KANE ENVIRONMENTAL INC

SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN (SPCC)

Management Approval
(40 CFR 112.7)

I hereby certify that this SPCC Plan will be implemented as described herein.

Signature: _____

Name: Mick Reeves

Title: Chief Engineer

Date: 4/30/14

Professional Engineering Approval
(40 CFR 112.7)

I have reviewed the facility, and being familiar with the provisions of 40 CFR, Part 112, attest that this SPCC Plan has been prepared in accordance with engineering practices consistent with the local standard of practice.

Prepared by:

_____
John Kane, P.G.
Principal, Kane Environmental

4/29/2014
Date

Reviewed/checked by:

_____
Thom Booth, P.E., L.e.G., L.h.G.

4/29/2014
Date

Expires: May 11, 2015

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Prepared by:

Jason Souza, CHMM
Senior Environmental Manager, Kane Environmental

11-11-08
Date

Reviewed / Checked by:

Gary Arndt, PE
Parametrix, Inc.

11-11-08
Date

GARY ARNDT
STATE OF WASHINGTON
28456
REGISTERED PROFESSIONAL ENGINEER
11-11-08
EXPIRES:

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1.0 General Information

1.1 Policy Statement

It is the policy of the Seattle Steam Company to prevent the discharge of oil and hazardous substances and to provide for prompt and coordinated response to contain and clean up spills, should they occur.

This plan outlines Seattle Steam Company procedures conducted to minimize the potential of a release reaching navigable waters.

1.2 Regulatory Considerations

This plan has been prepared for the Seattle Steam Company's underground storage tank (UST) located at the above-referenced facility.

This plan is prepared to meet applicable federal, state, and local laws that regulate a facility that has the potential to discharge oil or hazardous substances. Specifically, this plan is prepared in conformance with the following Code of Federal Regulation (CFR): 40 CFR 112 - SPCC Plans.

This plan covers petroleum, oil and lubricants (POL) products stored and used at the referenced facility. Specifically, the site's UST system is used to hold diesel-range heating fuel (#2).

1.3 SPCC Plan Review Requirements

In accordance with 40 CFR 112.5, the SPCC Plan will be reviewed and evaluated every three years. This review will be conducted by a Certified Hazardous Materials Manager and reviewed by a Professional Engineer. The SPCC Plan will be amended within six months of changes in the facilities described herein, which materially affect any portion of this plan. This amendment must also be conducted by a Certified Hazardous Materials Manager (CHMM) and reviewed by a Professional Engineer. This plan should also be submitted, reviewed, and potentially amended upon the direction of the U.S. EPA Region X Administrator in accordance with 40 CFR 112.4 if the following occur:

- A single spill event occurs during which more than 1,000 gallons of oil reach navigable waters of the U.S., or

- Two federally reportable spills occur within a 12-month period, which violate applicable water quality standards or cause a sheen upon the water.

1.4 Facility Response Plan Requirements

A facility response plan (FRP) may be needed if the owner or operator of any non-transportation-related onshore facility that, because of its location, could reasonably be expected to cause harm to the environment by discharging oil into or on navigable waters or adjoining shorelines. The FRP should be prepared according to 40 CFR 112.20. If a facility meets the following criteria, a FRP may be needed:

1) The facility transfers oil over water to or from vessels and has a total oil storage capacity greater than or equal to 42,000 gallons; or
2) The facility has a total oil storage capacity greater than or equal to 1 million gallons and other factors are applicable under 40CFR112.20(f)(ii).

The Seattle Steam Company facility, as such will not need a need a facility response plan. No oil-over-water transfers occur nor does the facility house more than 1 million gallons of applicable product.

2.0 Facility Description

2.1 Facility Name

The facility covered under this plan is Seattle Steam Company. The facility is at the following location: 1319 Western Avenue, Seattle, Washington (the mailing address is the same). The facility telephone number is (206) 623-0442. The tank configuration is operated by Seattle Steam Company (whose mailing address is the same as the above-referenced). The primary function of the tank configuration is to supply backup power to the boilers which generate the steam for the company's customers.

2.2 Location

The facility is located in Seattle, Washington (see Figure 1, *Site Vicinity Plan*). Seattle Steam Company is located in a moderate climate with an average maximum temperature of 75 degrees Fahrenheit (F) and average minimum temperature of 34 degrees F. Average annual precipitation in the form of rainwater is 38 inches per year and average snowfall is 4 inches per year.

2.3 Physical Description

The Seattle Steam Company tank configuration is to provide fuel to the boilers which generate steam for their customers in situations when natural gas is unavailable. The facility was initially opened in approximately 1915 and includes one permanent underground storage tank. The total underground storage capacity is 126,000 gallons. A second < 250-gallon above-ground tank, associated with an emergency backup generator. Construction schematics of the underground storage tank are included in Appendix A; no as-built drawing of the emergency generator is included.

The nearest navigable waterbody that would be impacted by a spill from this facility is Elliott Bay. The waterbody is located approximately 350 feet from the facility to the west.

3.0 Spill History

For various reasons, incidental releases may have occurred from the facility. Only one significant spill has been documented at the facility; at no time was the spill at risk of reaching a drain at the facility. In 2007, a small amount of mercury was spilled on a concrete floor beneath boiler #4. The area was cordoned off and a subcontracted response team was called to handle the cleanup in accordance with Federal, State, and local regulations.

For each spill reported, the following information will be recorded as appropriate:

1. Type and amount of oil spilled
2. Location, date and time of spill
3. Who reported the spill and how
4. Waterbody affected
5. Description of physical damage
6. Cause of spill
7. Remediation, disposal method
8. Action taken to prevent recurrence
9. Ecology Spill Number and/or RECKEY Number (if appropriate)

The attached forms in Appendix B will assist in reporting and recording spills. These forms will be completed at the time of a known release and a copy kept with the SPCC plan at the facility.

4.0 Emergency Spill Information

In the event of a recognized spill, all facility personnel have the authority and responsibility to report the release to the facility manager, Mick Reeves. The facility manager will be contacted immediately upon discovery of the release. Mick Reeves can be contacted at (206) 623-0442 during work hours, and at the following emergency number; (206) 658-2028. Additional emergency contact numbers are summarized below:

Emergency Contact	Day Phone	Emergency Phone
Ron Hess, Maintenance Foreman	206-623-0442	206-658-2028
Randy Erickson, Corporate Safety Officer	206-623-0442	206-658-2028
Seattle Fire Department	911	

4.1 Discharges to Water Notification Requirements

The supervisor should notify Washington State Department of Ecology (425.649.7000) immediately of any discharge of hazardous substance or of oil to surface water.

4.2 Discharges to Land Notification Requirements

In the event of a release to land, the supervisor should notify Washington State Department of Ecology

(Ecology) immediately of any discharge of hazardous substance. The supervisor should notify Ecology immediately of any discharge of oil in excess of 55 gallons. The supervisor should notify Ecology within 48 hours of any discharge of oil in excess of 10 gallons but less than 55 gallons. The supervisor should notify Ecology within 30 days (written) of any discharge of oil from 1 to 10 gallons. The supervisor should notify Ecology within 48 hours of discharge in excess of 55 gallons to an impermeable secondary containment area.

Spill response equipment is located at various well-demarcated areas within the facility. The spill response equipment consists of the following items:

Spill Kit inventory:

1. Mercury
    a) Mercury absorbent sponges
    b) Mini-vacuum
    c) Dry powder absorbent
    d) Various scoops
    e) Goggles
2. Oil / Petroleum
    a) Oil booms
    b) Oil absorbents
    c) Rubber gloves
    d) Drain cover
3. Chemical
    a) Splash proof goggles
    b) Tyvex chemical protective coveralls
    c) Chemical protective gloves
    d) Chemical absorbents

5.0 Potential Spill Sources (40 CFR 112.7 (b))

The potential spill sources at this facility consist of one minor above ground storage tank (AST) and one underground storage tank (UST); and 200 feet of above ground piping and zero feet of below ground piping. The maximum potential spill sources are described below:

Type of Event:	**Tank Rupture**
Estimated Total Max Quantity of Spill:	126,000 (gallons)
Direction of Flow:	East, into the basement
Rate of Flow:	Rate of flow of discharged product would be variable and dependent upon size and location of rupture. A rupture is not considered likely based upon the construction of the system.
Containment:	** Based upon the adjacent basement-contained area The discharged product would be contained by the diked storage area.

Type of Event:	**Tank Overflow**
Estimated Total Quantity of Spill:	The total quantity is dependent upon the length of time the tank is overflowing. Based on the delivery system, the monitoring during filling and shutdown controls, it is estimated that less than 81 gallons would be possible (e.g. dual control, automatic shutoff switches). This would only be possible if the entire 50' of three-inch diameter of fuel transfer hose ruptured during delivery.
Direction of Flow:	Even with grade, eventually west
Rate of Flow:	The delivery rate is approximately 10 gpm.
Containment:	The area where the refueling occurs is contained within a 40'x40'x1' diked area, the drain from which is sealed during refueling events. Dual control (one person at the fueling truck and one person at the UST) as well as effectively communicating the gallons the UST will accept prior to beginning fueling are also implemented as engineering procedures to prevent over-fueling.

Type of Event:	**Pipe Rupture** – one inch diameter pipe, 200 linear feet
Estimated Total Quantity of Spill:	Total quantity would be based on type of pipe rupture and is estimated not to exceed ten gallons based on a complete failure which would drain the entire 200 feet of pipe.
Direction of Flow:	East, into diked basement area.
Rate of Flow:	Rate of flow would be dependent upon the nature of the failure and the static head at the point of the rupture. However, in the event of a catastrophic failure of the 1" line (during a seismic event, for example) the total volume of product would not exceed ten gallons (estimated 8.2 gallons).
Containment:	The transfer pumps have a flow-rate / pressure interrupt system. Any sudden loss of transfer pressure would automatically sent the transfer pumps into shut-down. Personnel would be automatically notified due to the boiler shut-down. The resultant spill would be addressed with spill-response kits; any product which bypassed spill response crews and did drain into a sewer would be in a sump with a normally-closed pump switch. These sumps drain to the sanitary sewer, leaving the crew with ability to pump out the sump. The sanitary sewer district (and others and applicable) would be notified to prevent the spilled material from impacting the POTW.

6.0 Facility Containment and Drainage

Secondary containment, diversionary structures or equipment to prevent oil from reaching navigable water is practical and currently being properly implemented. Therefore, a strong oil spill contingency plan and a written commitment of manpower, equipment and materials is not needed.

The following sections discuss facility containment features in place to control the release of petroleum hydrocarbons in the event of a spill. In addition, the facility drainage is described including the drainage patterns from the tank storage areas.

6.1 Facility Containment (40 CFR 112.7(e)(2)(ii))

Secondary containment of some type is a requirement for all tanks at the facility. The type of containment used is often a function of the size of the tank and its location. It may consist of double walled tanks, berms, dikes, curbs, a drainage system leading to a sump, diversion or retention ponds or any other system that will contain the flow from the primary storage tank if it leaks. The material of construction must be sufficiently impermeable to the stored liquid to be able to contain it. Secondary containment should be designed to contain the volume of the largest tank or container within the containment, plus sufficient volume for precipitation.

The following information details the containment systems at this facility:

Tank ID #: 1 - AST for Backup Generator	
Tank Type:	AST
Size of Storage Compartment:	< 250 gallons
Size of Secondary Containment:	11,952 gallons
Comments:	This is a built-in tank for an emergency generator. Rupture is highly unlikely without catastrophically destroying the generator unit.

Tank ID #: 2 - UST for Backup Power	
Tank Type:	UST
Size of Storage Compartment:	126,000 gallons
Size of Secondary Containment:	> 126,000 gallons
Comments:	This is a triple-walled, concrete reinforced UST with a capture sump. In the event of a catastrophic failure of all three walls, the product would be contained in a basement area (40'x40'x3', or approximately 400,000 gallons) the drainage from which is controlled with a

Diked Storage Areas:

Diked Area Number:	Capacity of Containment Dike (gallons)	Type of Liner	Tank Numbers of tanks within Diked Area	Largest Tank Capacity (gallons)	Valves Manually Operated Only	Dike Construction
1	11,952	Concrete Dike	One < 250 gallon AST	< 250	Not Applicable – modular construction	Concrete
2	> 126,000	Two concrete walls	One	126,000	One	Concrete

Un-diked Storage Areas:

There are no tanks in areas that are not contained within diked or double-wall contained storage areas.

6.2 Facility Drainage

Facility drainage patterns are shown on the attached site plan, Figure 2. The flow patterns are dictated by the presence of snow, ice, surface materials (asphalt, concrete, gravel, silt, etc) drainage ditches and surface topography. The following table details the drainage patterns:

Drainage Path Number:	Tank Numbers of tanks in Drainage Path	Does this Drainage Path flow towards a Water Body?	Name of Nearest Surface Water Body	Distance from Nearest Surface Water Body (ft)	Bypass Valve normally in Closed Position?
1	1	Yes	Elliott Bay	350	Yes[1]
2	2	No	Elliott Bay	350	Yes[2]

Drainage of water from a diked area that empties directly into an open water body will be observed for water quality prior to drainage. Currently, drainage of water from a diked storage area is observed for water quality. Records will be kept of these events as described in Section 10.

[1] Since the tank referenced here is a modular style associated with the backup generator, a situation where a release might occur (outside of refueling) would be extremely unlikely and could only result as a result of the structural failure of the entire building surrounding the generator. During refueling, the drain is in a closed position by means of a spill mat covering the discharge point.

[2] The UST has two concrete reinforced walls containing the iron tank. An air void is between the two concrete walls; this air void drains regularly to a sump with a normally-closed valve. Redundancy to all of these systems exists since a failure of all of three backups would result in the adjacent basement sump area being filled with the product; the drain from which is also normally closed.

7.0 Tanks

The facility maintains one AST with a total capacity of < 250 gallons and one UST with a total capacity of 126,000 gallons. Design and/or as built drawings illustrating the storage tank construction details are included in Appendix A.

8.0 Facility Transfer Operations

The facility has approximately 200 feet of above ground piping and 0 feet of below ground piping. The above ground piping is primarily used for conveyance of the fuel oil to the steam boiler(s). The piping material consists of schedule 40 iron pipe.

No mobile tanks are on the site.

No buried product pipe is on the site.

No pipelines are out-of-service; all pipelines are left unpressurized and in stand-by for near immediate (on-call / on-demand) use.

Above ground pipe supports were visually inspected and appear to be adequate to minimize abrasion and corrosion and are designed to allow for expansion and contraction. The pipe system is inspected regularly by maintenance personnel as part of the operating procedures for the facility maintenance crew.

No above-ground pipe systems are located in areas where vehicle traffic can occur.

9.0 Facility Loading/Unloading

Loading/unloading procedures meet the minimum requirements and regulations of the Department of Transportation (49 CFR Parts 171,173,174, 177, and 179).

During transfer operations for the facility equipment, the equipment operator will not leave the filling area during the transfer process. Warning signs will be posted in the tank area to inform operators to complete disconnecting of hoses and transfer lines before departing the area. Upon completion of the transfer operations, the facility personnel and the operator of the equipment are responsible for tightening outlets to prevent liquid leakage during transit.

Currently, the facility fuel source is provided under separate contract by Petit Oil. The transfer rate is 10 (gpm). Petit Oil, presumptively operating with their own SPCC, is stationed at and responsible for the truck transfer of the oil including any spillage or containment measures included therein. Prior to beginning any transfer of oil onto Seattle Steam Company property, tank levels and gallon filling requirements will be manually and visually verified and communicated to the Petit Oil Company representative to help avoid the potential for overfilling from the very onset of filling activities.

The transfer driver from Petit Oil is kept in verbal and visual contact with the Shift Engineer from Seattle Steam Company, who is stationed at the UST / AST end of the transfer. During the transfer, the Shift Engineer shall constantly monitor tank levels manually to back-up the automatic flow shut-off valve and

alarm system protection for tank overfilling. Immediately shot down of the transfer operation shall be initiated by the Shift Engineer to the Petit Oil representative who will manually shut down the truck-mounted pump drives, if an overfill appears imminent.

10.0 Inspections and Records

Facility personnel will perform a visual inspection of the entire facility (tanks, piping and containment) annually. These will be a routine walk and visual inspection. Daily records do not need to be kept. Inspections that are more formal will be performed monthly and yearly as discussed below.

Facility personnel will also perform formal monthly inspections of the entire facility. Records of these monthly inspections will be kept in Appendix C of this plan for a period of three years.

The facility maintenance person, or another qualified individual, will continue to thoroughly inspect the entire facility on an annual basis. Repairs and other routine maintenance to the facility will be performed at this time. Records of these annual inspections will be kept in Appendix D of this plan for a period of three years.

A record of inspection of water from the containment system and drainage will be kept with the SPCC plan. Records of inspections shall be prepared by Seattle Steam and maintained as part of Appendix E. The water quality is currently visually inspected (in the sump which captures the drainage between concrete reinforcement walls two and three) on a daily basis.

11.0 Security

Regulations require that facilities storing fuel will be fully fenced with entrance gates locked. The fuel facility is currently secured by a locked and fenced area and also by a locked door with a camera mounted at the locked door.

When the tank is in non-operating or standby status, the valves that allow outward flow will be securely closed in a non-operating status.

Starter controls for the tanks are located in the control area inside the secured building. Starter controls will be locked in the off position when pumps are in non-operating status.

The connections for loading/unloading of oil pipelines will be capped when not in service for extended periods.

Lighting around the facility includes five lights directed at the tank yard.

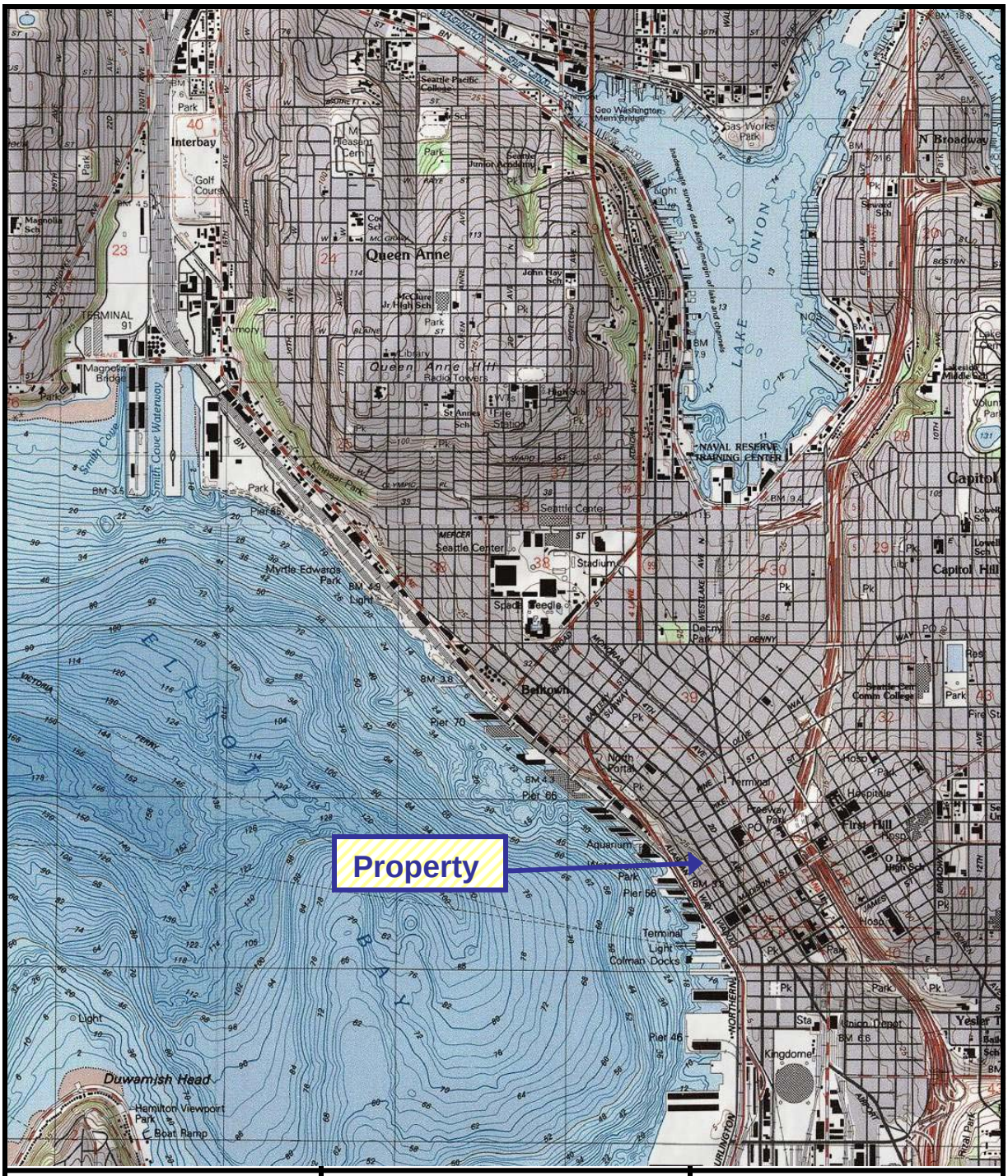
The following personnel have access to the facility:

Mick Reeves	Gerry Scott
Ron Hess	Damien Worley
Bob Glebe	Bill Lackey

Gene Bernhardt	Robert Holloway
Duane Hubler	Jo Calimlim
Jon Zirbes	Ryan Aigner
Ray Lee	Carter Wade

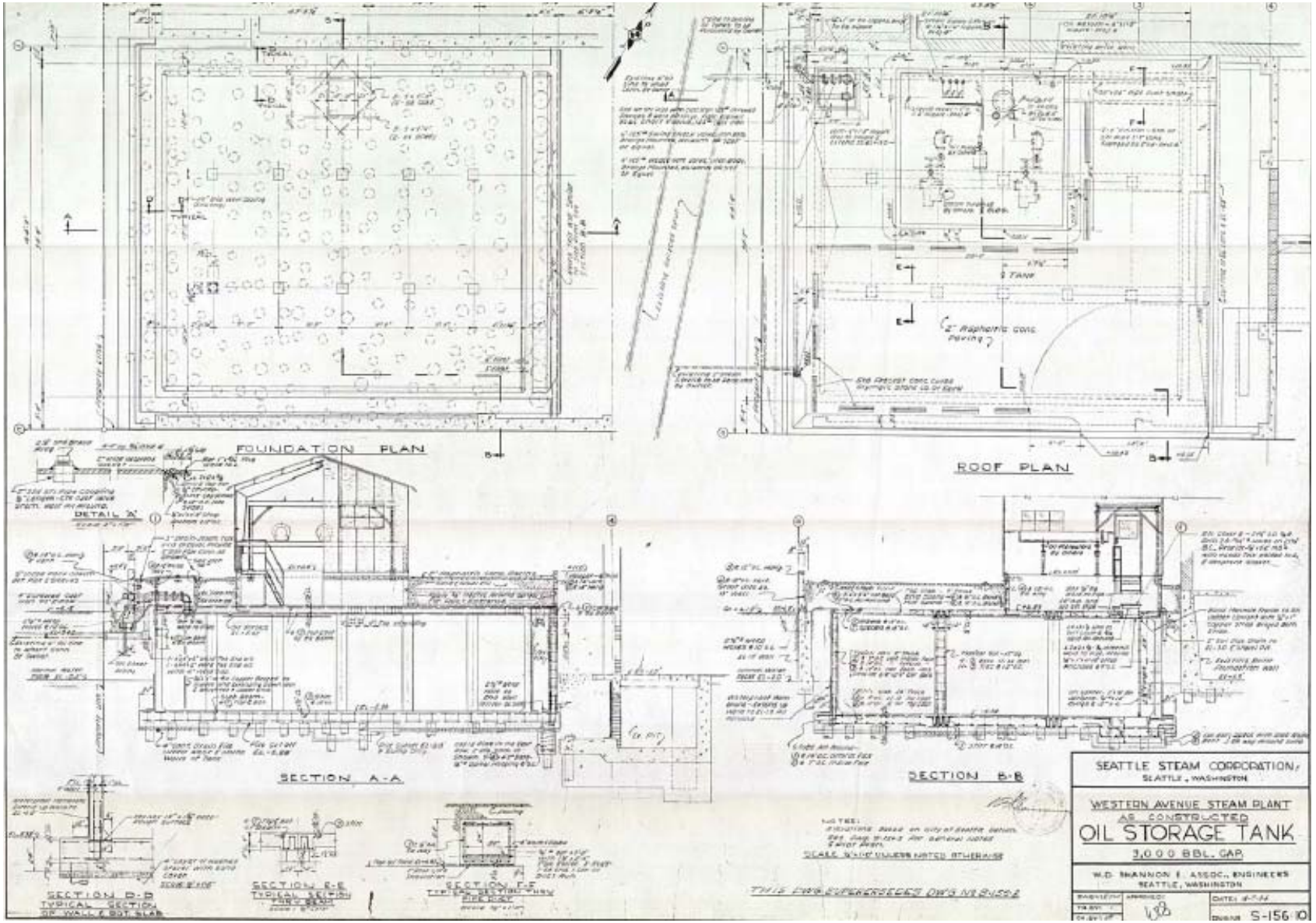
12.0 Training

The SPCC plan will be made available to the users of the facility. Personnel using the facility will be instructed in the SPCC plan at least once a year through spill prevention briefings. Such briefings will highlight and describe know spill events or failures. A spill response training session conducted with a mock spill response is one way to conduct the spill prevention briefings. Mick Reeves is responsible for training of individuals in the operation and maintenance of equipment and the applicable pollution laws.



KANE ENVIRONMENTAL INC	**SPCC** **1319 Western Avenue** **Seattle, Washington 98103**	**Figure 1** **Site Vicinity Plan**

APPENDIX A
TANK SCHEMATICS


FOUNDATION PLAN
ROOF PLAN
SECTION A-A
SECTION B-B
SECTION D-D
TYPICAL SECTION OF WALL & BOT. SLAB
SECTION E-E
TYPICAL SECTION THRU BENT
SECTION F-F
TYPICAL SECTION THRU PIER
SEATTLE STEAM CORPORATION,
SEATTLE, WASHINGTON
WESTERN AVENUE STEAM PLANT
AS CONSTRUCTED
OIL STORAGE TANK
3,000 BBL. CAP.
W.D. SHANNON & ASSOC., ENGINEERS
SEATTLE, WASHINGTON
S-156

APPENDIX B
SPILL HISTORY

SPILL LOG

Date	Spill	Leak	Location	Description			Preventative Measures Taken
	(check one)			Type of Material	Quantity	Source	

APPENDIX C
MONTHLY INSPECTION DOCUMENTATION

APPENDIX D
ANNUAL INSPECTION DOCUMENTATION

APPENDIX E
DRAINAGE INSPECTION DOCUMENTATION