steel	TBD	TBD	850	TBD
Area 300 Transformer A	Oil filled transformer	Mineral oil	Deployable sorbent	steel	TBD	TBD	550	TBD
Area 300 Transformer B	Oil filled transformer	Mineral oil	Deployable sorbent	steel	TBD	TBD	850	TBD
Area 400 Transformer	Oil filled transformer	Mineral oil	Deployable sorbent	steel	TBD	TBD	550	TBD

Table B-2 – Calculated Minimum Secondary Containment Dimensions

Proposed Containment Dimensions				Container Volume			Effective Dike Volume (bbl)	Minimum Required Height for Largest Container (ft)	Minimum Dike Height Including 4-inch Freeboard (ft)
Width (ft)	Length (ft)	Height (ft)	Volume (bbl)	Diameter (ft)	Height (ft)	Effective Volume (bbl)			
Storage Area									
1,152	2,080	5.0	759,908(1)	(5) 240	48	360,000(2)	558,308	3.5	3.8
Fire Pump Diesel Tanks									
Diesel Tank 1	TBD	TBD	500 gallons	TBD	TBD	TBD	500 gallons	TBD	NA
Diesel Tank 2	TBD	TBD	500 gallons	TBD	TBD	TBD	500 gallons	TBD	NA
Diesel Tank 3	TBD	TBD	500 gallons	TBD	TBD	TBD	500 gallons	TBD	NA

(1) The calculations to determine the minimum dike height incorporate the National Oceanic and Atmospheric Administration 100-year, 24-hour rainfall (inches) isopleth to determine sufficient freeboard. For this site "sufficient freeboard" is determined to be 4.5 inches.

(2) Although shell capacity is 380,000 bbl, actual capacity is restricted to 360,000 bbl due to the presence of a floating roof and other internal tank appurtenances.

Table B-3 – Overview of Potential Spill Scenarios

Spill Scenario	Flow Direction	Rate of Flow	Total Quantity Released	Preventative Measures
Crude Storage Tank Leak or Failure	South	Instantaneous	360,000 bbl	Berm constructed around tanks Inspection and testing of tanks and associated level monitoring equipment Monitoring of storage area
Crude Storage Tank Overflow	South	Pipeline flow rate	Flow rate* discovery time* shutdown time	Berm Communications between rail pad and tank operators High level alarms High level shutdown interlock
Storage Tank Bottom Leak	Subsurface	Slow	Quantity depends on duration before detection	Double bottom Interstitial monitoring Visual leak monitoring at detection weep points Cathodic protection
Spill or Railcar Failure at the Rail Unloading Area	South	Instantaneous	900 bbl	Containment trenches Spill holding tanks
Leak from Transfer Pipeline, Unloading Area to Storage Area	South	Pipeline flow rate	Flow rate* discovery time* shutdown time	Communications between Unloading Area and Storage Area operators Pipeline flow and pressure measurement Line inspections and maintenance Emergency shutdown system od transfer operations Oil retention system in surface water drains
Leak from Transfer Pipeline, Storage Area to Marine Terminal	South	Pipeline flow rate	Flow rate* discovery time* shutdown time, Maximum of 3,802 bbl	Communications between Storage Area operators and Marine Terminal operators Pipeline flow and pressure measurement Line inspections and maintenance Emergency shutdown system for transfer operations Oil retention system in surface water drains
Bulk Diesel Storage Tank Failure	Localized	Instantaneous	500 gallons	Concrete berm Tank maintenance and inspections
Bulk Diesel Storage Tank Overfill	Localized	Slow	20 gallons	Operator present during diesel transfers Driver required to stay in immediate area during diesel transfers Secondary containment curbing Visible liquid level gauge Audible high level alarm
Transformer Container Failure	Localized	Slow	Transformer volume	Monthly visual inspections Concrete slab

[1] As required by Section 3.6, (112.7(b)) – Fault Analysis, listed below are potential "major Equipment" failures which could cause a discharge as described in 112.1(b).

Table B-4 – Personnel Training and Discharge Prevention Training Record

This information is to be included as shown in Section 3.10, required by 112.7(f). This Training Record must be maintained for three (3) years.		
112.7(f)(2) Facility Accountable Person		
Name:	Title:	Phone:

112.7(f)(1) Oil handling personnel have been trained in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules and regulations; general facility operations; and the contents of this Facility SPCCP.	
Leader:	Training Date:
Attendee Sign:	Title:
Attendee Sign:	Title:
Attendee Sign:	Title:
Describe Material Covered:	

112.7(f)(3) Discharge prevention briefings for oil-handling personnel are conducted at least once a year to assure adequate understanding of the SPCCP for this Facility. These briefings highlight and describe known discharges as described in 112.1(b) or failures, malfunctioning components, and any recently developed precautionary measures.	
Leader:	Training Date:
Attendee Sign:	Title:
Attendee Sign:	Title:
Attendee Sign:	Title:
Describe Material Covered:	

Table B-5 – Equipment Inspection Checklist

This information is required by 112.7 (e); this information is also required in 112.8 (c)(6) under Section 4.3.6. These record sheets will be maintained for a period of three years. (See Facility Daily Gauging, Terminal Inspection Reports, Monthly Leak Inspections under Terminal file and Quarterly Floating Roof Visual Inspection Form).

INSTRUCTIONS: This checklist is to be completed monthly and is to complement daily and weekly inspections. If any items need attention, they should be noted on the second page of this Table and corrected as soon as possible. These inspection reports should be maintained for at least three years.

Inspected by _____ Date Inspected _____

Field Supervisor _____

Storage Tanks (Include Crude Oil and Diesel Fuel Tanks)						
Good	Needs Attention			Good	Needs Attention	
		Foundation				Support
		Equalization lines				Vacuum protection
		Shell				Fittings/flanges
		Alarms/level indicator				Manways
		Vents				Thief hatch
Lines and Fittings (Transfer Pipelines and other Lines and Fittings)						
Good	Needs Attention			Good	Needs Attention	
		Above-ground flowline				Corrosion protection
		Flanges				Screw fittings
		Coating				Bleeders
		Gate Valves				Check Valves
Pumps						
Good	Needs Attention			Good	Needs Attention	
		Seals				Bleeders
		Flanges				Screw fittings
Secondary Containment (Dikes, Curbs, Trenches, etc.)						
Good	Needs Attention			Good	Needs Attention	
		Berm				Wall
		Drain				Other

Table B-5 – Equipment Inspection Checklist (continued)

Loading						
Good	Needs Attention			Good	Needs Attention	
		Valves				Drip pans
		Valve Locks/seals				Other
Spill Kits and Spill Response Supplies						
Good	Needs Attention			Good	Needs Attention	
		Sorbent socks				Containment boom
		Sorbent boom				Other
Comments						
Additional information and records pertaining to this issue can be found at the Facility Administration Office.						

Table B-6 – Record of Drainage of Rainwater from Diked Areas

This information is to be included as shown in Section 4.3.3, required by 112.8(c)(3). These records sheets will be maintained for three years.

Date of Drainage	Time of Drainage	Employee/Supervisor Present	Duration of Drainage	Was Water Free of Any Sign of Oil?	Valves Locked

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Vancouver Energy

Operations Spill Protection, Control, and Countermeasure Plan

EFSEC Application for Site Certification No. 2013-01
Docket No. EF131590

Appendix C
Regulatory Cross Reference Lists

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Appendix C.1
Cross Reference to Chapter 173-180 WAC
Part F: Prevention Plans for Class 1 Facilities
Section 173-180-630 - Plan Content Requirements

WAC Section	Requirement	Section/Figure
173-180-630 (1)	Each plan must contain a submittal agreement which: (a) includes the name, address, and phone number of submitting party;	Page vi
	(b) verifies acceptance of the plan by the owner or operator of the facility by either signature of the owner or operator or signature by a person with authority to bind the corporation which owns or operates the facility;	Page vi
	(c) commits the owner or operator of the facility to execution of the plan, and verifies that the plan holder is authorized to make appropriate expenditures in order to execute plan provisions; and	Page vi
	(d) includes the name, location, and address of the facility, type of facility, starting date of operations, types of oil(s) handled, and oil volume capacity.	Page vi and Table 1.1
173-180-630 (2)	Each plan must include a log sheet to record amendments to the plan. The log sheet must be placed at the front of the plan. The log sheet must provide for a record of the section amended, the date that the old section was replaced with the amended section, verification that ecology was notified of the amendment pursuant to WAC 173-180-670, and the initials of the individual making the change. A description of the amendment and its purpose must also be included in the log sheet, or filed in the form of an amendment letter immediately after the log sheet.	Page viii
173-180-630 (3)	Each plan must include a detailed table of contents based on chapter, section, and appendix numbers and titles, as well as tables and figures.	Page i to iii
173-180-630 (4)	Each plan must describe its purpose and scope, including, but not limited to:	Section 1
	(a) the onshore facility or offshore facility operations covered by the plan;	Section 1.2 and 2.1
	(b) The relationship of the prevention plan to other oil spill plans and operation manuals held by the facility;	Section 1.4
	(c) The relationship of the plan to all applicable local, state, regional, tribal, and federal government prevention plans, including the Washington statewide master oil and hazardous substance spill contingency plan; and	Section 1.4.3
	(d) Information required under facility oil spill contingency plan standards in chapter 173-182 WAC; spill prevention, countermeasure, and control plan standards in 40 C.F.R. 112.4(a); or facility operations manual standards in 33 C.F.R. 154.310 (1-4) may be used to address (a) of this subsection.	N/A
173-180-630 (5)	Each plan must describe the procedures and time periods for updating the plan and distributing the plan and updates to appropriate parties.	Section 1.5
173-180-630 (6)	Each plan must establish that the facility is in compliance with the Federal Oil Pollution Act of 1990. Within thirty calendar days after federal deadlines for facility requirements under that act, the plan must be updated to include any applicable evidence of compliance.	Section 1.3

WAC Section	Requirement	Section/Figure
173-180-630 (7)	Within thirty calendar days after evidence of financial responsibility is required by rules adopted by ecology pursuant to chapter 88.46 RCW, the plan must be updated to include any applicable evidence of compliance.	Section 1.5
173-180-630 (8)	Each plan must describe the types and frequency of spill prevention training provided to personnel.	Section 3
173-180-630 (9)	Each plan must provide evidence that the facility has an approved oil spill contingency plan or has submitted a contingency plan to ecology in accordance with standards and deadlines established by chapter 173-182 WAC.	Section 1.4.1
173-180-630 (10)	Each plan must address the facility's alcohol and drug use awareness and treatment program for all facility personnel. (a) The plan must include at a minimum: (i) Documentation of an alcohol and drug awareness program. The awareness program must provide training and information materials to all employees on recognition of alcohol and drug abuse; treatment opportunities, including opportunities under the Alcohol and Drug Addiction Treatment and Support Act pursuant to chapter 388-800 WAC; and applicable company policies; (ii) A description of the facility's existing drug and alcohol treatment programs; and (iii) A description of existing provisions for the screening of supervisory and key employees for alcohol and drug abuse and related work impairment.	Section 3.4
	(b) Evidence of conformance with applicable federal "Drug-Free Workplace" guidelines or other federal or state requirements may be used to address (a) of this subsection.	N/A
173-180-630 (11)	Each plan must describe the facility's existing maintenance and inspection program. (a) The description must summarize: (i) Frequency and type of all regularly scheduled inspection and preventive maintenance procedures for tanks; pipelines; other key storage, transfer, or production equipment, including associated pumps, valves, and flanges; and overpressure safety devices and other spill prevention equipment; (ii) integrity testing of storage tanks and pipelines, including but not limited to frequency; pressures used (including ratio of test pressure to maximum operating pressure, and duration of pressurization); means of identifying that a leak has occurred; and measures to reduce spill risk if test material is product; (iii) external and internal corrosion detection and repair; (iv) Damage criteria for equipment repair or replacement; and (v) Any other aspect of the maintenance and inspection program.	Section 4
	(b) The plan must include a current index of maintenance and inspection records of the storage and transfer facilities and related equipment five-year period for subsequent activity.	Section 4 and Appendix B
	(c) Documentation required under 40 C.F.R. 112.7(e) or 33 C.F.R. 154 Subparts C and D may be used to address elements of this subsection.	N/A

WAC Section	Requirement	Section/Figure
	(d) Existing copies of the facility's maintenance and inspection records for the five-year period prior to plan submittal must be maintained and must be available for inspection if requested by ecology. The plan must document the use of a system to maintain such records over a five-year period for subsequent activity.	N/A
173-180-630 (12)	Each plan must describe spill prevention technology currently installed and in use, including:	Section 5
	(a) Tank and pipeline materials and design	Section 5
	(b) Storage tank overflow alarms, low level alarms; tank overflow cut-off switches; automatic transfer shutdown systems; methods to alert operators; system accuracy; and tank fill margin remaining at time of alarm activation in terms of vertical distance, quantity of liquid, and time before overflow would occur at maximum pumping rate; documentation required under 40 C.F.R. 112.7 (e)(2)(viii) or 33 C.F.R. 154.310 (a)(12-13) may be used to address some or all of these elements;	Section 5.3.1 and 5.1.5
	(c) Leak detection systems for both active and non-active pipeline conditions, including detection thresholds in terms of duration and percentage of pipeline flow; limitations on system performance due to normal pipeline events; and procedures for operator response to leak alarms;	Section 5.1.5
	(d) Documentation required under 40 C.F.R. 112.7 (e)(3) may be used to address some or all of these elements;	N/A
	(e) Rapid pump and valve shutdown procedures, including means of ensuring that surge and over-pressure conditions do not occur; rates of valve closure; sequence and time duration (average and maximum) for entire procedure; automatic and remote control capabilities; and displays of system status for operator use;	Section 5.1.10
	(f) Documentation required under 40 C.F.R. 112.7 (e)(3) may be used to address some or all of these elements;	N/A
	(g) Methods to minimize post-shutdown residual drain-out from pipes, including criteria for locating valves; identification of all valves (including types and means of operation) that may be open during a transfer process; and any other techniques for reducing drain-out;	N/A
	(h) Means of relieving pressure due to thermal expansion of liquid in pipes during quiescent periods;	5.5
	(i) Secondary containment, including capacity, permeability, and material design;	Section 5.2.4, 5.3.2, 5.5
	(j) Documentation required under 40 C.F.R. 112.7 (e)(1) and (2)(iii-iv) may be used to address some or all of these elements;	N/A
	(k) Internal and external corrosion control coatings and monitoring;	N/A
	(l) Storm water and other drainage retention, treatment, and discharge systems, including maximum storage capacities and identification of any applicable discharge permits;	Section 5.8
	(m) Documentation required under 40 C.F.R. 112.7 (e)(1) and (2)(iii and ix) may be used to address some or all of these elements; and	N/A
	(n) Criteria for suspension of operations while leak detection or other spill control systems are inoperative.	Section 5.1.5

WAC Section	Requirement	Section/Figure
173-180-630 (13)	Each plan must describe measures taken to ensure facility site security, including: (a) Procedures to control and monitor facility access; (b) Facility lighting (documentation required under 33 C.F.R. 154.570 may be used to address some or all of this element); (c) Signage; and (d) Right of way identification or other measures to prevent third-party damage (documentation required under 40 C.F.R. 112.7 (e)(3)(v) and (9) may be used to address some or all of this element).	Section 6
173-180-630 (14)	Each plan must list any discharges of oil in excess of twenty-five barrels (one thousand fifty gallons) to the land or waters of the state which occurred during the five-year period prior to the plan submittal date. For each discharge, the plan must describe: (a) Quantity; (b) Type of oil; (c) Geographic location; (d) Analysis of cause, including source(s) of discharged oil and contributing factors (e.g., third party human error, adverse weather, etc.); and (e) Measures taken to remedy the cause and prevent a reoccurrence. *The period between July 1, 1987, and January 1, 1993, the facility must provide existing information regarding (a) through (e) of this subsection for such discharges, and must document the use of a system to record complete information for subsequent discharges.*	Not Applicable (New Facility)
173-180-630 (15)	Each plan must include a detailed and comprehensive analysis of facility spill risks based on the information required in subsections (11) through (14) of this section, and other relevant information. (a) The risk analysis must: (i) Evaluate the construction, age, corrosion, inspection and maintenance, operation, and oil spill risk of the transfer, production, and storage systems in the facility, including piping, tanks, pumps, valves, and associated equipment; (ii) Evaluate spill minimization and containment systems within the facility; (iii) Be prepared under the supervision of (and bear the seal of) a licensed professional engineer or another individual which ecology has deemed to have an acceptable level of expertise. (b) Documentation required under 40 C.F.R. 112.7 (b) and (e) may be used to address some or all of the elements of this subsection.	Appendix B Table B-3, Table B-2
173-180-630 (16)	Each plan must describe how the facility will incorporate those measures that will provide best achievable protection to address the spill risks identified in the risk analysis required in subsection (15) of this section. *Information documented pursuant to 40 C.F.R. 112.7(e) and 33 C.F.R. 154.310 (a)(1-4) may be used to address some or all of these elements of this subsection.*	Appendix B Table B-3
173-180-630 (17)	If the prevention plan is combined with a contingency plan, the prevention plan may incorporate information required in this section by reference if that information is provided in the contingency plan.	The Facility Contingency Plan is a Separate Document

Appendix C.2
Cross Reference to 40 CFR Sections 112.7 and 112.8

Section	Requirement	Section/Figure
112.7	**General requirements for Spill Prevention, Control, and Countermeasure Plans.** If you are the owner or operator of a facility subject to this part you must prepare a Plan in accordance with good engineering practices. The Plan must have the full approval of management at a level of authority to commit the necessary resources to fully implement the Plan. You must prepare the Plan in writing. If you do not follow the sequence specified in this section for the Plan, you must prepare an equivalent Plan acceptable to the Regional Administrator that meets all of the applicable requirements listed in this part, and you must supplement it with a section cross-referencing the location of requirements listed in this part and the equivalent requirements in the other prevention plan. If the Plan calls for additional facilities or procedures, methods, or equipment not yet fully operational, you must discuss these items in separate paragraphs, and must explain separately the details of installation and operational start-up. As detailed elsewhere in this section, you must also:	Page vi Appendix C
112.7 (a)	(1) Include a discussion of your facility's conformance with the requirements listed in this part.	Section 1.1
112.7 (a)	(2) Comply with all applicable requirements listed in this part. Except as provided in § 112.6, your Plan may deviate from the requirements in paragraphs (g), (h)(2) and (3), and (i) of this section and the requirements in subparts B and C of this part, except the secondary containment requirements in paragraphs (c) and (h)(1) of this section, and §§ 112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.9(d)(3), 112.10(c), 112.12(c)(2), and 112.12(c)(11), where applicable to a specific facility, if you provide equivalent environmental protection by some other means of spill prevention, control, or countermeasure. Where your Plan does not conform to the applicable requirements in paragraphs (g), (h)(2) and (3), and (i) of this section, or the requirements of subparts B and C of this part, except the secondary containment requirements in paragraph (c) and (h)(1) of this section, and §§ 112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), and 112.12(c)(11), you must state the reasons for nonconformance in your Plan and describe in detail alternate methods and how you will achieve equivalent environmental protection. If the Regional Administrator determines that the measures described in your Plan do not provide equivalent environmental protection, he may require that you amend your Plan, following the procedures in § 112.4(d) and (e).	N/A

Section	Requirement	Section/Figure
112.7 (a)	(3) Describe in your Plan the physical layout of the facility and include a facility diagram, which must mark the location and contents of each fixed oil storage container and the storage area where mobile or portable containers are located. The facility diagram must identify the location of and mark as "exempt" underground tanks that are otherwise exempted from the requirements of this part under § 112.1(d)(4). The facility diagram must also include all transfer stations and connecting pipes, including intra-facility gathering lines that are otherwise exempted from the requirements of this part under § 112.1(d)(11). You must also address in your Plan: (i) The type of oil in each fixed container and its storage capacity. For mobile or portable containers, either provide the type of oil and storage capacity for each container or provide an estimate of the potential number of mobile or portable containers, the types of oil, and anticipated storage capacities; (ii) Discharge prevention measures including procedures for routine handling of products (loading, unloading, and facility transfers, etc.); (iii) Discharge or drainage controls such as secondary containment around containers and other structures, equipment, and procedures for the control of a discharge; (iv) Countermeasures for discharge discovery, response, and cleanup (both the facility's capability and those that might be required of a contractor); (v) Methods of disposal of recovered materials in accordance with applicable legal requirements; and (vi) Contact list and phone numbers for the facility response coordinator, National Response Center, cleanup contractors with whom you have an agreement for response, and all appropriate Federal, State, and local agencies who must be contacted in case of a discharge as described in § 112.1(b).	Section 2 Section 5 Oil Spill Contingency Plan
112.7 (a)	(4) Unless you have submitted a response plan under § 112.20, provide information and procedures in your Plan to enable a person reporting a discharge as described in § 112.1(b) to relate information on the exact address or location and phone number of the facility; the date and time of the discharge, the type of material discharged; estimates of the total quantity discharged; estimates of the quantity discharged as described in § 112.1(b); the source of the discharge; a description of all affected media; the cause of the discharge; any damages or injuries caused by the discharge; actions being used to stop, remove, and mitigate the effects of the discharge; whether an evacuation may be needed; and, the names of individuals and/or organizations who have also been contacted.	Response Plan
112.7 (a)	(5) Unless you have submitted a response plan under § 112.20, organize portions of the Plan describing procedures you will use when a discharge occurs in a way that will make them readily usable in an emergency, and include appropriate supporting material as appendices.	Response Plan
112.7(b)	Where experience indicates a reasonable potential for equipment failure (such as loading or unloading equipment, tank overflow, rupture, or leakage, or any other equipment known to be a source of a discharge), include in your Plan a prediction of the direction, rate of flow, and total quantity of oil which could be discharged from the facility as a result of each type of major equipment failure.	Appendix B, Table B-3

Section	Requirement	Section/Figure
112.7(c)	Provide appropriate containment and/or diversionary structures or equipment to prevent a discharge as described in § 112.1(b), except as provided in paragraph (k) of this section for qualified oil-filled operational equipment, and except as provided in § 112.9(d)(3) for flowlines and intra-facility gathering lines at an oil production facility. The entire containment system, including walls and floor, must be capable of containing oil and must be constructed so that any discharge from a primary containment system, such as a tank, will not escape the containment system before cleanup occurs. In determining the method, design, and capacity for secondary containment, you need only to address the typical failure mode, and the most likely quantity of oil that would be discharged. Secondary containment may be either active or passive in design. At a minimum, you must use one of the following prevention systems or its equivalent:	Section 5
112.7(c)	(1) For onshore facilities: (i) Dikes, berms, or retaining walls sufficiently impervious to contain oil; (ii) Curbing or drip pans; (iii) Sumps and collection systems; (iv) Culverting, gutters, or other drainage systems; (v) Weirs, booms, or other barriers; (vi) Spill diversion ponds; (vii) Retention ponds; or (viii) Sorbent materials.	Section 5
112.7(c)	(2) For offshore facilities: (i) Curbing or drip pans; or (ii) Sumps and collection systems.	N/A
112.7(d)	Provided your Plan is certified by a licensed Professional Engineer under § 112.3(d), or, in the case of a qualified facility that meets the criteria in § 112.3(g), the relevant sections of your Plan are certified by a licensed Professional Engineer under § 112.6(d), if you determine that the installation of any of the structures or pieces of equipment listed in paragraphs (c) and (h)(1) of this section, and §§ 112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), and 112.12(c)(11) to prevent a discharge as described in § 112.1(b) from any onshore or offshore facility is not practicable, you must clearly explain in your Plan why such measures are not practicable; for bulk storage containers, conduct both periodic integrity testing of the containers and periodic integrity and leak testing of the valves and piping; and, unless you have submitted a response plan under § 112.20, provide in your Plan the following:	N/A
112.7(d)	(1) An oil spill contingency plan following the provisions of part 109 of this chapter.	N/A
112.7(d)	(2) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.	N/A
112.7(e)	*Inspections, tests, and records.* Conduct inspections and tests required by this part in accordance with written procedures that you or the certifying engineer develop for the facility. You must keep these written procedures and a record of the inspections and tests, signed by the appropriate supervisor or inspector, with the SPCCP for a period of three years. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph.	Section 4
112.7(f)	*Personnel, training, and discharge prevention procedures.* (1) At a minimum, train your oil-handling personnel in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and, the contents of the facility SPCCP.	Section 3
112.7(f)	(2) Designate a person at each applicable facility who is accountable for discharge prevention and who reports to facility management.	Page vi

Section	Requirement	Section/Figure
112.7(f)	(3) Schedule and conduct discharge prevention briefings for your oil-handling personnel at least once a year to assure adequate understanding of the SPCCP for that facility. Such briefings must highlight and describe known discharges as described in § 112.1(b) or failures, malfunctioning components, and any recently developed precautionary measures.	Documented in the Facility Spill Contingency Plan
112.7(g)	*Security (excluding oil production facilities).* Describe in your Plan how you secure and control access to the oil handling, processing and storage areas; secure master flow and drain valves; prevent unauthorized access to starter controls on oil pumps; secure out-of-service and loading/unloading connections of oil pipelines; and address the appropriateness of security lighting to both prevent acts of vandalism and assist in the discovery of oil discharges.	Section 6
112.7(h)	*Facility tank car and tank truck loading/unloading rack (excluding offshore facilities).* (1) Where loading/unloading rack drainage does not flow into a catchment basin or treatment facility designed to handle discharges, use a quick drainage system for tank car or tank truck loading/unloading racks. You must design any containment system to hold at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility.	Section 5.2.4
112.7(h)	(2) Provide an interlocked warning light or physical barrier system, warning signs, wheel chocks or vehicle brake interlock system in the area adjacent to a loading/unloading rack, to prevent vehicles from departing before complete disconnection of flexible or fixed oil transfer lines.	Section 5.2.2
112.7(h)	(3) Prior to filling and departure of any tank car or tank truck, closely inspect for discharges the lowermost drain and all outlets of such vehicles, and if necessary, ensure that they are tightened, adjusted, or replaced to prevent liquid discharge while in transit.	Section 5.2.3
112.7(i)	If a field-constructed aboveground container undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge or failure due to brittle fracture or other catastrophe, or has discharged oil or failed due to brittle fracture failure or other catastrophe, evaluate the container for risk of discharge or failure due to brittle fracture or other catastrophe, and as necessary, take appropriate action.	Section 5.1.9
112.7(j)	In addition to the minimal prevention standards listed under this section, include in your Plan a complete discussion of conformance with the applicable requirements and other effective discharge prevention and containment procedures listed in this part or any applicable more stringent State rules, regulations, and guidelines.	Section 5
112.7(k)	*Qualified Oil-filled Operational Equipment.* The owner or operator of a facility with oil-filled operational equipment that meets the qualification criteria in paragraph (k)(1) of this sub-section may choose to implement for this qualified oil-filled operational equipment the alternate requirements as described in paragraph (k)(2) of this sub-section in lieu of general secondary containment required in paragraph (c) of this section.	N/A
112.7(k)	(1) *Qualification Criteria—Reportable Discharge History:* The owner or operator of a facility that has had no single discharge as described in § 112.1(b) from any oil-filled operational equipment exceeding 1,000 U.S. gallons or no two discharges as described in § 112.1(b) from any oil-filled operational equipment each exceeding 42 U.S. gallons within any twelve month period in the three years prior to the SPCCP certification date, or since becoming subject to this part if the facility has been in operation for less than three years (other than oil discharges as described in § 112.1(b) that are the result of natural disasters, acts of war or terrorism); and	N/A (New Facility)

Section	Requirement	Section/Figure
112.7(k)	(2) *Alternative Requirements to General Secondary Containment.* If secondary containment is not provided for qualified oil-filled operational equipment pursuant to paragraph (c) of this section, the owner or operator of a facility with qualified oil-filled operational equipment must: (i) Establish and document the facility procedures for inspections or a monitoring program to detect equipment failure and/or a discharge; and (ii) Unless you have submitted a response plan under § 112.20, provide in your Plan the following: (A) An oil spill contingency plan following the provisions of part 109 of this chapter. (B) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.	N/A (Secondary Containment is Provided)
112.8	**Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities).** If you are the owner or operator of an onshore facility (excluding a production facility), you must:	N/A
112.8 (a)	(a) Meet the general requirements for the Plan listed under § 112.7, and the specific discharge prevention and containment procedures listed in this section.	N/A
112.8 (b)	*Facility drainage.* (1) Restrain drainage from diked storage areas by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. You may empty diked areas by pumps or ejectors; however, you must manually activate these pumps or ejectors and must inspect the condition of the accumulation before starting, to ensure no oil will be discharged.	Section 5.8.1
	(2) Use valves of manual, open-and-closed design, for the drainage of diked areas. You may not use flapper-type drain valves to drain diked areas. If your facility drainage drains directly into a watercourse and not into an on-site wastewater treatment plant, you must inspect and may drain uncontaminated retained stormwater, as provided in paragraphs (c)(3)(ii), (iii), and (iv) of this section.	Section 5.8.1
	(3) Design facility drainage systems from undiked areas with a potential for a discharge (such as where piping is located outside containment walls or where tank truck discharges may occur outside the loading area) to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility. You must not locate catchment basins in areas subject to periodic flooding.	Section 5.8.2
	(4) If facility drainage is not engineered as in paragraph (b)(3) of this section, equip the final discharge of all ditches inside the facility with a diversion system that would, in the event of an uncontrolled discharge, retain oil in the facility.	N/A
	(5) Where drainage waters are treated in more than one treatment unit and such treatment is continuous, and pump transfer is needed, provide two "lift" pumps and permanently install at least one of the pumps. Whatever techniques you use, you must engineer facility drainage systems to prevent a discharge as described in § 112.1(b) in case there is an equipment failure or human error at the facility.	Section 5.8.3
112.8 (c)	***Bulk storage containers.*** (1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature.	Section 5.3.1

Section	Requirement	Section/Figure
	(2) Construct all bulk storage tank installations (except mobile refuelers and other non-transportation-related tank trucks) so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must ensure that diked areas are sufficiently impervious to contain discharged oil. Dikes, containment curbs, and pits are commonly employed for this purpose. You may also use an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a facility catchment basin or holding pond.	Section 5.3.2
	(3) Not allow drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent into an open watercourse, lake, or pond, bypassing the facility treatment system unless you: (i) Normally keep the bypass valve sealed closed. (ii) Inspect the retained rainwater to ensure that its presence will not cause a discharge as described in § 112.1(b). (iii) Open the bypass valve and reseal it following drainage under responsible supervision; and (iv) Keep adequate records of such events, for example, any records required under permits issued in accordance with §§ 122.41(j)(2) and 122.41(m)(3) of this chapter.	Section 5.8.1
	(4) Protect any completely buried metallic storage tank installed on or after January 10, 1974 from corrosion by coatings or cathodic protection compatible with local soil conditions. You must regularly leak test such completely buried metallic storage tanks.	N/A
	(4) Protect any completely buried metallic storage tank installed on or after January 10, 1974 from corrosion by coatings or cathodic protection compatible with local soil conditions. You must regularly leak test such completely buried metallic storage tanks.	N/A
	(5) Not use partially buried or bunkered metallic tanks for the storage of oil, unless you protect the buried section of the tank from corrosion. You must protect partially buried and bunkered tanks from corrosion by coatings or cathodic protection compatible with local soil conditions.	N/A
	(6) Test or inspect each aboveground container for integrity on a regular schedule and whenever you make material repairs. You must determine, in accordance with industry standards, the appropriate qualifications for personnel performing tests and inspections, the frequency and type of testing and inspections, which take into account container size, configuration, and design (such as containers that are: shop-built, field-erected, skid-mounted, elevated, equipped with a liner, double-walled, or partially buried). Examples of these integrity tests include, but are not limited to: visual inspection, hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or other systems of non-destructive testing. You must keep comparison records and you must also inspect the container's supports and foundations. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices satisfy the recordkeeping requirements of this paragraph.	Section 4
	(7) Control leakage through defective internal heating coils by monitoring the steam return and exhaust lines for contamination from internal heating coils that discharge into an open watercourse, or pass the steam return or exhaust lines through a settling tank, skimmer, or other separation or retention system.	Section 5.3.1

Section	Requirement	Section/Figure
	(8) Engineer or update each container installation in accordance with good engineering practice to avoid discharges. You must provide at least one of the following devices: (i) High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station. In smaller facilities an audible air vent may suffice. (ii) High liquid level pump cutoff devices set to stop flow at a predetermined container content level. (iii) Direct audible or code signal communication between the container gauger and the pumping station. (iv) A fast response system for determining the liquid level of each bulk storage container such as digital computers, telepulse, or direct vision gauges. If you use this alternative, a person must be present to monitor gauges and the overall filling of bulk storage containers. (v) You must regularly test liquid level sensing devices to ensure proper operation.	Section 5.3.1
	(9) Observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge as described in § 112.1(b).	N/A
	(10) Promptly correct visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts. You must promptly remove any accumulations of oil in diked areas.	Section 5.1.1
	(11) Position or locate mobile or portable oil storage containers to prevent a discharge as described in § 112.1(b). Except for mobile refuelers and other non-transportation-related tank trucks, you must furnish a secondary means of containment, such as a dike or catchment basin, sufficient to contain the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation.	N/A
112.8 (d)	*Facility transfer operations, pumping, and facility process.* (1) Provide buried piping that is installed or replaced on or after August 16, 2002, with a protective wrapping and coating. You must also cathodically protect such buried piping installations or otherwise satisfy the corrosion protection standards for piping in part 280 of this chapter or a State program approved under part 281 of this chapter. If a section of buried line is exposed for any reason, you must carefully inspect it for deterioration. If you find corrosion damage, you must undertake additional examination and corrective action as indicated by the magnitude of the damage.	Section 5.5
	(2) Cap or blank-flange the terminal connection at the transfer point and mark it as to origin when piping is not in service or is in standby service for an extended time.	Section 6
	(3) Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction.	Section 2.1.4
	(4) Regularly inspect all aboveground valves, piping, and appurtenances. During the inspection you must assess the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. You must also conduct integrity and leak testing of buried piping at the time of installation, modification, construction, relocation, or replacement.	Section 4
	(5) Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations.	Section 5.1.7

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